ANOMALY:
JOURNAL AND CONFERENCE PROCEEDINGS

VOLUME 45

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ANOMALY:

VOLUME 45 EDITORIAL

2011 was the 30th year of the Association for the Scientific Study of Anomalous Phenomena and the 30th anniversary conference – *Seriously Strange* – provided a focus for much of ASSAP's research efforts over the year.

Anomaly 45 contains the usual mix of original research and articles from ASSAP members along with correspondence and book reviews. Additionally for the benefit of members present and not present Anomaly 45 acts as the proceedings of the *Seriously Strange* conference. Many articles in this edition were written by the authors to encapsulate or extend their conference presentation and acts as a record of the range of issues discussed.

Seriously Strange was the best attended residential conference in the UK for many years and stimulated much comment, including reviews on the British Psychological Society's *The Psychologist*, the Society for Psychical Research's *Paranormal Review* and the *Journal of Paranthropology*. The centerpiece of the conference was the announcement that ASSAP has been registered with the UK Government as a Professional Body for investigators of anomalous phenomena.

Anomaly 45 continues the ethical debate resulting from that decision in an ethics article by Dave Wood and CJ Romer, and includes an article about mirror gazing resulting from an ASSAP grant to a University of Oxford researcher, the initial findings of the ASSAP Rendlesham project and some *Merlin Matrix* research results.

Anomaly 45 is the most diverse and biggest volume on record. With a new generation of researchers and a recently Grants Scheme we expect Anomaly to continue to grow year on year.

ANOMALY:
JOURNAL OF RESEARCH INTO THE PARANORMAL

The Association for the Scientific Study of Anomalous Phenomena was formed in 1981 to study a wide range of paranormal phenomena. These fall into the broad categories of psychic phenomena, Earth Mysteries, Ufology and Fortean phenomena. ASSAP holds no corporate views and the views, wording and images used by individual authors are their own responsibility.

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THE LORD IS MY FORTRESS:
THE EFFECTS OF RELIGIOUS PRIMING ON PSEUDOHALLUCINATIONS INDUCED BY MIRROR-GAZING

Alex Rugens
University of Oxford

Judging by the nature of reported anecdotal ghostsightings, the phenomenon could be a result of mild hallucinosis induced by the ambiguity of stimuli. Based on the presumption that hallucinatory perceptual output can be shaped by the cognitive state of theperceiver, the study investigated the influence of psychological priming on pseudohallucinations induced by mirror-gazing. 52 volunteers took part in a mirror-gazing experiment, staring into their own eyes for eleven minutes in a semi-dark room, and reporting any perceived perceptual visual changes. Before the experiment, subjects completed sentence tasks, which primed half of them with religious concepts. In the religious priming condition, participants reported less pseudohallucinations and valued fewer number of them as negative. This tendency was associated with lower levels of personal dissociative traits. The study confirms effectiveness of mirror-gazing procedure for the exploration of human visual perception and simulation of ghostsas hallucinatory experiences.

INTRODUCTION

Despite some prognoses (Davies 2007), scientific progress is highly unlikely to eliminate the belief in ghosts among the general population. In 2008, 42% of British adults believed in ghosts, which is 2 % more than in 1998 (MORI 2008). Reports of ghost sightings are constant, and one does not even have to necessarily believe in God or belong to a religion to believe in existence of ghosts.

By *ghosts* I mean any perceived disincarnated and active entity which can be said once to have been alive in biological sense and now considered to be biologically dead. Traditionally they are believed to have intentions, emotions, and strategic knowledge; among the most contemporary paranormal investigators though, they are often thought of as possessing no information or consciousness, yet their actions being driven by some kind of emotional content (Polston and Carter 2008).

The idea that persons have a disembodied life after biological death is an intuitive human universal concept, and most likely has its grounds outside culture (although is shaped by it!). It is intuitively right to believe in disincarnated spirits, because this belief is generated by the same cognitive tools that allowed our ancestors to find prey and avoid predators.

The study presented in this paper is based on the assumption that, at least in some cases, reports of ghost encounters are genuine. It does not imply existence of disincarnated spiritual entities, but merelythat as far as the brain of the observer is concerned, there are visual, auditory, or other sensations present. Arguably, the most important question that holds the key to understanding the nature of apparitions is pretty simple – why do ghosts wear clothes? If they were remnants of biological organisms, one would expect them to be naked (Broughton 2006). It seems plausible that the apparitional imagery is actually called upon from memory, and shaped by emotions and cultural context.

Regardless of what triggers anomalous experiences, experiences themselves are produced by the perceptual tools of our minds, the ones we normally use in everyday life. I argue that in the case of alleged apparitional experiences, the brains of experiencers do the job they were evolved to do through natural selection, by drawing a coherent picture in order to inform further action of the individual. Like everything else we feel, ghosts are fabrications of our cognitive and perceptual systems. And since they wear clothes, it is clear that the output (a ghost spotted) is not what the input was (or was not).Even if ghosts exist, they cannot be what the experiencers report seeing. So essentially, ghosts can be hallucinations. The idea is not new. See, for example, Furuya et al 2009.

The theory I am proposing here is strictly naturalistic and Darwinian, and draws upon recent work in evolutionary psychology, cognitive science, and neurology of perception. It proposes that1) at least some of reported apparitional experiences canbe real experiences as far as the brains of experiencers are concerned; 2) the nature of these experiences is formed by the neural architecture of the brain, fine-tuned by natural selection for agency detection; 3) their manifestations as particular characters (ghosts) are shaped by a set of factors including mood, memory, environmental cues, and cultural imagery. All together this means that occurrence of ghost experiences has an epigenetic character. This is coherent with the view of the human mind as set of cognitive and perceptual modules (Fodor 1983; Sperber 1996). Both genetic and cultural aspects are instrumental; therefore this is essentially a model based on dual inheritance.

Although I predominantly focus on the visual aspect of the apparitional experiences, essentially the same principle can be applied to auditory, gustatory and olfactory effects, as well as 'social hallucinations' such as feeling of presence. I argue that such sensations involve not only sensory pathways, but also long term memory and affective emotions networks in the brain, and probably some parts of motor cortex. Normally we associate hallucinations with illnesses, sleep deprivation, or altered states of consciousness, but they do sometimes occur in healthy individuals. Why would healthy people hallucinate? Let me explain.

PERCEPTUAL ASPECT OF APPARITIONAL EXPERIENCES

AMBIGUITY OF STIMULI

Recent work in psychology and neurology indicates that many anomalous experiences are caused by incompleteness of the information that the brain uses to calculate perceptual output. It has been suggested that paranormal experiences are delusions resulting from biased interpretations of ambiguous stimuli (Lange and Houran 1998). Ambiguity of stimuli might lead the brain into working out some bizarre perceptual solutions, and confounds such as emotional state and certain neurotransmitters in the neural networks can bias preference for some explanatory choices over the others. Yet in what way exactly does ambiguity influence the decoding of informational input?

ROLE OF NEUROTRANSMITTERS

The balance of neurotransmitters not only influences our behaviour, but also perception. It seems that dopamine levels in particular influence the interpretation of incoming stimuli – and maybe even induce interpretative reactions in the absence of stimuli. It is known that believers have a higher tendency to find patterns in random sequences than sceptics. In one experiment, self-proclaimed believers in the paranormal and sceptics were administered the dopamine agonist levodopa (L-dopa), which increases levels of dopamine in the brain. L-dopa increased the tendency to see meaningful patterns in random noise among the sceptics, but not believers – probably because of the ceiling effect, with the sceptics in non-drug condition normally keeping their expectations towards the appearance of patternslow(Krummenacher et al. 2002).

In another study examining the feeling of presence phenomenon in patients with Parkinson's disease, a significant correlation was found between the use of levodopa as a medication and levels of the feeling of presence, visual and non-visual hallucinations (Fenelon et al. 2011). Hallucinations occur both in hyperdopaminergic and hypodopaminergic states, which suggests that it is the balance that is important. Up to 30% of Alzheimer's and 60% of Lewy body dementia patients report hallucinations, which can be linked with the reduction of acetylcholine and changes in nicotinic and muscarinic receptors. Serotonin and glutamate might be playing some role since many hallucinogenic drugs act as their receptor agonists. Also, hallucinations have been observed as side effects of some Selective serotonin reuptake inhibitors (Kumar et al. 2009).

Figure 1.*Optical illusion – young girl or an old woman?*

Sometimes the same stimulus can be interpreted in different ways, and the ambiguity solution depends on the internal state of the (both impaired and healthy) brain. A simple visual illusion illustrates the point. In this classic illusion, propensity towards seeing an old woman or a young girl might be influenced by your mood at this particular moment, which is essentially regulated by transmitters.

FEEDFORWARD COGNITION

To understand how our perception works and why it sometimes fails, it is important to keep in mind that perception has evolved not to perceive the world as it is, but as it is most useful. The ability to act rapidly and in a mandatory fashion to visual stimuli was vital to our ancestors. If a perceptual signal can be reliable for most of the time, through natural selection it can become a shortcut embedded in the cognitive structure, thus allowing generation of the most expectable outcome without wasting time on processing– which allows us to see things before they have actually happened.

This can be easily shown with the Orbison illusion:

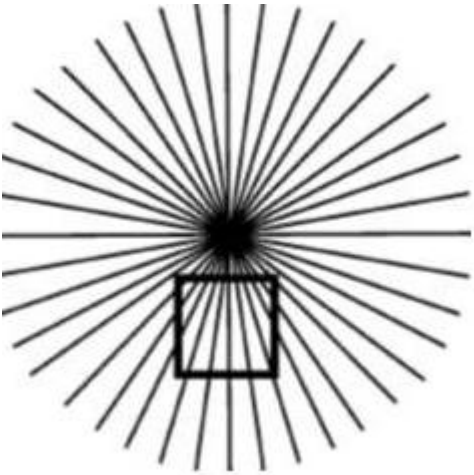

Figure 2.*Orbison illusion.*

When calculating sizes and spatial positions, the brain takes into account the position of an object relative to its surroundings. Because we normally see things further away as being smaller, the rays in the picture create an illusory distortion of the perfect square in front of them, causing the upper part of the square look wider than the lower part.

Other illusions like this non-existent, yet clearly visible ball show that by relying on visual context, the brain can create images that do not exist in nature:

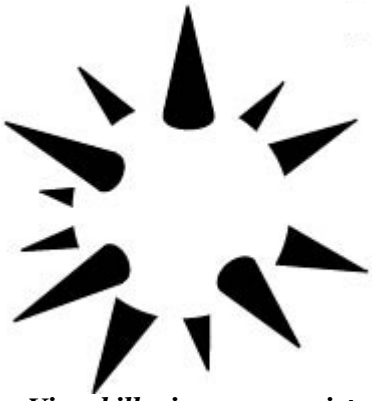

Figure 3.*Visual illusion – non-existent ball.*

Illusions are informative, because they occur when our brains perceive a truly existing object in such a way that it causes misinterpretation of its nature.

In some cases, an illusory effect can lead to a full hallucination. To result in an inadequate response, the perceptual input does not necessarily have to be ambiguous in the sense of being distorted or poor. Visual illusions show that the brain relies on context to produce visual output, and this implies that some hallucinatory experiences might also occur in normal environments and to healthy individuals. Some degree of ambiguity must be present to initiate the wrong response; yet this ambiguity will be corrected by the brain to make sense, even if it produces an image of someone walking into a wall.

ENVIRONMENTAL CUES

It has been shown by various researchers that naïve subjects report anomalous experiences in the same locations on allegedly haunted sites (Lange and Houran 1998; Maher and Hansen 1992; Wiseman et al. 2003), so there might be environmental variables that influence perception, triggering anomalous experiences. Moreover, self-proclaimed sensitives and mediums tend to perform better at locating such spots than sceptics (Maher and Hansen 1992). Indeed, it seems that 'sensitivity' is a bona fide neurobiological phenomenon and correlates with lower immunity and heightened levels of physiological factors such as migraines, depression, alcoholism, allergies, and others (Jawer 2006).

In the Hampton Court Palace experiment, Richard Wiseman and his team asked the palace warder Ian Franklin, who is also a collector of the ghost stories of the place, to make a map with the most 'haunted' spots, according to where apparitions have been most often seen. While blind to this map, Wiseman asked 400 visitors to mark on their palace maps places where they felt anomalous sensations. When compared, the visitors' maps overlapped with Franklin's map. A similar result was gained in Edinburgh South Bridge vaults, with volunteers reporting anomalous experiences in the same places as marked by the senior tour guide. The intensity of sensations seemed to be linked foremost with the height of the ceiling and luminosity. Some of the 'haunted' locations also exhibited higher levels of EMF fluctuations. This suggests that certain environmental factors might indeed play some role in creating spooky sensations (Wiseman et al. 2003).

HYPERACTIVE AGENT DETECTION DEVICE

For most animals, the ability to detect agency is a vital necessity. In a natural environment, self-moving entities almost certainly are alive, and therefore might be predators, prey, or potential mates – which is information of utter importance with regard to organism's survival and reproduction. From an evolutionary perspective, the ability to perceive one's environment is an advantage to any organism, but the ability to detect agents is even more advantageous. It has been speculated that humans possess genetically

determined cognitive modules that are fine-tuned by evolution to detect agency – and human agency in particular. For example, within the first 24 hours after birth, babies are paying closer attention to images that resemble faces, than to other stimuli (Bloom 2005).

The idea of the human mind as being specifically tuned for agency detection has led to the concept of the Hyperactive Agent Detection Device (HADD) – an inherited cognitive module that has evolved to selectively filter out informative clues from the environment about the potential presence of agents. It is claimed that this genetically determined propensitycauses people to see faces in the clouds, enjoy art, and form religious beliefs (Boyer 2002; Guthrie 1993). Through heightened relevant alertness, HADD improves the chances of survival and reproduction. The cost for that is occasional waste of energy on false positives. In the Environment of Evolutionary Adaptedness, a false alarm, although it might be costly, is ultimately cheaper than the neglect of alarms, so individuals more sensitive to agent detection would have better survival rates.

Psychologist Justin Barrett argues that when activated, HADD also employs other cognitive modules and domains, such as the Theory of Mind (ToM) module (Barrett 2004). To Mallows us to attribute emotions and intentions to others, an ability apparently unique to humans (Povinelli et al. 1999). It allows understanding of the meaning behind the actions of others through putting the self in the place of the other and imagining their motivations. Although presumably evolved for social life with conspecifics, this tendency to empathize can ultimately make us attribute human feelings, mental states, and intentions to anything – from computers to landscapes. Therefore, it is natural for humans to identify an ambiguous stimulus – including potential traces of agent activity - as the presence of an agent with intentions and mental states. When HADD is activated, but there is no factual confirmation of existence of the agent in the real world, cultural concepts sometimes help to make sense of the situation by explaining this activation as a manifestation of a supernatural entity.

Within the context of hallucinations, vivid examples of HADD gone wrong are delusions in patients with brain lesions caused by various forms of dementia, schizophrenia or Parkinsonism. Often they see 'little people', usually in bright, medieval costumes, and spirits of their deceased relatives(Knight et al. 2008). HADD also might be responsible for the 'feeling of presence' effect, often reported in haunted places, and in certain medical conditions.

MEMORY, IMAGINATION, AND REBOUND

As Barrett points out, the sensitivity of HADD varies depending on personal and immediate contexts. Both previous experiences (being once bitten by a snake) and the environment (a safe park versus a jungle), together with the urgency of situation for survival or certain activities, will determine how likely one's HADD is to fire away at incoming signals, such as a piece of rope resembling a snake(Barrett 2004).

It can be speculated that to draw a useful percept in a fast and mandatory fashion, HADD works within a hierarchical setup of cognitive templates. To what level of detail, how and when these templates could be developed is an open question, yet we can assume that their building elements are stored and retrieved from memory.

Indeed, the closer in time to the moment of bereavement, the more likely ghosts are to appear, which could be explained with the intensity of emotions and vividness of visual memories about the late person. Close family members are the most likely to experience ghostly presence of the departed more than distant family and friends(Grimby 1993).A meta-study on counsellingbereaved people shows that 50% of them report a feeling of presence of their deceased relatives or spouses both in long and short term after death (Taylor 2005).Parkinson's sufferers tend to experience the presence of their relatives and pets, often deceased, when they are actually not there. Visual hallucinations and feelings of presence are predominantly associated with recent bereavement and emotional closeness of the living being, indicating that the effect might be due to impairments to affective and autobiographical memory networks (Fenelon et al. 2011).54r

Study	# Cases	Close Family	Distant Family	Friends	Strangers
Persinger (1974)	193	47	22	18	13
Osis & Haraldsson (1977)	418	61	12	7	21
Haraldsson (1988-1989)	127	53	-	10	11
Arcangel (2005)	596	59	11	-	13
Average Percentage		**55**	**15**	**12**	**15**

Values not cited are marked with a dash (-). All values are rounded to the nearest one percent.

Table 1.*Relationship between the apparition and the witness in apparition cases (From Williams et al 2009).*

Although we instinctively feel that imagination can be 'wild' and 'limitless', in reality it is structured and limited, and mostly based upon our memory (Ward 1994). In a famous experiment, Ward asked subjects to draw the most fantastic alien creatures they could. The results followed the structure and shared the ontological categories with the fauna of Earth (wings for flying, nostrils to breathe the atmosphere, scales and fins for creatures living in liquid environments, etc.). We imagine things by projecting our memories to the future and modifying what we remember. Our memories, in turn, get modified at their retrieval by relevance. If given a list of words such as 'pillow', 'bed', 'tired', and so on, and later asked to read another list with words and mark the ones they remember from the previous list, many people also claim they remember the word 'sleep', which wasn't on the first list, but was introduced on

the second. The power of association and relevance introduces false memories(Kopelman 1999).

Another curious propensity of mind is the so called rebound effect (Wegner et al. 1990; Wegner and Schneider 2003). When asked not to think of polar bears and ring a bell every time a thought about a polar bear comes into their heads, participants would ring the bell every few seconds. The less you try to think about something, the more you think of it; when Wegner asked his subjects not to think about sex, their skin conductance levels went higher, almost as high as when they were asked to think about sex. Wegner concluded that avoidance thinking about a disturbing topic actually prolongs and exacerbates emotional reactions such as phobias and anxieties.

If the environment provides cues of a potentially dangerous place, rebound might accelerate anxiety and fear – leading the HADD to fire false positives to the faintest cues. In such situations the images generated are based upon the memory, and emotions intensified by the rebound effect.

ROLE OF FEAR

Ambiguity of stimuli often leads to fear, and fear induces belief, which in turn minimizes the fear. Rather than sticking with the unexplained, humans prefer culturally shaped and grounded paranormal explanations, which make sense within their cultural framework(Lange and Houran 1997). Typically, paranormal explanations are the last resort and get accepted only when all other explanations are found unsatisfactory. Moreover, fear might be working in a self-escalating manner, biasing fearful experiences to produce confirmation of reason for fear (Tomarken et al. 1989). As HADD becomes increasingly active, fear inducing environment becomes a more fruitful ground for false positives.

However, research done with a psychomanteum – a hallucinatory experiences-inducing mirror-gazing facility(Moody 1992; Roll 2004), simplemirror gazing (Caputo 2010b), patients with mental health problems (Knight et al. 2008; Kumar et al. 2009), and ganzfeld – auditorywhite noise environment (Dalton et al. 1996) shows that to experience perceptual hallucinations, fear is not absolutely necessary. Although it might be a triggering or escalating variable, it is not solely responsible for inducing apparitional or hallucinatory experiences, and other factors might have their impact too.

One of the confounding variables on the expression of the fear effect is the belief factor. Religious beliefs and priming conditions are known to reduce anxiety and increase sense of control (Inzlicht and Tullett 2011). Therefore people in a religious state of mind might be expected to be less responsive to fear-inducing stimuli – which might explain the use of amulets, prayer and exorcisms in haunt contexts.

MECHANISMS OF HALLUCINATIONS

The simple-to-complex cell hierarchy theory explains cognition as a chain process, building complex forms from simpler inputs (Hubel and Wiesel 1962; Serre et al. 2007). In their iconic 1959 experiment, Hubel and Wiesel inserted electrodes in a cat's visual cortex, and projected visual images of different lines into its eyes. They showed that different neurons reacted to lines presented at a different angle, and called these neurons 'simple cells'. Other neurons reacted to a particular line moving in particular direction, and were activated by several simple cells, therefore were called 'complex cells'.

This discovery has cemented understanding of perceptual networks as hierarchical cell structures and hallucinations as a breakdown in processing, causing the higher processing structures to produce outputs in absence of adequate inputs from lower structures, or in other words – the metamodules failing to discriminate between the external and self-generated information (Kumar et al. 2009).

ADAPTIVE RESONANCE THEORY

An extension of the same principle is the Adaptive Resonance Theory, or ART (Grossberg 2000).ART employs both genetically programmed and learned cell interactions in cognitive and perceptual processes. According to this model, perception works as bottom-up informational input being matched against learned top-down expectations (thus both short and long term memory are involved in perception). When there is no input present (when you close your eyes, for instance) lower level cells are constantly active, producing a flat baseline signal.

Normally, when cells exhibiting top-down expectations are active, they can give target preference to bottom-up cells with matching input, but cannot activate them because it is a one way process (otherwise we would hallucinate every time we imagined something). Not only do the top-down cells select consistent bottom-up signals, they also suppress inconsistent ones. Only when the 'weight', or the level of excitement, of the bottom-up signal is sufficient to trigger the response of relevant top-down cells, does the whole top-down network of a concept get activated.

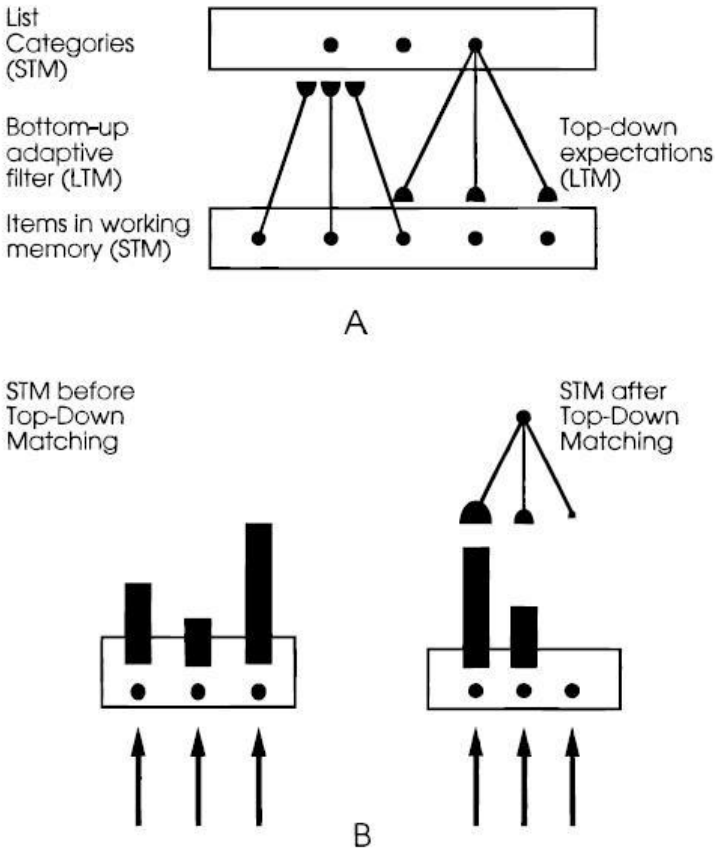

Table 2.*Adaptive resonance networks of the brain. Diagrams in the A panel show the main principle of adaptive resonance. Histograms in the B panel represent the level of activation of bottom-up cells before and after top-down matching. Size of semi-circles represents the size of items in LTM that construct the learned prototype. Better memories of something attract stronger sensory input (from Grossberg 2000).*

The model predicts complex mutual interactions of both short (STM) and long term (LTM) memory in information processing. Incoming signals activate a list of items stored in the working memory, which then excite relevant top-down cells involved in long term memory. Again, it is the 'weight' of the signals that determines their acceptance or suppression. Information stored in the long term memory acts as an inhibitory filter which directs the bottom-up

input to a relevant top-down cluster, or inhibits some signals, if others are deemed to be more relevant. In other words, relevant STM items get amplified, irrelevant ones suppressed.

At the centre of the recognition process is the excitatory on-centre of the network that constructs a memory template of a given concept, called 'learned prototype' in ART. These are the most crucial features that distinguish a particular object and are the most instrumental in its recognition. The 'learned prototype' is stored in memory. So when perceiving an object, bottom-up cells start to fire and top-down cells prioritize their input because they are guided by the added weight of the excitatory on-centre. This allows the system to process incoming information in a fast and mandatory fashion. Once you have learned what a 'dog' is, it is easy to spot one.

As long as the sensed information and the expectations about it are in balance (that is, the respective bottom-up and top-down cells, forming a network of the concept are connected), an object will be perceived as belonging to a certain learned prototype. In the case when incoming signals could be applicable to more than one on-centre, the information can be called ambiguous, because it allows generation of alternating outputs, caused by a variety of on-centres receiving activation signals.

Without a trigger, the bottom and top parts of the system remain inactive. However, with volitional signals of thought it is possible to shift the balance, and activate the top-down part of the network without involving the bottom-up cells. Such shifts enable us to imagine 'dog', without the object itself being present, and plan future activities involving it. When the volitional signals become uncontrollable, as for example in schizophrenia, hallucinatory experiences might occur – in other words, the top-down cells might generate conscious experiences without informational input of the bottom-up cells. Because the top-down expectations have formed their learned prototypes in the past by reacting to critical features that distinguish each separate prototype, the hallucinatory output they present can often be vivid and realistic.

NEUROLOGY OF APPARITIONS

Large parts of the primate brain are devoted to vision, and although there are certain specialized areas, there also are many specialized neurons devoted to particular stimuli that have no specialized areas. This means that a misleading interaction prompting hallucinatory experiences can arrive from a large number of locations(Braun et al. 2003).

Without going too much into detail, I will sketch very briefly how visual processing works in the brain and how hallucinatory experiences could potentially originate in neural networks. With regards to the primary visual pathway, it is considered to consist of retina, optic nerve, chiasma, diagonal bands, lateral geniculate body, temporal, parietal and occipital lobes, and superior colliculus. In the case of degenerative diseases, hallucinations seem to

be occurring because of abnormalities, or diminishing amounts of grey matter in these brain parts(Ramachandran 1999).

The visual cortex contains areas V1 through V5 (also called MT, or middle temporal). The V areas are complex structures themselves, but it should be sufficient to say that they are thought to process visual information in a hierarchical fashion. Visual processing starts with V1 neurons sorting out the immediate optical input and selectively firing in response to lines, corners and so forth (hence sometimes it is also called primary visual, or striate, cortex), whereas V structures higher in the hierarchy (collectively called secondary, or extrastriate, cortex) continue by reacting to more complex inputs, such as figure outlines or human faces. V5, or MT, is the final processing locus devoted to working out the motion of subjects detected by previous levels of cell structures(Kohn and Movshon 2003; Martinez and Alonso 2003; Ramachandran 1999).

Specialization of brain areas can be easily shown if looking at lesions in particular areas and their impact on visual processing. After a surgical intervention or an accident, some patients can retain perfect overall health, but with some impairment such as loss of ability to recognize faces, or see one side of their visual field. Studies on patients experiencing hallucinations after brain lesions show that almost always they are caused by damages to the pathway of respective sensory modality, or caused by compensatory over activation of brain regions next to the damaged area (Boksa 2009; Braun et al. 2003).

In terms of information processing, two different streams are thought to originate in the occipital cortex and then proceed further. The dorsal stream towards the parietal lobes is called the 'where' or 'how' pathway and deals with spatial orientation, whereas the ventral stream towards the temporal lobes is called the 'what' pathway and deals with object recognition. Depending on the character and area of the impairment along the pathway, hallucinations will have various manifestations. The 'how' pathway deals with motion and depth, whereas the 'what' pathway is mostly concerned with shape and colour. So for example, in Charles Bonnet syndrome (hallucinatory experiences induced by visual loss, usually in the elderly), patients see vivid hallucinations of realistic objects and animals if their 'how' pathway is damaged, and images that look like flat, moving cartoons if the damage lies in the 'what' pathway(Ramachandran 1999).

The nature of reported ghost sightings suggests hallucinations could be generated in either of these pathways and involves activation of other brain centres too. It is known that personal histories and cultural background shape the delusions perceived. Most often, hallucinations involve familiar(often deceased) persons and pets, but also archetypical figures, or culturally known characters like elves or Lilliputs(Fenelon et al. 2011; Knight et al. 2008; Kumar et al. 2009).This hints towards activation of networks responsible for long term memory and personal affiliations.

The same principle might be applicable in case of ghost encounters. It could be that in cases where ghosts are reported without visible facial features or wearing garments hiding their faces, the image generation has not included active involvement of facial recognition modules. Some ghosts are stationary, others move across space and even through obstacles – so again, movement detector systems might get involved, or might not. Motion detection is predominantly associated with the middle temporal area, which apparently responds to transcranial magnetic stimulation by generating visual hallucinations or anomalous sensations(Braun et al. 2003; Persinger and Cameron 1986).

What brings different ghost reports together is the perceived presence of an agency. It might be speculated that the key component for perceptual effect of a ghostly presence is activation of brain centres responsible for agency detection. In the case of social animals, especially primates, it is very important to understand the social dynamics of conspecifics. Knowing their likes and dislikes, building political alliances and being able to read their intentions is crucial for survivability and reproductive success. For all these tasks, speed of cognition is crucial. Cognitive shortcuts have evolved for prompting the most likely right response at an instant. It might not always be absolutely accurate, but it is sufficient to have it working well for the most of the time, to give a competitive edge over individuals who would process information bit by bit(Barrett 2000; Barrett and Johnson 2003; Barrett 2004; Guthrie 1993). All together these shortcuts form what is called HADD in evolutionary psychology. Unfortunately the location of HADD has not been mapped on the brain yet, but we might expect the neural networks involved in agent detection to also be the ones activated in cases of perceived ghostly experiences.

GHOSTS AS HALLUCINATIONS

The human brain operates with evolutionarily-evolved innate cognitive modules to detect presence of agents in any given situation and choose the best way of action for the individual. In certain situations, HADD might go for false positives and detect agents where there are none. These decisions are informed and influenced by many factors, including an individual's emotional state, balance of neurotransmitters, memory, anatomical specifics of our neural architecture, and possibly others. As visual illusions show, brain relies on context in generating perceptual output, and often relies on evolutionary-evolved cognitive shortcuts. These shortcuts are biased towards the most likely possibility instead of reporting the reality, thus saving the information processing time for the organism that possesses them. This tendency can be explained with evolutionary pressure in favour of false positives as the safest option for survival.

Perceptual and cognitive processing are thought to work in a hierarchical fashion, with simpler structures feeding information into more

complex structures, which match the incoming signals against information stored in memory and orientate informational output by its relevance. Various confounding factors can work on their own or by mutually influencing each other, all or some of them activating the neural systems connected in reactive networks. For example, due to the rebound effect an attempt to reduce fear can lead to its escalation, further increasing attention to environmental cues, which even more escalate sensitivity and reactiveness. Once the experience becomes labelled 'anomalous', culturally sound paranormal explanations can be called upon for anxiety reduction.

STUDY

VALIDITY OF MIRROR GAZING AS A RESEARCH PROCEDURE

The strange phenomenon of your face changing when staring into your own eyes intently in a mirror in semi darkness is known for a long time(Achad 1923; Foltin 1969). The most common effects include seeing one's face deforming in grotesque shapes, changing facial expressions, facial features or whole head disappearing, and most fascinatingly, own face turning into a face of a stranger or mystical creature never seen before(Caputo 2010b, 2010a). The effects might be called pseudohallucinations, meaning that the experiencers are aware that what they see is not real.

Mirror gazing became popular when Raymond Moody invented the psychomanteum, a device to communicate with the dead(Moody 1992). In the psychomanteum, participants gaze at a large mirror at such an angle that they cannot see themselves. With the help of explicit priming – asking subjects to relax and meditate on their deceased relatives for a longer period of time - more than 50% of Moody's participants saw visions of their deceased relatives, landscapes, and animals in the mirror (Moody 1992). This is a better achievement than reported in other studies, where subjects were not asked to focus on the deceased so intensively (Hastings 2005; Roll 2004; Terhune and Smith 2006). In comparison, a simple mirror-gazing procedure with subjects looking into their own eyes intently has proved to be nearly 100% effective method for inducing visual perceptual changes (Caputo 2010b).

The mechanics of the phenomenon is suggestive. It is crucial to have a low light, yet not completely dark environment. When adapted to darkness, it usually takes less than a minute for effects to occur. First, subjects report the facial features becoming blurry, sometimes whole or parts of the head disappearing, then many participants report seeing their face changing expression, smiling, or looking in another direction, sometimes their facial features becoming grotesquely deformed. An often reported effect is the observer appearing to be younger or older. Finally, after longer looking, one might see the self completely disappearing, and someone else looking back from the mirror – sometimes witches, skeletons, animals, archetypical figures, or

demon-like creatures. These changes happen in a rapid, uncontrollable fashion, and are very vivid.

The most coherent neurological explanation lies within the framework of hierarchical theories like Adaptive Resonance Theory. If the input is monotonous and extreme, such as rapidly changing light patterns, optical neurons adapt – that is, minimize their responsiveness and continue to carry on signals for a while even after the incoming stimuli have ceased or changed. Experiments with macaques have shown that exposing them to black and white sinusoidal gratings on the screen for prolonged periods of time reduced responsiveness of their middle temporal area cells, which deal with perception of motion (Kohn and Movshon 2003).

The effects can be observed directly in the so called afterimages (staring at a green background, then at white background and seeing magenta), and the motion aftereffect – after staring for a few seconds at a moving stimulus such as spinning spirals, fixing the gaze on any other object will create illusion of the object moving in the opposite direction. (The illusion cannot be demonstrated on paper, but can be seen at http://www.michaelbach.de/ot/mot_adapt /index.html). For afterimages and motion aftereffect to appear, the observer has to stare at the target and then at something else. The contrast between the new background and the signals still carried by adapted neurons will create an illusory effect of change in colours and contrasts (Shimojo et al. 2001).

Afterimages definitely are a part of a mirror-gazing experience, as many participants report effects similar to negative afterimages occurring while still keeping their eyes open and fixed on the mirror. However, these are not the only phenomena occurring while mirror-gazing, because the levels of light are low, there are no moving light patterns, no bright colours or contrasts, and all effects occur while the observer continues to stare at the same target continuously. In fact, effects disappear as soon as the observer blinks or looks away, which is normally needed for most afterimages to appear. Also, much of the imagery is clearly not inverted changes in colour and contrast perception, as with neural adaptation, but involves appearance of familiar and non-familiar faces and their changing emotional expressions(Caputo 2010b).

This suggests that the effects are not based on the neural adaptation alone. It is likely that in the case of prolonged exposure to non-moving visual inputs, neural fatigue occurs. The hallucinatory effect induced by the fatigue of neurons might be explained with bottom-up information processing, where the bottom cells cease signal transfer because of fatigue, yet are still excited and interconnected. There are no changes in the input for a longer period of time, and it can be speculated that at some point neurons cease transmission but the network stays connected, because eyes are still fixed on the same spot. Higher structures in the visual cortex are prompted to generate output because the network is still locked, and offer templates generated on the go.

This model is close to neurological explanations of visual hallucinations as a result of damage or degeneration of optical pathways(Ramachandran 1999).

One of the hallucinatory effects often encountered in mirror-gazing is the observer's head turning into a black shapeless form. It is also possible to see only one side of your head disappearing in such a manner – if you stare constantly into one eye. The side you are focused on will disappear first, suggesting that indeed it is the overload of monotonous informational input on the optical pathway that causes the effect by tiring the neurons. Effectively, the observer becomes blind to that part of the visual field, where the neurons have ceased their input. Because the context is still visible – i.e. the body of the observer and the surroundings are still perceived, the higher visual processing structures generate the most appropriate output for application – facial templates.

The rapid change of different strange faces perceived suggests it is a facial recognition module that works from top down, generating and testing various possible visual outputs against an impaired informational input. Since the template offered does not match the impoverished and inconsistent yet continuous information input, a new template gets generated and applied to the test. The process of matching templates against the informational input is registered by the consciousness as fluctuating change of imagery.

However, cognitive modules devoted to other stimuli than human faces can also be involved, because some participants report seeing faces of animals and mythological creatures. In the psychomanteum, where there is no constant visual stimulus of a human face, subjects see also landscapes and moving animals. As with the visual illusions, the brain tries to work out what is the most likely meaning of the impoverished stimuli, and relies on context to solve the problem. It should be stressedhere that by 'context' I mean not only environmental cues, but also the personal history, cultural milieu, and the inner cognitive state of the observer.

Although only seldom encountered in this study, the appearance of archetypical characters like witches, wise men or devils, reported by previous studies (Caputo 2010b), demonstrates a cultural component expressing itself. I argue that the visual templates perceived as hallucinations get generated with the involvement of memory networks, and probably emotional networks, such as affection or fear. Such explanation of visual hallucinations in mirror-gazing implies a variety of cognitive and neural networks working at once, trying to solve the interpretational challenge of ambiguous visual stimuli. Ifthis is right, mirror-gazing is the nearest we can get for simulating anomalous visual experiences in a controllable laboratory environment.

OVERVIEW

Based on the premise that the propensity towards occurrence of hallucinations might be influenced (among other factors) by the cognitive state that the individual is in, the study set out to explore whether cognitive priming might influence the amount or intensity of hallucinations in healthy individuals.

In particular, the aim of the experiment was to find out whether subjects in a supernaturally primed state of mind would tend to have more or fewer hallucinatory experiences, and whether a greater or lesser amount of experiences would be perceived as negative by subjects.

Previous research has shown that overall belief in the supernatural positively correlates with the amount of anomalous experiences reported among healthy subjects (French et al. 2009; Lindeman and Aarnio 2006; Wiseman et al. 2003), as well as visual hallucinations among patients with various forms of dementia and schizophrenia (Fenelon et al. 2011; Knight et al. 2008). On the other hand, it has also been suggested that affiliation with some form of organized religion might serve as a psychological buffer against anxiety (Inzlicht et al. 2009; Inzlicht and Tullett 2011). In the context of ghost experiences, this last position would tie in with traditional practices designed to stop the hauntings, such as religious exorcisms, prayer, or use of amulets.

To control for individual differences, such as tendencies to dissociate from the self or belief in paranormal, the Dissociative Experiences Scale (DES)and Revised Paranormal Belief Scale(RPBS) questionnaires were used. The effect of supernatural priming was difficult to predict on its own, and was expected to be linked with levels of paranormal belief and tendencies towards dissociative experiences.

METHOD

The method largely replicated previous mirror gazing studies(Caputo 2010b), but with a few additions. 52 participants (29 male, 23 female), aged from 18to 49 (M=29.2, SD=7.3), took part in a mirror gazing experiment, recruited through advertisements on community and university websites. About half of participants were students; all were from various ethnic and social backgrounds. Before the experiment, subjects were screened for issues with mental health, depression, or bereavement during the last twelve months. An office room at the Institute of Cognitive and Evolutionary Anthropology was turned into a mirror gazing facility by blocking out the only window with black plastic sheets which let only a little light through. The amount of light in the room allowed to see the details of face (eyebrows, lips, etc.) yet attenuated colour perception. Illumination was uniform, as participants sat facing the blocked out window. Average distance from the face of the participant to the mirror was about 40 cm, mirror size 230x280 mm. The mirror was always set at the same distance from participants, at the angle of 35^{o}. For convenience of some participants it was sometimes put 50mm higher on a pedestal, to ensure they can fully see their face.

Session length was 11 minutes, with the first minute left for adaptation to the darkness, and being excluded from the analyses.

Whilst mirror gazing, participants recorded their responses by pressing two buttons on a signalling device which was connected to a laptop computer

with Cubase SX audio processing software. They pressed the right button on the device if experiencing a visual perceptual change of any kind, and both, if perceiving any given perceptual change as negative. Thus the amount and length of responses were recorded, together with how many of the perceptual changes were perceived as negative. All responses were recorded in the format of .wav stereo tracks.

PROCEDURE

Upon arrival, participants were asked to pick one envelope at random from envelopes on the table. Envelopes contained a consent form and a prime - sentence uscrambling task of ten sentences(Srull and Wyer 1979). Each sentence contained five words, one of which was irrelevant to its meaning. Participants were asked to drop the wrong word and arrange the remaining four in a meaningful sentence. So, for example, 'angels yesterday sing heaven in' became 'angels sing in heaven'.

Following Norenzayan and Shariff(2007), in one of priming conditions unscrambling tasks contained specific target words. The ten neutral priming sentences contained only words without supernatural connotations, whereas in the religious prime five of the sentences contained target words 'karma', 'sinners', 'God', 'angels', 'heaven', and 'hell'. Target words were chosen of distinct religious character,but with both positive and negative associations, and used cross culturally. Words associated with religious concepts were thought to be a more familiar and reliable priming material than supernatural terms not associated with organized religion.

One concern was that because of the nature of the Dissociative Experiences Scale (DES) and Revised Paranormal Belief Scale (RPBS) questionnaires used in the study, filling them in before the mirror gazing might also prime the experiences. To avoid biases, half of the envelopes in each priming condition also contained these two questionnaires, to ensure that an even number of participants in both priming groups answered the questionnaires before and after the task. Subjects who picked envelopes containing the questionnaires completed them first, then did the sentence unscrambling task. Remaining subjects completed the questionnaires after the experiment. All participants were assured that the answers would be completely anonymous and their names would not appear on questionnaires.

After that the mirror gazing task was explained to the participants. The researcher explained that by gazing into their own eyes in the mirror continuously, some people experience perceptual changes. If a change occurred, participants were asked to press the right button on the signalling device and release it if what they saw was fully their face again. If they perceived a particular change as negative, they were asked to press the left button as well. The researcher then switched off the light and left the room for eleven minutes. After eleven minutes the researcher returned to the room, switched the light

back on and asked subjects to describe their experiences and fill in the Dissociative Experiences Scale and Revised Paranormal Belief Questionnaire, if applicable, and for everyone also the Peritraumatic Dissociative Experiences Questionnaire and Post Session Questionnaire, in that order.

The first minute of the session was left to allow subjects' eyes to adapt to the low light levels, so responses were counted only beginning from the second minute. Any responses recorded before were not taken into account. This was also intended to rule out any effects caused purely by the sudden change in luminosity of the environment.

CHOICE OF QUESTIONNAIRES

The Dissociative Experiences Scale is a psychological self-assessment questionnaire that measures dissociative symptoms (Carlson and Putnam 1992). The DES measures individual's general tendency towards dissociative experiences. Its questions are posed in a non-intrusive manner, like 'Some people have the experience of finding themselves in a place and having no idea on how they got there. Circle a number to show what percentage of the time this happens to you'. The overall score ranging from 0% to 100% is obtained by adding up the 28 item scores and dividing by 28, thus averaging the scores for a given individual. An overall score over 30 is conventionally diagnosed with having Dissociative Identity Disorder – alteration of distinctive personality states with impaired recall (Carlson and Putnam 1992). The DES was chosen because previous mirror gazing studies have suggested that the mirror gazing might break down the levels of self-association when seeing one's own face being replaced with a different face for a longer period of time (Caputo 2010b), and because people with higher tendency towards dissociation could be more sensitive towards visual perceptual changes.

The Revised Paranormal Belief Scale (Tobacyk 2004) measures beliefs in seven areas: Traditional Religious Belief, Psi, Witchcraft, Superstition, Spiritualism, Extraordinary Life Forms, and Precognition. It contains 26 statements to be rated from 1 (definitely true for me) to 7 (definitely untrue for me), such as 'Black magic really exists', 'There is a devil', etc. Its structure and design make it a cross-culturally valid tool, which is important for ethnically and culturally diverse samples. The RPBS was used to test whether levels of paranormal beliefs might influence the amount or content of visual imagery in mirror-gazing. It is important to remember that because of the answer scaling structure, higher RPBS scores mean lower level of belief in supernatural.

The Peritraumatic Dissociative Experiences Questionnaire (PDEQ) (Marshall et al. 2002) was created to measure the levels of dissociation from the self soon after a traumatic experience, and to be used with subjects from diverse ethnic and social backgrounds. It consists of 8 statements to be rated on scale 1 (Not at all true) to 5 (Extremely true), such as 'I "blanked out" or "spaced out" or in some way felt that I was not part of what was going on'. In this study, the

PDEQ was administered to test for the possible influence of the mirror gazing on induction of dissociative experiences.

Finally, a post-session questionnaire designed by the researcher asked to rate experiences on a scale of 1 to 7, regarding pleasantness, vividness, voluntariness, dissociation from the image in the mirror (finer graded as whether the person in the mirror was watching the participant, or tried to convey information), sense of being watched, sudden drop in temperature, and suspicious sounds. Subjects were also asked to write down any particular images they might have seen during the session.

ANALYSES

PSYCHOPHYSICAL RESULTS

Almost all participants reported some perceptual changes of their face. Most of the changes reported were clearly optical effects of being in semi-darkness, yet there were also changes involving appearance of strange characters and dissociation between the self and image. Effects reported ranged from simple changes in illumination, such as pulsating lights and halos, to experiencing one's face as Jack Nicholson's Joker or pigs' faces. Most participants reported changes in illumination (as getting lighter and darker, lights shining from one side, positive-negative effect, etc.). There were perceived changes in participants' faces, such as changing facial expressions, smiling, distortion or movements of some or all parts of the face.

In line with Caputo's (2010b)findings, sometimes self-identity of participants was lost and images were perceived as separate entities, with one participant seeing one more face appearing in the corner of the mirror, while his own face had turned into a black featureless shape in its centre.

The mean frequency of perceptual changes for all participants was 1.6 per minute, of which the mean frequency for changes perceived as negative was 0.3 per minute. Mean duration of neutral changes was 17 seconds, mean duration of negative changes 8.4 seconds. Mean gazing time until the first experience was 93 seconds, and until the first negative experience 135seconds (note that the first minute was not taken into account regardless of whether there were any experiences or not, to allow adapt for change in illumination, so these numbers actually represent 2.3 and 3.15 minutes respectively, after the light was switched off).

EFFECT OF GENDER

Previous research (Lindeman and Aarnio 2006) suggests that there might be a difference in propensity towards paranormal beliefs between men and women. It was also speculated that gender might influence sensitivity towards effects of mirror-gazing. 29 males and 23 females in total took part in

the experiment, 15 males and 11 females in the neutral, and 14 males and 12 females in the religious priming group.

There were no significant correlations found between the gender and any of the following variables, across both priming groups: 1) number of neutral experiences, 2) number of negative experiences, 3) average lengths of neutral experiences, 4) average lengths of negative experiences, 5) total length of neutral experiences, and 6) total length of negative experiences. (From now on, I will refer to these dependent variables collectively as *effects of mirror-gazing*).

EFFECT OF AGE

There were no significant correlations found between age and effects of mirror-gazing in either of the priming groups, or the age and questionnaire scores.

EFFECT OF PRIMES

The objective of the experiment was to find out if priming with religious target words would have an influence on effects of mirror-gazing. The priming effect was present when comparing neutral versus religious prime conditions, with subjects in the neutral condition reporting greater effect than subjects in the religious condition. Six variables were analysed: number, total duration, and average duration of neutral and negative experiences. Kolmogorov-Smirnov tests before and after log transformations were highly significant for all religious condition data (all p-s<.001), so non-parametric tests were used.

There were significant outliers in both prime conditions. All the data were transformed to z-scores, and if an entry contained absolute values over 1.96, they were considered to be outliers. Such outliers were excluded from respective analyses.

As the data were violating the assumptions for parametric tests, Mann-Whitney tests (two-tailed) were conducted to test predictions that,depending on prime conditions, subjects would report differences in effects of mirror-gazing. Descriptive and inferential statistics are presented in Table 3.

Neutral experiences							
	Mean rank	*Mdn*	*U*	*Z*	*p*	*r*	*Number of cases excluded*
Number (zero scorers excluded)	NP = 27.7 RP = 19.3	NP = 15 RP = 9	168	-2.12	.033	-.31	6
Number (zero scorers included)	NP = 29.7 RP = 19.7	NP = 15 RP = 9	168	-2.5	.013	-.35	4
Average length (zero scorers excluded)	NP = 26 RP = 21,7	NP = 5.5 RP = 4	224.5	-1.01	.281	-.15	5
Average length (zero scorers included)	NP = 28 RP = 21,8	NP = 5.5 RP = 3.6	224.5	-1.5	.131	-.21	3
Total time (zero scorers excluded)	NP = 28.9 RP = 19.3	NP = 118 RP = 33	172	-2.3	.018	-.34	4
Total time (zero scorers included)	NP = 30.1 RP = 19.7	NP = 118 RP = 28	172	-2.7	.006	-.38	2
Negative experiences							
	Mean rank	*Mdn*	*U*	*Z*	*p*	*r*	*Number of cases excluded*
Number (zero scorers excluded)	NP = 15,9 RP = 13,55	NP = 3,5 RP = 2	83	-.73	.463	-.13	20
Number (zero scorers included)	NP = 28.7 RP = 20.3	NP = 2 RP = 0	188	-2.14	.032	-.29	4
Average length (zero scorers excluded)	NP = 19 RP = 14.3	NP = 6.8 RP = 4.6	96	-1.35	.183	-.23	19
Average length (zero scorers included)	NP = 30.7 RP = 21.5	NP = 6.8 RP = 1	207.5	-2.26	.024	-.32	1
Total time (zero scorers excluded)	NP = 28.9 RP = 19.3	NP = 33 RP = 11	55,5	-1.9	.051	-.36	23
Total time (zero scorers included)	NP = 29.8 RP = 19.2	NP = 19 RP = 0	160	-2.7	.006	-.38	4

Table 3. ***Mann-Whitney tests (two-tailed) for prime groups. NP = neutral prime, RP = religious prime.***

The analyses show that there are significant differences in the number and total length of neutral experiences, as well as total length of negative experiences across conditions, with participants in the religious prime condition reporting fewer neutral experiences and shorter durations for neutral and negative experiences. These differences were still significant after exclusion of subjects who reported no negative experiences at all. (For more discussion on

the zero scorers, see below).

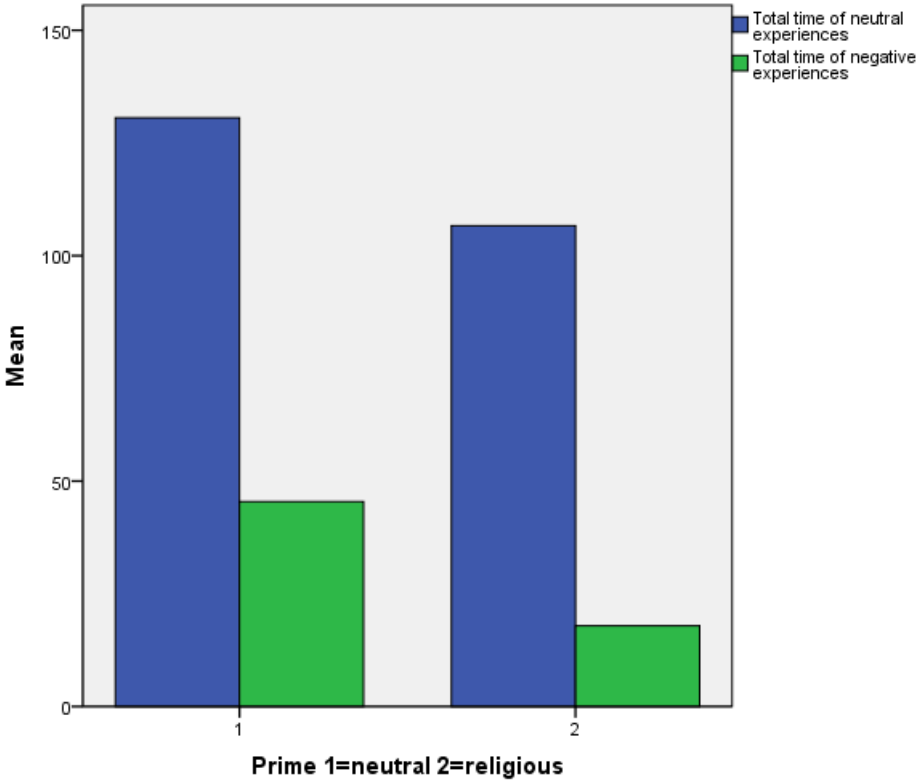

Table 4.*Total time of reported neutral and negative experiences, neutral versus religious priming groups.*

It can be concluded that the religious prime reduced the sensitivity to changes in visual perception (hence reduced amount of neutral perceptual changes reported), as well as the propensity to interpret them as negative (hence shorter lengths for negatives reported). Half of the participants (N = 13) in the religious prime group reported having no negative experiences at all. In the neutral prime group, only six reported no negative experiences.

EFFECT OF QUESTIONNAIRE ORDER

In each prime group, DES and RPBS questionnaires were administered in counterbalanced order (13 before, 13 after). It is possible that because of the nature of the questionnaires, the order of administration influences

participants' self-reports and their relationship to these measures. Levene's test for Equality of Error Variances proved to be significant for all dependent variables. Because of that, non-parametric tests were conducted to test predictions that subjects who completed the questionnaires before the task would have different scores of mirror-gazing effects, as the order of administration of the questionnaires might have affected the sensitivity towards hallucinatory experiences. The Kolmogorov-Smirnov Z test was chosen, as it has more power than Mann-Whitney on small sample sizes. There were no significant effects found.

CORRELATION WITH QUESTIONNAIRE SCORES

Next, the potential impact of specific individual traits on the effects of mirror-gazing was analysed. Because it was suggested by previous studies (Caputo 2010b; Terhune and Smith 2006) that mirror-gazing might cause strong dissociation from the self, subjects with higher DES scores were expected to have higher amount of experiences. Participants with higher amounts of experiences were expected to have higher PDEQ scores. It was also expected that high levels of paranormal belief might affect induction of anomalous experiences (French et al. 2009; Terhune and Smith 2006; Wiseman et al. 2003), so low scorers on RPBS were expected to report more pseudohallucinations. It must be noted that on their own, DES and RPBS scores were not correlated with each other – r = - 072, p= .610. There were no significant correlations found between the DES and RPBS scores and effects of mirror-gazing for any variables in the neutral condition, and for most variables, also in the religious condition. Only if the zero scorers were included, two variables in the religious prime condition could be deemed having significant correlations with the DES scores: average length of negative experiences (rho = .511, p = .008), and total length of negative experiences (rho = .409, p = .047).

Without the zero scorers, none of the results were significant. Disproportionally large amount of zero scorers in the religious prime group also explains why the data were not normally distributed in this group even after log transformations. With the number of zero scorers being so large in the religious prime group, it is worthwhile to investigate whether total denial of negative experiences might be correlated with some individual psychological traits.

NEGATIVE EXPERIENCES ZERO SCORERS

Of 52 participants, 19 reported no negative experiences but had some neutral experiences. Only one participant reported only negatives, and one had no experiences at all during the session (both were in the religious prime group). There were 13 zero scorers in the religious and 6 in the neutral prime group. A chi square test showed the impact of religious prime on zero scores of negative experiences significant:χ^2 (1) = 4, p<.044. If a score of zero is

considered to be the lowest possible score in the task and as such is included in calculations, many results become significant. So obviously the issue of zero scorers has crucial importance for the interpretation of the results.

To test whether certain individual traits might have had an impact on low responsiveness to hallucinatory experiences, questionnaire scores were analysed. In each priming condition, there were 26 subjects. In the neutral condition, 20 reported some negative experiences, and 6 reported having no negative experiences at all. In the religious condition, their numbers were 13 and 13. A new dichotomous variable was introduced – absence or presence of a zero score of negative experiences, and the questionnaire results were tested against this variable. As in previous analyses, there were no correlations found for the neutral prime group (r-s < .2, range -.11 to .04, ns). However, propensity to have no negative experiences was correlated with questionnaire scores among the subjects in religious prime group, for DES: r = .45, p = .021,for RPBS: r = -.44, p = .023, PDEQ: r = .09, ns. Subjects with lower DES scores and higher RPBS scores were significantly more likely to report no negative experiences, if primed with religious target words (see Table 6).

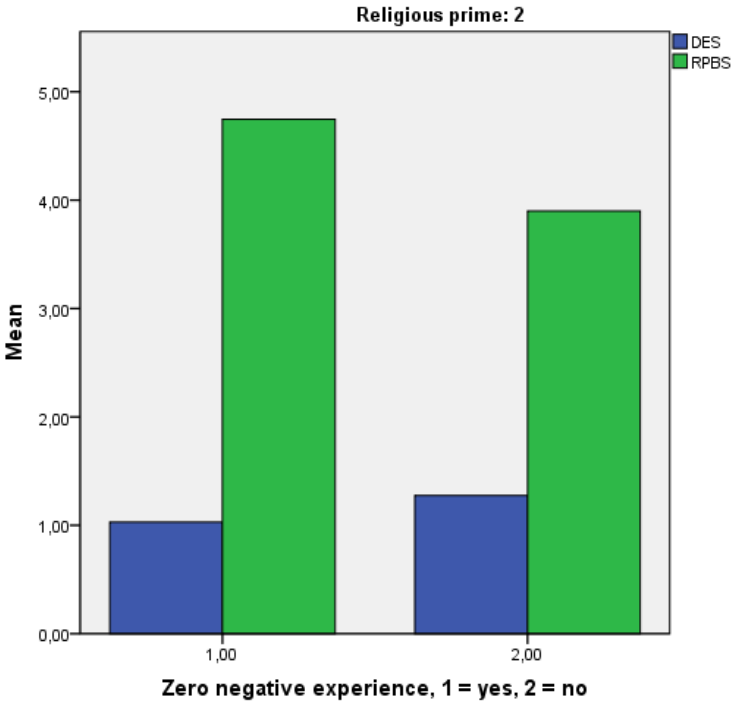

Table 5. ***Comparison of DES and RPBS levels between participants with and without negative experiences, religious prime group. Note that higher DES***

level means higher trait dissociation and higher RPBS level means lower paranormal belief.

With one exception, participants who reported no negative experiences at all still had neutral experiences (M = 11.63, SE = 2.6). Itcouldbe that zero scores of negative experiences merely represent subjects' tendency to interpret hallucinations as non-negative, rather than their inability to experience any.A Mann-Whitney test (two tailed) showed that there is no significant difference in the amounts of neutral experiences between the negative experiences zero scorers and participants reporting negative experiences.

The propensity towards having less (or no) negative experiences is correlated with low levels of both dissociation and paranormal belief. However, these psychological traits alone do not determine sensitivity towards mirror-gazing induced visual changes, but need a specific cognitive state for their expression in this particular context. Generally, people with both high and low levels of dissociation and paranormal belief respond similarly to perceptual changes in mirror-gazing. However, when primed with religious target words, some subjects tend to become selectively less sensitive to the visual effects of mirror-gazing, in both responding to visual perceptual changes and in valuating them as negative.

In this study, fewer number of experiences overall was valuated as negative (neutral M = 16.25, SD = 16.5, negative M = 3.54, SD = 5.36).The propensity to value experiences as negative seems to be correlated with higher levels of state dissociation. However, it became more expressed when subjects were primed with religious target words, its extreme being all experiences valued as neutral by subjects with lower trait dissociation levels.

DISSOCIATIVE EXPERIENCES REPORTS BEFORE AND AFTER MIRROR-GAZING

The PDEQ was the second of the two questionnaires dealing with dissociative experiences. Both DES and PDEQ deal with subjective dissociative experiences – the DES is a trait measure whereas the PDEQ is a state measure. It might be expected that individuals with high DES scores would have the tendency to experience higher levels of dissociation during potentially stressful events. There were no correlations found between mirror-gazing effects and PDEQ scores. Correlations between DES and PDEQ scores, on the other hand, turned out to be informative. There were significant correlations between DES and PDEQ scores in religious, but not the neutral priming group (neutral priming group, r = .128, p =.585, religious priming group, r = .472, p = .015).

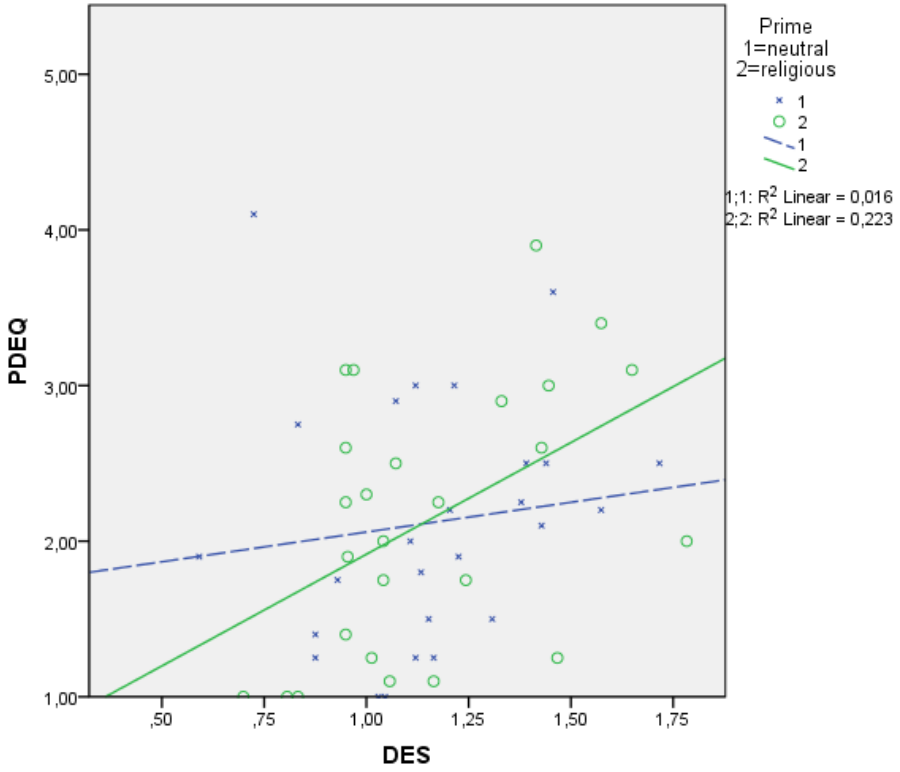

Table 6.*Correlations between DES scores and PDEQ scores, neutral versus religious priming group.*

For individuals with high trait dissociation levels, religious priming seems to have an impact not only on subjective perception of visual pseudohallucinations, it appears to 'unlock' susceptibility to other experiences that the PDEQ is dealing with – such as 'blacking out' or 'there were moments when I was not sure where I was'. This shows that the priming condition interacts with an individual's propensity for dissociative experiences, resulting in greater state dissociation.

To measure levels of dissociation experienced during the mirror-gazing session itself, the post session questionnaire (PSQ) asked participants to evaluate the voluntariness of perceptual changes, mirror image being a different person, mirror image possessing or conveying information about the observer, and sense of being watched by the mirror image.The results were largely the same as with the PDEQ scores, with significant correlations appearing only in religious prime condition and only if the negative experiences zero scorers were included. There was also a significant correlation found

between PSQ dissociation scores and being a zero scorer in the religious, but not neutral priming group (neutral priming group: $r = .018$, $p = .92$, religious priming group: $r = .57$, $p = .002$). The negative experiences zero scorers were also low scorers on DES.

Under religious prime condition, the process of mirror-gazing seems to influence dissociation in individuals according to their normal tendencies, with high everyday dissociation scorers reporting more and low scorers reporting less negative experiences.

REPORTED ANOMALOUS EXPERIENCES

Finally, to evaluate the possible effect of a mirror-gazing event and pseudohallucinations within the context of ghost sightings, the post session questionnaire covered four questions about experiences often associated with haunts: feeling of presence, sense of being watched (by someone in the room, not by the mirror image), sudden drop in temperature, and suspicious sounds. There were no significant correlations found between levels of anomalous experiences reported and the effects of mirror-gazing.

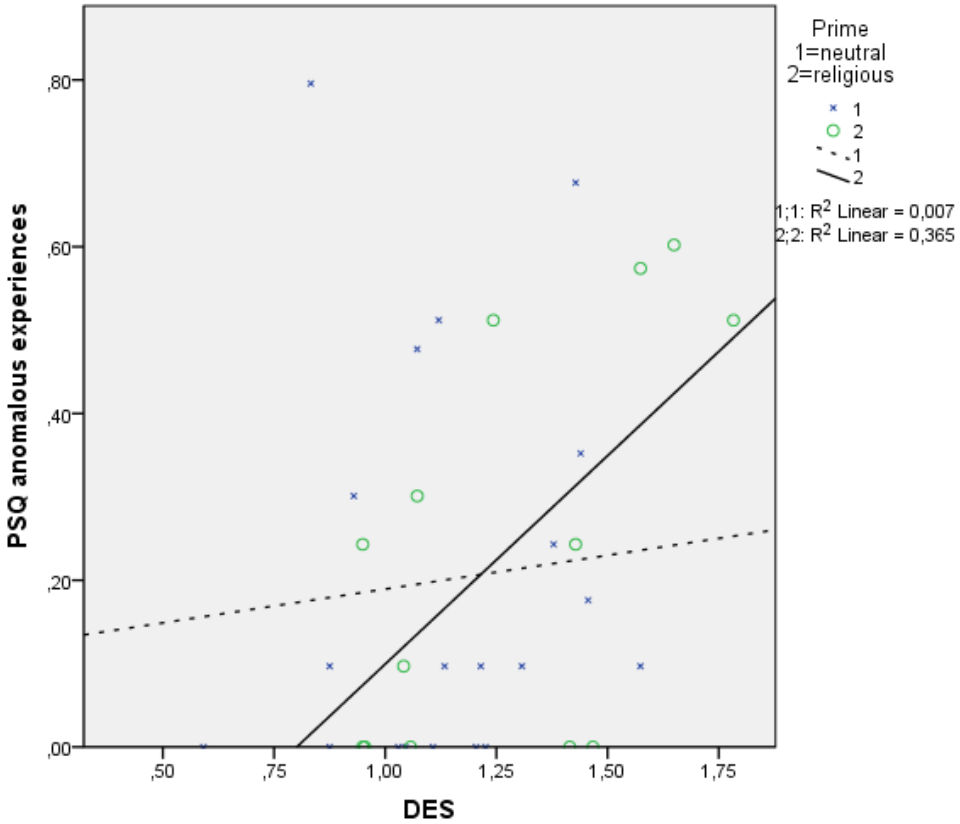

Table 7.*Correlations between DES scores and anomalous experiences, neutral versus religious priming group.*

In both priming groups, levels of reported anomalous experiences were correlated with the PDEQ scores (neutral group: r = .514, p = .007, religious group: r = .424, p = .003). Reported levels of anomalous experiences were also significantly correlated with the DES scores in the religious priming group: r = .54, p = 003, but not the neutral: r = -.062, p = .765. Those DES high scorers who received religious priming reported higher levels of anomalous experiences. RPBS scores were not significantly correlated with the amounts of anomalous experiences reported.

It can be concluded that the occurrence of state dissociation and anomalous experiences is associated predominantly with higher levels of trait dissociation, rather than paranormal belief, and responds to subtle confounds such as implicit religious priming with target words.

SUMMARY AND CONCLUSION

Sensitivity towards pseudohallucinations induced by mirror-gazing appears not to be determined by the levels of dissociation (as indicated by DES scores) or belief in supernatural (as indicated by RPBS scores) as such. However, when influenced by other factors like implicit religious priming, trait dissociation level (indicated by DES score) affects subjects' perception and emotional evaluation of visual effects of mirror gazing. When in a priming-induced religious cognitive state, some subjects demonstrated a reduced sensitivity towards mirror-gazing induced visual changes, as well as a reduced propensity to value them as negative, up to a point when half of them reported no effects at all perceived as negative. Higher amounts of pseudohallucinations, as well as a higher amount of anomalous experiences such as feeling of presence or sense of being watched, were associated with higher trait dissociation levels.

This echoes earlier work, where personal beliefs and dissociative tendencies turned out to be associated with higher responsiveness towards anomalous experiences in places traditionally believed to be haunted (Lange and Houran 1997, 1998; Wiseman et al. 2003), places where participants were merely told they are haunted (French et al. 2009; Houran and Lange 1996), in the psychomanteum(Terhune and Smith 2006), and in the laboratory, where the effects of the allegedly anomalous-experiences-inducing 'God helmet' were tested (Granqvist et al. 2005). In this study, correlation between trait dissociation and greater amount of experiences was significantly more expressed in the religious condition than in neutral condition. Thus it shows that it is not only the general tendencies of an individual, but also more subtle, immediate aspects that can influence sensitivity in mirror-gazing.

High DES scorers in the religious priming group also reported significantly higher scores on PDEQ and PSQ on anomalous experiences, unlike the participants in the neutral priming group. This suggests the ability of implicit word priming to bias individuals with high trait dissociation levels towards higher state dissociation during the mirror-gazing.

The findings of this study support the idea that individual's interpretations of incoming ambiguous stimuli can be manipulated by influencing the cognitive states of mind. These manipulations will be more effective if the subject possesses certain psychological traits, such as high levels of trait dissociation. Participants who scored higher on dissociative traits reported higher amount of anomalous experiences, yet also were more responsive to religious priming, which made them become less responsive to visual perceptual changes in mirror gazing. Religious priming not only increased dissociative tendencies, resulting in more anomalous experiences reported; concurrently, it also made subjects respond less to perceptual changes they were asked to focus on, and to value fewer of these experiences as emotionally negative. The correlation between low DES scores and fewer

perceptual changes valuated as negative was significant in the religious, but not the neutral priming group.

Analyses revealed that there is no correlation between trait dissociation and paranormal beliefs per se, but that individuals with higher dissociation levels can become more susceptible towards paranormal belief under certain influences. Humans become more inclined to accept traditional paranormal explanations when confronted with a seemingly unexplainable, unfamiliar and out-of-ordinary perceptual experiences, because traditional paranormal explanations make sense and thus reduce anxiety (Lange and Houran 1997, 1998). This ties in with the idea that humans are 'born believers', and paranormal or religious beliefs come naturally to us, because they are a product of our genetically inherited cognitive toolset, designed and developed through the power of natural selection (Barrett 2011; Bering 2011; Guthrie 1993; Tremlin 2006).

The method and findings are particularly informative about the formation and persistence of traditional ghost beliefs. Traditional Psi-based or naturalistic theories are largely ignoring the perceptual aspect of ghostly encounters. But if ghosts are indeed hallucinatory experiences induced by ambiguous perceptual and cognitive contexts, then the mirror-gazing is an effective ghost simulator. The lower number of experiences, both neutral and negative, in the religious priming group suggests that traditional methods of dealing with haunts such as prayer, religious exorcism, or amulets, might indeed be effective in minimizing anxiety caused by perceived paranormal effects.

The scope of this study is rather small, yet the results are encouraging. Mirror gazing was proven to be a highly effective and non-intrusive method for inducing pseudohallucinations, with only one participant reporting no experiences at all. It is informative about how our brain transforms optical input into images, and it is a method that could potentially be usedwith advanced exploratory tools such as MRI scanners. Further investigations, with the use of more sophisticated psychological trait measures and physiological measures such as galvanic skin response, would be more informative. Although the current study did not find any side effects of mirror gazing, more research on safety issues would be advisable before applying this technique routinely.

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REFERENCES

Achad, F. (1923), *Crystal Vision Through Crystal Gazing* (Chicago: C. Stansfeld-Jones).

Barrett, J. (2000), 'Exploring the natural foundations of religion', *Trends in Cognitive Sciences,* 4 (1).

Barrett, J. (2004), *Why Would Anyone Believe in God?* (Plymouth: Alta Mira Press).

Barrett, J. (2011), *Born Believers: The Science of Children's Religious Belief* (London: Free Press).

Barrett, J. and Johnson, A. (2003), 'The Role of Control in Attributing Intentional Agency to Inanimate Objects', *Journal of Cognition and Culture,* 3 (3).

Bering, J. (2011), *The God Instinct* (London: Nicholas Brealey Publishing).

Bloom, P. (2005), *Descartes' Baby: How Child Development Explains What Makes Us Human* (London: Arrow Books).

Boksa, P. (2009), 'On the Neurobiology of Hallucinations', *Journal of Psychiatry and Neuroscience,* 34 (4), 260-62.

Boyer, P. (2002), *Religion Explained* (London: Vintage).

Braun, C., et al. (2003), 'Brain modules of hallucination: an analysis of multiple patients with brain lesions', *Journal of Psychiatry and Neuroscience,* 28 (6), 432-49.

Broughton, R. (2006), 'Why Do Ghosts Wear Clothes? - Examining the Role of Memory and Emotion in Anomalous Experiences', *European Journal of Parapsychology,* 21.2 (Special Issue), 148-65.

Caputo, G. (2010a), 'Strange-face-in-the-mirror illusion', *Perception,* 39, 1007-08.

Caputo, G. (2010b), 'Apparitional Experiences of New Faces and Dissociation of Self-Identity During Mirror Gazing', *Perceptual and Motor Skills,* 110.

Carlson, E. and Putnam, F. (1992), *Manual for the Dissociative Experiences Scale* (Beloit: Sidran Foundation).

Dalton, K. S., et al. (1996), 'Security measures in an automated ganzfeld system', *Journal of Parapsychology,* 60.

Davies, O. (2007), *The Haunted: a Social History of Ghosts* (Basingstoke: Palgrave Macmillan).

Fenelon, G., et al. (2011), 'Feeling of presence in Parkinson's disease', *Jounal of Neurology, Neurosurgery and Psychiatry,* May.

Fodor, J. (1983), *The Modularity of Mind* (Cambridge, Massachusetts: MIT Press).

Foltin, E. (1969), 'Crystal gazing: Subjective responses to one of four unstructured projective media', *Jounal of Psychology,* 73 (1).

French, C., et al. (2009), 'The "Haunt" project: An attempt to build a "haunted" room by manipulating complex electromagnetic fields and infrasound', *Cortex,* 45, 619-29.

Granqvist, P., et al. (2005), 'Sensed presence and mystical experiences are predicted by suggestibility, not by the application of transcranial weak complex magnetic fields', *Neuroscience Letters,* 379 (1), 1-6.

Grimby, A. (1993), 'Bereavement among elderly people', *Acta Psychiatrica Scandinavica,* 87.

Grossberg, S. (2000), 'How hallucinations may arise from brain mechanisms of learning, attention, and volition', *Journal of the International Neuropsychological Society,* 6.

Guthrie, S. (1993), *Faces in the Clouds. A New Theory of Religion* (Oxford: Oxford University Press).

Hastings, A., et al (2005), 'Psychomanteum Research: Experiences and Effects on Bereavement', *Institute of Transpersonal Psychology*.

Houran, J. and Lange, R. (1996), 'Diary of events in a throughoutly unhaunted house', *Perceptual and Motor Skills,* 83, 499-502.

Hubel, D. and Wiesel, T. (1962), 'Receptive fields, binocular interaction and functional architecture in the cat's visual cortex', *Journal of Physiology,* 160, 106-54.

Inzlicht, M. and Tullett, A. (2011), 'Reflecting on God: Religious Primes Can Reduce Neurophysiological Response to Errors', *Psychological Science,* 21

Inzlicht, M., et al. (2009), 'Neural markers of religious conviction', *Psychological Science,* 20 (3), 385-92.

Jawer, M. (2006), 'Environmental Sensitivity: Inquiry Into a Possible Link with Apparitional Experience', *Cognitive Sciences ePrint Archive*.

Knight, William, et al. (2008), 'The Cultural Context of Visual Hallucinations', *Postgraduate Medical Journal,* 84 (988), 103-05.

Kohn, Adam and Movshon, Anthony (2003), 'Neuronal Adaptation to Visual Motion in Area MT of the Macaque', *Neuron,* 39, 681-91.

Kopelman, Michael D. (1999), 'Varieties of false memory', *Cognitive Neuropsychology,* 16, 197-214.

Krummenacher, P., et al. (2002), 'Dopamine, paranormal ideation, and the detection of meaningful stimuli', *3rd Forum of European Neuroscience* (Paris, France).

Kumar, Santosh, Soren, Subhash, and Chaudhury, Suprakash (2009), 'Hallucinations: Etiology and Clinical Implications', *Industrial Psychiatry Journal,* 18 (2).

Lange, R. and Houran, J. (1997), 'Context-induced paranormal experiences: Support four Houran and Lange's model of haunting phenomena', *Perceptual and Motor Skills,* 84, 1455-8.

Lange, R. and Houran, J. (1998), 'Delusions of the Paranormal: A Haunting Question of Perception', *The Journal of Nervous and Mental Disease,* 186 (10).

Lindeman, M. and Aarnio, K. (2006), 'Paranormal Beliefs: Their Dimensionality and Correlates', *European Journal of Personality,* 20, 585-602.

Maher, M. and Hansen, G. (1992), 'Quantitative investigation of a reported haunting using several detection techniques', *Journal of the American Society for Psychical Research,* 86.

Marshall, G., et al. (2002), 'Development and validation of a modified version of the Peritraumatic Dissociative Experiences Questionnaire', *Psychological Assessment,* 14 (2), 123-34.

Martinez, L. and Alonso, J. (2003), 'Complex Receptive Fields in Primary Visual Cortex', *Neuroscientist,* 9 (5), 317-31.

Moody, R. (1992), 'Family Reunions: Visionary Encounters with the Departed in a Modern-Day Psychomanteum', *Journal of Near-Death Studies,* 11 (2).

MORI (2008), *BBC Survey on Trust Issues* in www.ipsos-mori.com online database], (28 June 2011).

Norenzayan, A. and Shariff, A. (2007), 'God Is Watching You: Priming God Concepts Increases Prosocial Behavior in an Anonymous Economic Game', *Psychological Science,* 18 (9).

Persinger, M. and Cameron, R. A (1986), 'Are earth faults at fault in some poltergeist-like episodes?', *Jounal of American Society for Psychical Research,* 80, 49-73.

Polston, C. and Carter, B. (2008), *The Complete Ghost Hunter: Basic Methods to Advanced Techniques* (Albuquerque: Publish America).

Povinelli, D., Bierschwale, D., and Cech, C. (1999), 'Comprehension of seeing as a referential act in young children, but not juvenile chimpanzees', *British Journal of Developmental Psychology,* 17.

Ramachandran, V. (1999), *Phantoms in the Brain* (London: Fourth Estate).

Roll, W. (2004), 'Psychomanteum Research: A Pilot Study', *Journal of Near-Death Studies,* 22 (4).

Serre, T., Oliva, A., and Poggio, T. (2007), 'A feedforward architecture accounts for rapid categorization', *Proceedings of the National Academy of Sciences of the United States,* 104 (15), 6424-29.

Shimojo, S., Kamitani, Y., and Nishida, S. (2001), 'Afterimage of perceptually filled-in surface', *Science,* 293.

Sperber, D. (1996), *Explaining Culture. A Naturalistic Approach* (Oxford: Blackwell Publishers).

Srull, T. and Wyer, R. (1979), 'The Role of Category Accessibility in the Interpretation of Information About Persons:Some Determinants and Implications', *Journal of Personality and Social Psychology,* 37 (10), 1660-72.

Taylor, S. (2005), 'Between the idea and the reality: A study of the counselling experiences of bereaved people who sense the presence of the deceased', *Counselling and Psychotherapy Research,* 5 (1), 53-61.

Terhune, D. and Smith, M. (2006), 'The Induction of Anomalous Experiences in a Mirror-Gazing Facility', *The Journal of Nervous and Mental Disease,* 194 (6).

Tobacyk, J. (2004), 'A Revised Paranormal Belief Scale', *International Journal,* 23 (3), 94-98.

Tomarken, A., Mineka, S., and Cook, M. (1989), 'Fear-Relevant Selective Associations and Covariation Bias', *Journal of Abnormal Psychology,* 98 (4), 381-94.

Tremlin, T. (2006), *Minds And Gods* (Oxford: Oxford University Press).

Ward, T. B. (1994), 'Structured Imagination: the Role of Category Structure in Exemplar Generation', *Cognitive Psychology,* 27 (1), 1-40.

Wegner, D. and Schneider, D. (2003), 'The White Bear Story', *Psychological Inquiry,* 14 (3/4), 326-29.

Wegner, D., et al. (1990), 'The Supression of Exciting Thoughts', *Journal of Personality and Social Psychology,* 58 (3), 409-18.

Wiseman, R., et al. (2003), 'An investigation into alleged 'hauntings'', *British Journal of Psychology,* 94.

ETHICAL ISSUES IN SPONTANEOUS PHENOMENA INVESTIGATIONS

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Whilst academic parapsychologists adhere to formal ethical codes when dealing with people who experience anomalous phenomena there are a large number of lay investigators who abide by no formal ethical code whatsoever.
Given the dearth of parapsychological literature on ethics this paper sets the discussion of ethics into the context of ethical development as well as how lay investigators operate.
Key areas of discourse not covered in previous literature include recruitment training and care of investigators, consent involving local authorities, whether it is responsible to accept a case, the use of instrumentation, spiritual methods, the ethical implications of different types of case and ethical problems in dealing with children and vulnerable adults.
The paper concludes with a discussion of investigator accountability and whether the rights of the investigator or the client is more important.

INTRODUCTION

A survey of peer-reviewed parapsychological literature on the subjects of 'ethics' or references relating to 'codes of conduct' reveals a scarcity of papers alluding to these key issues in a field in which client-centred spontaneous cases forms a small part. Most papers mentioning 'ethics' did so within the context of approval of research projects by an ethics committee of a particular academic institution. In academic parapsychology today most researchers either work for academic institutions or work closely with researchers who do. As such, ethical issues are seen as largely within the purview of academic departments and ethics committees that do not need development through peer-reviewed publication.

Organisations like the Parapsychological Association (2005), the British Psychological Society (2009) and the American Psychological Association (2010) provide well-developed ethical codes for researchers who are members.

Whilst working with people who claim to be experiencing anomalous phenomena forms part of the remit of parapsychology, there are a large numbers of investigators of anomalous phenomena (whether this be hauntings, UFO sightings or any other number of phenomena) for whom this is their primary interest. Such investigators are typically not attached to any institution and have no accountability to an ethics committee. It would appear that precious few individual investigators, or groups of investigators, adhere to any

formal code of ethics. For many such individuals paranormal or anomaly investigations may be a hobby, or a relatively informal process, and the ethical structures employed by them in dealing with distressed members of the public may be equally informal, based on their personal morality and common sense approaches. Such "informal" approaches are similar to those used in most people's day to day lives to deal with potentially difficult situations, and may of course be highly effective, but the potential for problems and damage especially when dealing with vulnerable or distressed clients is clear. Within academia formal ethics codes are commonly employed to help reduce such risks, and within many industries Professional Bodies regulate working practice in the interests of protecting the public and practitioners from the risk of scandal and abuse.

HISTORY OF ETHICS IN THE FIELD

The Society for Psychical Research (SPR) was founded by a group of intellectuals in 1882 that included Prof. Henry Sidgwick, the noted Moral Philosopher. From the beginning the Society stressed that opinions of members were personal to them, and while the Society published research they held no corporate opinions. Any investigations conducted were governed only by the personal ethical codes of the investigators. Given the fairly formal milieu of personal honour and 'respectability' in late Victorian society, especially within the somewhat upper class 'Establishment' persons who formed the SPR in that period. Detailed guidelines for ethical conduct were never formulated; perhaps because it was felt strong social norms provided an adequate context for any dealing with any issues that arose. Trevor Hall has, in a series of books (for example Hall, 1964; Hall, 1980) attacking early SPR members, made a case that this was at best a naïve assumption.

Yet this lack of consideration of ethical issues was not restricted to psychical research. Alvino (2003) claimed that the development of human-centred research ethics was one of "progress propelled by scandal." Prior to World War II research ethics were seen broadly as a matter of individual morality and competence. The perceived scientific atrocities of World War II were widely seen as a catalyst for the change from the exercise of individual morality to codified ethics; a process that developed in the social sciences over the following decades among several high-profile extreme cases (Hesse-Biber & Leavy, 2010).

Many academic discourses "professionalised" from the 1920's onwards, with more formal methodologies, professional bodies, university based practice and emphasis on academic publication and use of statistical and quantitative approaches. For example, the modern archaeology came to replace the older antiquarian discourse, which had been largely the province of gifted amateurs

and dilettantes. Following the World War Two, codes of ethical practice became common as part of this process.

Such codes could form a weapon used against amateurs. Within archaeology increasing professionalisation saw the end of the amateur excavations that had admittedly done untold damage to barrows and ancient sites, and increasing legislation forced many of the "antiquarians" out of the field, unable to dig. Some of these antiquarians were to become involved in the "Earth Mysteries Movement", where the pursuit of ley-lines and ancient mysteries could be conducted without conflict with the university archaeologists (Romer, 1997). Much modern Psychical Research, Ufology and Ghost hunting remain closer in spirit to the old antiquarian discourse than the professionalized archaeologists; yet Parapsychology was to go through a similar process of professionalisation under J.B. Rhines influence in the 1950s, becoming university and lab based, statistical, and vying for scientific respectability. Those outside the mainstream have often been largely ignored by the "professional" parapsychologists, though the Journal of the Society for Psychical Research has always published papers from both the university "professionals" and from members of what one might categorise as the "Psychical Research" party, who work informally in their spare time.

Yet the antiquarian tradition had performed much of the work on which modern archaeology was based, providing seminal figures like Pitt-Rivers and, a late example, Gordon Childe. The professionalisation of the sciences, along with increasing specialisation led to both gains and losses; today the TV show 'Time Team' reminds us of the immense fascination archaeology holds for large parts of the British population, yet unlike 'Most Haunted' (a popular ghost hunting TV show which spawned hundreds of 'local ghost groups') there are formidable obstacles to the amateur becoming involved with the highly professionalized archaeology, with competition for volunteer spaces even as diggers being high. Yet analogies can be drawn -- while the professionalisation of archaeology certainly restricted damage to unique historical sites, so professionalisation of parapsychology may ensure cases are recorded properly for posterity and restrict damage to distressed individuals.

However it is important to remember that professionalisation of a discourse can be seen as a power/control mechanism designed to 'purge' the field of individuals who do not meet the required 'standards' or who stand outside the orthodoxy of the field. Even in something as seemingly positive as advocating ethical standards, there are dangers such as this that need to be avoided.

Within parapsychology and psychical research the quest to achieve scientific respectability against a widespread background of suspicion of the subject matter from within the orthodox scientific community acts as a continual

imperative to professionalisation, along with the genuine desire to protect vulnerable individuals from harm.

In psychical research, even in the 1970s researchers were calling for an 'ethical code' in a field which one researcher felt was not largely concerned with ethics (Gregory, 1974). In 1980 the Parapsychological Association published its first ethical guidelines (PA, 2005), which are continually reviewed and updated. In her paper, Gregory went onto make a dramatic plea:

> In psychical research, in my view, a state of affairs has been reached where, if rules are not formulated, the whole enterprise will be jeopardised unless commitments and obligations are clearly set out and adhered to: we are likely to spend so much time on fruitless and painful scandals and quarrels that ... we shall find it virtually impossible to gain the necessary academic confidence, recognition, respect and cooperation needed to advance the subject. (Gregory, 1974: 285-6)

Gregory's commentary seems pertinent to the current field of anomaly investigation, which has recently suffered a series of scandals, including incidence on both sides of the Atlantic of investigators who were known sex offenders (for example Hull Daily Mail, 2010 and PSIRO, 2011) and presumably enter vulnerable people's homes as a figure of authority.

Many field investigators of anomalous phenomena, as noted above, rarely adhere to a code of ethics. Baker and O'Keeffe (2007) recognised this absence and advanced their own 'ethical guidelines for the investigation of haunting cases'. Baker and O'Keeffe's ethical guidelines provided a useful overview of the issues and laid down practical guidelines, especially relating to confidentiality, consent and interviewing. Sadly this paper has never been widely disseminated among the groups who would be most interested in it, and we would like to call for it to be made available as a PDF for download on the SPR website as it has great value in framing these questions and allowing groups to develop ethical guidelines.

This current paper makes the assumption that the primary concern of the investigator should be to do no harm. That the responsibility of the investigator is not to try to 'make things happen' or 'play with people's lives' (Murray, 1995) and that all times a responsible researcher should anticipate the ways distress could be caused and mitigate any potential harm (Connelly, 2003).

The current paper will build on Baker and O'Keeffe's work by building on key areas of investigator ethics not expanded in their guidelines. This paper will not propose to act as a set of guidelines in itself, but it is hoped it will spark further discussion and debate. In particular the following crucial issues will be covered:

whether it is appropriate to take on a case, different ethical principles applying to different types of cases, recruitment methods for investigators, cases involving children and vulnerable adults, consent involving local authorities and accountability.

A major area covered in the present paper was the principle of doing no harm, including the use of instrumentation, discovery of sensitive information and illegal activities, relaying disturbing information, the recently bereaved and issues relating to faith and culture.

HOW INVESTIGATORS OF ANOMALOUS PHENOMENA OPERATE

It is vital to place any discussion of investigator ethics into the context of how investigators practically operate. This section draws on the ASSAP (2010) training module 'How *not* to investigate cases'.

Investigators can obtain a case through a number of channels. The first way a case might arise is by a potential client directly approaching an investigator or group, often through the Internet, word of mouth or via an intermediary.

In the second instance an investigator might approach a potential client themselves. Often this involves contacting a public business that claims, say, a haunting, or may involve approaching the media following an article about a family.

Thirdly investigators may pursue a case where there is obvious client. Often this involves out-door locations with associations with hauntings or other phenomena where investigators take it upon themselves to organise an investigation or sky watch.

Seemingly the majority of cases involve public buildings – often pubs and tourist attractions – rather than involving clients in their homes. Interviews and discussions about methodology may or may not take place. Investigations often involve a group of investigators splitting into sub-groups across a building using various piece of instrumentation to find evidence of 'ghosts'. Strikingly, the same arrangement is often utilised on those occasions when there is an investigation in a client's home.

In the case of 'outdoors' investigations often permission is not obtained from the landowner.

'Investigation groups' often comprise individuals who have met via the Internet without any formal recruitment mechanism. Occasionally investigators will

have not met until the night itself as events are often promoted openly through Internet discussion forms and via social media websites like Facebook.

The investigation may or may not result in a report which is presented to clients and often uploaded to a public website.

RECRUITMENT, TRAINING AND DUTY OF CARE OF INVESTIGATORS

As previously mentioned recruitment procedures for investigators are often non-existent. Most investigations involve interviews and Baker and O'Keeffe's (2007) guidelines note that "all interviewees are vulnerable" by virtue of their circumstances and that during investigation events clients are "often vulnerable"; they also note the uneven power relationship between investigator and client. It is reasonable to assume that, between interviewing or attending an event where the client is also present, an investigator has a fair chance of having interaction with a potentially vulnerable client. Whilst clients may or may not statutorily vulnerable, as defined by being in receipt of certain types of care or attention (UK Legislation, 2002), it is reasonable to accept Baker and O'Keeffe's assertion that clients are vulnerable from a research perspective.

Baker and O'Keeffe (2007: 224) also noted that "investigators should only engage in activities based upon their degree of education, training, experience, study, etc."

This raises questions about how investigators' competency in dealing with vulnerable clients. In particular, the following points are relevant:

- Investigators should be judged competent at dealing with situations involving vulnerable people. Whoever is organising a group should have the skills, training and opportunity to make this assessment. It is clear that 'open events' involving clients are not satisfactory, but that defined recruitment and assessment procedures should be followed.
- Only those with specific training should interview clients, especially if the assumption is made that all clients are potentially vulnerable.
- Based on Baker and O'Keeffe's (2007) discussion about competency the question is raised as to whether any investigator should be engaged in a case involving a potentially vulnerable client without appropriate training.
- Whilst Criminal Records Bureau (CRB) checks are not legally mandated unless the client is statutorily vulnerable (The Research Ethics Guidebook, 2011), investigators should still be in receipt of CRB checks where it is accepted that any client can be potentially vulnerable. In the cases of sex offenders operating as investigators, as mentioned earlier, a family with children may or may not be statutorily vulnerable but the need to know the criminal background of individuals entering client's homes is clear.

It should be noted that the line between investigation groups and commercial companies offering 'ghost experiences' has blurred in recent years. Investigators will often 'sell' the chance to take part in a paranormal investigation either on a profit, non-profit or charitable basis. Clearly 'tickets' should not be sold for vulnerable client cases (often small businesses where the owner is a client requesting an investigation) but such 'public events' are clearly outside the remit of this paper. Such events involve a duty of care by event organisers to ticket-holders, thus involving other ethical issues, but members of the public will either not come into contact with vulnerable clients or have an even power relationship with them. As such 'public events' should be treated separately.

Another important distinction relates to investigators paying a 'haunted' location a fee to spend time in their building. In such situations the 'client' often holds the power and responsibility. In such cases the client can rarely be said to be vulnerable and the difference between such events and public, ticketed events is small.

In all cases organisers – be they of groups of investigators or commercial events – have a responsibility for the well-being of investigators or ticket holders. This should include informed consent, briefing, debriefing, the right to withdraw and adequate insurance cover.

CONSENT INVOLVING LOCAL AUTHORITIES

As previously noted some cases pursued by investigators do not involve a visible client, for example open-air haunting cases or UFO sky watches. In such cases it is common for investigators to not seek permission, believing such sites to be 'public access' (ASSAP, 2010). Whilst there might be public right of access through a site, for example a woodland, it is good practice to inform site owners and inform the Police of events taking place outside, obtaining an incident number. In this way, if a member of the public reports "suspicious" activity occurring, the police can quickly inform them of the nature of the event, and do not have to tie up resources.

Insurance policies may be invalidated where local authority or landowner permissions are not granted. Investigators also have a wider responsibility to local communities as night-time group activity at public sites often attract anti-social behaviour at sites like grave yards (ASSAP, 2010). Public reporting of such fieldwork can also lead to copy-cat behaviour, for example in one case where 'ghost hunting' teenagers were charged with trespassing in a cemetery (Lough, 2009). In 1994 a news item was recorded during a public vigil at Prestbury Churchyard, Gloucestershire, and a crowd of over 300 youths came

following the broadcast and caused considerable damage and disruption (Gloucestershire Echo, 1994).

WHEN IT IS RESPONSIBLE TO ACCEPT A CASE

Investigators may or may not operate a triage system for cases that arise. ASSAP's (2010) training programme advocates that careful consideration should be given as to whether an incoming case is taken on by an investigator. Factors ASSAP considers relevant include client motivation, client expectations and client vulnerability. Where it is clear the client is mainly interested in media coverage of an investigation, especially where there are few recent original eyewitnesses, it should be considered whether the investigators ethical responsibility to the wider field and to the client would be compromised. For example does a client understand the impact media reports might have on their family? Even where there are potential benefits, such as a small business attracting attention, would be involved with media trivialisation damage the reputation of the field?

If the client has unreasonable expectations it is not ethically justifiable to take on a case. Part of seeking informed consent involves explaining to the client the purposes and explicit details of case investigation (Baker & O'Keeffe, 2007). If an investigator accepts a case knowing that the client has unrealistic expectations – for example 'proof' of their haunting, or for the 'problem' to go away – the investigator may be guilty of deceiving the client. In some cases an investigator might be encouraged by to 'clear' a 'spirit'; a scientific investigator would not attempt to do this but might refer to a religious authority.

Client vulnerability will be considered later but ASSAP (2010) explicitly rules out the 'group investigation' approach in almost all cases where the client is vulnerable, especially cases in a client's private home. ASSAP also recommends that cases are rejected where the client is statutorily vulnerable (for example has mental health issues) except as part of a multi-agency team, which will be expanded upon later.

THE USE OF INSTRUMENTATION

The use of instrumentation is commonplace in spontaneous case fieldwork, often believing such instruments can 'detect' the presence of 'ghosts' in some way. Often a clear and workable rationale is not presented to justify the use of equipment such as EMF (electromagnetic field) meters.

In practice such devices are often used to probe for coincidence. For example where an EMF meter registering a high reading coincides with a subjective experience of a haunting this is considered to be evidence for said haunting.

High readings in isolation with no immediately identifiable cause may also be presented as evidence of a haunting, because of the association that has been built.

Where the use of such equipment has no robust empirical or theoretical basis its utility from a methodological perspective is questionable. Further, the presentation of such coincidences and anecdotes to clients may be seen as confirmation of their haunting and therefore cause greater distress.

USE OF SPIRITUAL METHODS

The methodological and ethical justifications for use of mediums and spiritualist tools (such as spirit boards, séances or dowsing methods) are similar to those of general instrumentation. In the same way that using an EMF meter to find a ghost is using an unknown to investigate an unknown, using mediums and spiritual tools are an equal unknown. Specifically the use of medium or sensitive to verify historical information in the field would seem to be an exercise in probing for coincidence. All such tools warrant experimental or systematic enquiry in their own right, but their use as a tool in investigations is not justifiable, though experimental fieldwork with psychics and mediums can be both ethical and valuable if in a methodologically rigorous manner. Parapsychologist Gertrude Schmeidler pioneered the "quantitative investigation of haunting" using psychics in a formal experimental design framework (Schmeidler 1966, 1975).

CULTURAL AND RELIGIOUS ISSUES

A particular set of issues may arise when dealing with individuals who are from a different cultural or religious background to the investigators. Some members of the family may well be deeply opposed to any intervention that involves spiritualists or mediums for religious reasons, and religious individuals may have existing ideas about the afterlife and nature of reality that may be in stark contrast to the ideas brought forward by the investigators. In such cases it may sometimes be better, where possible, to refer clients to a church, synagogue, mosque or temple of their faith tradition, or to where possible liaise with the relevant religious authorities if the client desires this. Most religious institutions will have individuals trained in pastoral care who handle these kinds of incidents on a regular basis.

ETHICAL IMPLICATIONS IN DIFFERENT CASE TYPES

As noted previously spontaneous cases fall broadly into the categories of a) those where there is a vulnerable client and b) where there is not a vulnerable client or where there is no client present. Whilst the ethics of any case should be

dynamic and based on its own merits there are broadly differing ethical implications in each of these different scenarios.

Where a vulnerable client is present, a group investigation approach, as described earlier, is not appropriate (although investigators should ideally not work alone for health and safety and other reasons); contact is more likely to take the form of interviewing and reassurance (Baker & O'Keeffe, 2007). In such cases confidentiality and anonymity should be the default position so as to minimise potential harm to the client. The inappropriate use of instrumentation where this may cause harm, as outlined above, is not acceptable.

In cases where there is no vulnerable client, often in public buildings, ethical risks are still present although arguably less severe. Such cases are typically treated as suitable primarily for 'group' investigation. Instrumentation/spiritual tools are often used in these cases for a variety of purposes. Commonly use of equipment is geared towards probing for coincidence, or to support the belief that such instrumentation provides an objective measure of haunting activity. Whilst this may not be methodologically justifiable it can be argued that the potential for ethical harm is reduced where clients are not vulnerable (or indeed where a contractual arrangement may exist).

Where such research is disseminated, it does have the potential to damage the credibility of the field. Instrumentation is also used for more credible purposes, for example monitoring the environment for the cause of possible xenonormal (odd, but explainable) experiences. It could also be argued that there is a valid purpose for 'testing' equipment or spiritual tools in non-vulnerable cases to assess claims that instrumentation readings are linked to hauntings. However the results of such studies are rarely published, and often find no association (for example Wood, 2009, Swale & Wood, 2009 and Wood & Wooff, 2009).

Whilst non-vulnerable cases can be used to advance general research because the ethical risks are less severe, the severity of the ethical risks in vulnerable cases suggests that the client, rather than the research, should always be the primary consideration. Dealing with vulnerable clients and doing no harm involves, primarily, helping that client and alleviating distress rather than using their case as an opportunity to conduct research.

CASES INVOLVING CHILDREN

There is no evidence that households with children have any fewer experiences of anomalous phenomena, or that fewer of these are reported to investigators. Where it is accepted that any cases involving a private home are automatically vulnerable, the presence of children must exacerbate vulnerability and potential

harm. In social science research the need for seeking parental permission is often discussed (for example Masson, 2004) and certainly an investigator interacting with a child without parental supervision would leave themselves open to unacceptable legal risks. CRB checks would also be essential for investigators interacting with children.

However, there are powerful arguments to suggest that investigators should never interact with children. Masson (2004) argued that gaining informed consent from a child him or herself is important, rather than by proxy consent from a responsible adult. The implications of being involved in spontaneous case research should be outlined to the child in language they would understand, including the consequences of so doing.

The investigator should be satisfied that the child fully understands the consequences of the research. In cases as distressing as haunting cases if a child were fully capable of understanding the implications, would any parent wish to put their child through that experience? Masson (2004) goes on to suggest that if informed consent cannot be gained and proxy consent (by a parent, say) is required then the research is not justified.

CASES INVOLVING VULNERABLE ADULTS

Earlier the distinction was drawn between adults who are statutorily vulnerable and adults who are potentially vulnerable through the nature of the anomalous experiences they have had.

According to the ethical code of the Parapsychological Association (2005) the approval of a qualified therapist in charge should be required before any mentally ill person be involved in a study. In reality it may be difficult to ascertain whether a person is mentally ill as investigators are likely to be contacted by the client directly, rather than approaching the client through gate keepers. If it becomes clear the client is mentally ill, for example in discussion about people responsible for their wellbeing, the case should be referred to a responsible authority. Issues involving informed consent apply to those who are vulnerable by nature of infirmity or learning difficulties (Masson, 2004); in all such cases the investigator cannot justify being involved unless they have appropriate expertise.

Of course certain symptoms of 'paranormal activity' such as hearing voices, seeing apparitions (hallucinations) and feelings of fear and anxiety may easily be misclassified as symptoms of mental health issues by lay investigators, and symptoms of severe illness be mistaken for paranormal phenomena. Whether an investigator giving credence to a victim of delusions or endorsing their hallucinations will do harm varies depending upon the case, but there are

certain medical conditions where wider knowledge of the symptoms among investigators may be highly useful. While hallucinations are relatively common even in non-psychotic people (Bell et al. 2011), certain groups manifest particular symptoms which should not be encouraged by ignorant investigators. For example, a relatively common hallucination among the psycho-geriatric population is that they have received a visit from a person who ignored them, entered their house and moved around, but did not speak or interact. Similar are hallucinations of persons knocking on the door, or trying to gain entry to the house at night. Charles Bonnet Syndrome, which results in hallucinations amongst people without mental dysfunction may be mistaken for haunt experiences (Cousins, 2009) may also result in call outs for investigators.

The only exception in working with statutorily vulnerable people is where the investigator is part of a multi-agency team, where those professionals responsible for patient care are directly involved in the process. Such partnership working can be difficult to establish but where the authorities believe it is worthwhile there may be a place for an investigator. Restrictions based on data-sharing and client confidentiality however makes multi-agency task forcing difficult even for institutional groups such as the police, Social Services and GP practices, and often tragedies we read about in the paper labelled as 'failure of care' came about through lack of communication hampered by these issues. An investigator who manages to build such a relationship would be in a highly privileged position.

Another group where special consent is usually required by University Ethics Committees on the grounds of vulnerability is research involving the recently bereaved. This complex area requires especially sensitive handling (Parkes, 1995) yet many clients who approach investigators are recently bereaved, and many may be using the ghost experience as a way of handling the shock of the recent bereavement and coping with the loss. While investigators may be able to provide simple explanations for many of the phenomena put forward by the client, whether to explain away these things or to allow the client to continue in the belief their departed loved one is still with them, even if one is not convinced by the evidence this is so, raises issues beyond the scope of this paper. It is important to be honest to the client regardless of the situation but some clients may approach clients to aid their distress; investigators should not engage with clients who are recently bereaved and should refer to a suitable agency. Any intervention with a client who is vulnerable through a recent bereavement, usually defined as within the past six months, is highly problematic, and the period of mourning may with some individuals persist for many years. Even outside of the recently bereaved, there are others who seek out investigators seeking validation for 'special powers' or experiences they feel they possess, and one must be careful and tactful in dealing with these matters, where considerable distress may follow an honest appraisal or even a mild critique, if

the client has come to construct an important part of their self-identity around these claims.

Cases involving adults vulnerable by virtue of their situation have been discussed earlier in this paper, but in some cases similar principles may apply. As Baker and O'Keeffe (2007) noted, an investigator should only operate within the limitations of their training and competence. If a client becomes distressed during the course of a case the responsibility of the investigator is to help calm them but then to refer them to an appropriate agency for professional care needs.

The role of the investigator during vulnerable cases is primarily to interview and to help reassure. The best outcome an investigator should expect is to provide reassurance and learn from the experience him or herself, and to disseminate that learning with the permission of the client whilst maintaining client anonymity at all times.

FURTHER ISSUES OF CONFIDENTIALITY

As mentioned previously confidentiality and anonymity are of paramount importance and should be the default position in dealing with vulnerable and non-vulnerable clients. There has long been a debate whether clients should always be afforded full confidentiality (Murray, 1995) or whether this should be downgraded to anonymity to allow publication of details that would not link a report with a client. Baker and O'Keeffe's (2007) assumption that confidentiality should only be wavered with express permission is reasonable. In another example of differing ethics between vulnerable and non-vulnerable cases it is not uncommon for investigators to publish the locations of non-vulnerable cases, where they are public buildings.

A different issue relating to confidentiality is that of breaching confidentiality because of illegal activities disclosed. In general academic researchers do not breach confidentiality where illegal activities are discovered but could breach permission, seeking the permission of the client, in cases where harm, abuse or threat of harm are uncovered (Wiles et al, 2006).

DEBRIEFING AND 'THE REVEAL'

Potentially one of the key ways harm may happen is in the method of debriefing (where this happens at all). General guidance for debriefing are contained in Baker and O'Keeffe (2007) and there is no need to repeat those here. In recent years some investigators have sought to copy the debriefing methods of paranormal television programmes (ASSAP, 2010) – 'the reveal' – where efforts

are made to 'solve' the haunting or to provide as much compelling and impressive evidence as possible.
Issues of harm in such reporting often include relaying the results of assumption-led methods. For example tools and methods that are 'unknown' and therefore not appropriate to vulnerable cases such as electronic voice phenomena, ghost photography and instrument readings such as EMF meters. Where there is a power imbalance between client and investigator the client may accept this 'evidence' as confirmation of a haunting even where disclaimers are provided. Similarly information gleaned from mediums and historical information – attempting to find a deceased person to 'blame' for the haunting – may have a great impact on the client. Questions are sometimes raised about whether 'distressing information' should be relayed to a client or withheld (for example a 'malevolent voice recording' or distressing accounts by a sensitive); the answer is that this is one of the reasons why such methods should not be used in vulnerable cases.

ACCOUNTABILITY OF INVESTIGATORS

For any code of ethics developed the problem remained, as noted by Baker and O'Keeffe (2007), that there was no responsible or professional body for investigators of anomalous phenomena. Apart from the fact that no code existed, there would be no recourse for clients should an investigator break an ethical code. The result is that clients cannot guarantee confidence in the ethical approach of investigators.

This may change as ASSAP (2011) announced it has registered with the UK government as a professional body for investigators of anomalous phenomena. The consultation on this remains ongoing (at assap.ac.uk/consultation), but a logical outcome would be a common code of ethics for those who sign up to it. Potential arguments against a common code echo Gregory's (1974) experience in parapsychology where there are differing points of view about the relative importance of clients' rights not to be harmed, versus investigators' freedom.

Careful consideration should be given as to whether the rights of investigators or clients should be paramount. Ultimately there is an argument that everyone should have a choice. Investigators should choose whether they want to be accountable to an ethical code and clients should make a free and educated choice about whether they wish to work with accountable investigators or not.

SUMMARY

Recognising the lack of ethics papers in parapsychology publications this paper built upon Baker & O'Keeffe's (2007) useful ethical guidelines by placing the debate into the context of the wider development of ethics and the modus operandi of the large number of investigators of anomalous phenomena who typically work without a formal code of ethics.

Issues such as consent, confidentiality and interviewing were well-covered by Baker and O'Keeffe so this paper focussed on other areas where there is a significant potential for harm to clients.

In particular the recruitment, training and duty of care of investigators themselves were considered. Especially in relation to what might make an investigator competent in dealing with vulnerable people and the use of CRB checks. The distinction was drawn between occasions where a person can be considered a responsible investigator rather than a ticket holder to an event. The problem of consent involving local authorities and negative impact that has on local communities was discussed.

The basic, and often overlooked, premise of whether a case should be accepted at all by an investigator was considered. The contentious subjects of whether technical instrumentation and spiritual methods should ever be used were touched on, and will likely spark further debate.

Crucial distinctions were drawn between different types of case, especially between vulnerable and non-vulnerable client cases, due to the strikingly different ethical implications of each case. No discussion of investigation case ethics can ignore the idea that any ethical code between different types of cases may need to be significantly different.

The challenging areas of working with children and vulnerable adults in terms of whether working with such clients is ethically appropriate. These issues are rarely discussed by investigators but perhaps represent the most important ethical issues in anomaly investigation today.

Finally investigator accountability was considered and whether clients should expect ethical standards from investigators and have any recourse if these are not met.

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REFERENCES

Alvino, L. A. (2003) 'Who's watching the watchdogs?' Responding to the erosion of research ethics by enforcing promises. *Columbia Law Review,* **103**, 893-924

American Psychological Association (2010) *Ethical Principles of Psychologists and Code of Conduct.* Retrieved from http://www.apa.org/ethics/code/index.aspx, accessed 1 October 2011

Association for the Scientific Study of Anomalous Phenomena (2010) 'How Not To Investigate Cases' *ASSAP Training Module* (unpublished)

Association for the Scientific Study of Anomalous Phenomena (2011) *ASSAP the Professional Body – Consultation*. Retrieved from http://www.assap.ac.uk/consultation, accessed 1 October 2011

Baker, I. S. & O'Keeffe, C. (2007) 'Ethical Guidelines for the Investigation of Haunting Experiences' *Journal of the Society for Psychical Research*, **71**, 216-229

Bell, V, Halligan, P, Pugh. K, Freeman, D (2011) Correlates of Perceptual Distortions in Clinical and Non-Clinical Populations using the Cardiff Anomalous Perceptions Scale (CAPS), *Psychiatry Research*, (In Press).

Connelly, P. (2003) *Ethical Principles for Researching Vulnerable Group*s. Office of the First Minister and Deputy First Minister website, http://www.ofmdfmni.gov.uk/ethicalprinciples.pdf, accessed October 2011

Cousins, W. (2009) 'Seeing things that ain't so: Charles Bonnet Syndrome'. *ASSAP News*, **127**, 11-12

Gloucestershire Echo (1994) 'Prestbury Ghosthunt Ends in Chaos' *Gloucestershire Echo*. November 1st, 1994.

Gregory, A. (1974) 'Ethics and Psychical Research' Journal of the Society for Psychical Research, **47**(759), 283-305

Hall, T. H. (1964) *The Strange Case of Edmund Gurney*. London: Gerald Duckworth & Co., Ltd.

Hall, T. H. (1980) *The Strange Story of Ada Goodrich Freer*. London: Gerald Duckworth & Co., Ltd.
Hesse-Biber, S. N. & Leavy, P. (2010) 'The Ethics of Social Research'. In

Hesse-Biber, S. N. (Ed.) *The Practice of Qualitative Research*. California, USA: Sage

Hull Daily Mail (2010) *Ghost-hunter who groomed boy, 13, on internet is jailed for three-and-a-half years*. Retrieved from http://www.thisishullandeastriding.co.uk/Ghost-hunter-groomed-boy-internet-Paedophile-jailed-sex-teen/story-11979350-detail/story.html, accessed 1 October 2011.

Lough, V. (2009) *Ghost-hunting teens charged with trespassing*. Retrieved from http://www.springfieldnewssun.com/news/crime/ghost-hunting-teens-charged-with-trespassing-293993.html, accessed 1 October 2011

Masson, J. (2004) 'The legal context'. In Fraser, S., Lewis, V., Ding, S., Kellett, M. & Robinson, C. (Eds.) *Doing Research with Children and Young People*. London: Sage.

Murray, G. (1995). 'Ethical and Legal Issues'. *The Psi Researcher*, **15**, 22.

Paranormal Study & Investigative Research Organization (2011) Sexual Predators in the Paranormal. Retrieved from http://www.psiro.com/index.php/articles/opinion-a-debate/119-sexual-predators-in-the-paranormal.html, accessed 1 October 2011

Parapsychological Association (2005) *Ethical and Professional Standards for Parapsychologists: Aspirational Guidelines*. Retrieved from http://archived.parapsych.org/ethics.html, accessed 1 October 2011

Parkes, C.M (1995) 'Guidelines for Conducting Ethical Bereavement Research', *Journal of Death Studies,* **1,** 171-181.

Romer, C. J. (1997) *The Ley of the Land: Antiquarianism, Archaeology and Earth Mysteries in Britain 1919-1939***,** MA dissertation, University of Gloucestershire library.

Schmeidler, G. (1966) Quantitative investigation of a "haunted house". *Journal of the American Society for Psychical Research,* **60**, 137-149.

Schmeidler, G, Maher M (1975) Quantitative investigation of a recurrent phenomenon. *Journal of the American Society for Psychical Research,* **69**, 341-352.

Swale, T. & Wood, D. (2009) 'Conclusions on Investigation Experimentation: EVP, ITC and Trigger Object' *PSI Journal of Investigative Psychical Research*, **5**(1), 3-12

The British Psychological Society (2009) *Codes of Ethics and Conduct: Guidance Published by the Ethics Committee of the British Psychological Society*. Retrieved from

http://www.bps.org.uk/sites/default/files/documents/code_of_ethics_and_conduct.pdf, accessed 1 October 2011

The Research Ethics Guidebook (2011) Criminal Records Bureau Clearance. Retrieved from http://www.ethicsguidebook.ac.uk/Criminal-Records-Bureau-Clearance-115, accessed 1 October 2011

UK Legislation (2002) *The Police Act 1997 (Enhanced Criminal Record Certificates) (Protection of Vulnerable Adults) Regulations 2002*. Retrieved from http://www.legislation.gov.uk/uksi/2002/446/contents/made, accessed 1 October 2011

Wiles, R., Crow, G., Heath, S. & Charles, V. (2006) Anonymity and Confidentiality. Retrieved from http://eprints.ncrm.ac.uk/423/1/0206_anonymity%2520and%2520confidentiality.pdf, accessed 1 October 2011.

Wood, D. & Wooff, N. (2009) 'Expectation and the use of Séances during Field Investigation' *PSI Journal of Investigative Psychical Research*, **5**(1), 26-31

Wood, D. (2009) 'Investigation Equipment: The Role of Chance' *PSI Journal of Investigative Psychical Research*, 5(1), 13-18

THE RENDLESHAM FOREST INCIDENT: AN OVERVIEW

Robert Moore

Regardless of whether it was an event with prosaic causes or a legendary encounter with the unknown, the December 1980 *Rendlesham Forest incident* has a social and cultural significance beyond most (if not all) British "UFO" encounters. In actuality, this case comprises two separate "UFO" incidents spaced two days apart, and is equally notable for the fact the majority of witnesses (in both instances) were American airbase security personnel. The first event occurred on the early morning of 26th December 1980, involving a supposed encounter with a low level "UFO" apparently leaving ground traces in its wake. This was followed by sightings of various lights early on the 28th December 1980 near the initial sighting locus, involving a separate group of base personnel investigating the previous event.

Considerable ambiguity surrounded the sighting accounts for many years; nonetheless, the event was gradually disclosed in greater detail; eventually being associated with a considerable body of accumulated testimony and other evidence over the space of three decades. The most significant facets include photographs of ground traces, an official memo, several witness statements and a taped account of events occurring on the second morning.

Following its public emergence in 1983, the Rendlesham Forest incident gradually assumed the status of the UK's most famous UFO event. However, considerable doubt was cast on it following a protracted investigation by science writer Ian Ridpath. This suggested the events of both mornings had a rational explanation – a contention disputed by some researchers and the witnesses themselves (Ridpath, 2011, and Bruni, 2001).

This essay presents a general overview of the case and its related aspects in an attempt to answer this question; can the uncertainty surrounding the Rendlesham event ever be resolved?

LOCATION:

Rendlesham Forest is an area of woodland situated in the South-Eastern English county of Suffolk, managed by the Forestry Commission. In 2011 the forest was estimated to cover an area of 1100 hectares, consisting of a mixture of coniferous and broadleaved trees. The nearest village to the sighting locus is Woodbridge (hence the airbase name), with Ipswich the nearest town of any significant size located just under 11 km away. The forest is used both for tourism and timber production; given portions are harvested at regular intervals

it presents a much-altered vista to that encountered by the December 1980 witnesses. An additional factor complicating any re-assessment is the considerable destruction caused by the so-called "Great Storm" of 1987, which notably altered the wood from its 1980 aspect. The UFO incident has recently been integrated into the local tourist infrastructure, with a "UFO trail" inspired by the various events of December 1980 now marked out in the forest (Forestry.gov.uk, 2011 and Waudby, 2005**)**.

BASE HISTORY:
In 1980 the sighting locus was adjacent to the twin airbase complex of Woodbridge and Bentwaters, allocated to the USAF as a consequence of NATO strategic planning to counter potential Soviet aggression. Both airbases are located just over 4 km apart; RAF Woodbridge itself being around 9 km from the eastward coastline overlooking the North Sea.

At the time of the incident airbase aircraft consisted of Lightning IIs and A-10 "Warthog" anti-tank aircraft; several squadrons of the latter only having been transferred from Bentwaters eight months prior to the "UFO" incident. The *81st Tactical Fighter Wing* moved to Woodbridge/Bentwaters in 1951. *The 67th Aerospace Rescue and Recovery Squadron* - a unit equipped with Hercules aircraft and rescue helicopters - was based at Woodbridge from circa 1970. Its command structure was considered part of the RAF (and technically counted as an RAF military asset) but also run as a strategic USAF overseas concern, and like comparable bases elsewhere was effectively a "little America" even equipped with its own high school. It is also significant to note that USAF jurisdiction only technically applied within the base's parameter. As a consequence of the "peace dividend" resulting from collapse of the Soviet Union both bases were closed in 1993; the site of RAF Bentwaters eventually becoming a museum devoted to the cold war (Bentwaters Cold War Museum, 2011).

NATURE OF THE RENDLESHAM EVIDENCE:
Unlike other previous British UFO events, the Rendlesham incident initially surfaced as a series of rumours associated with various base personnel, the case details remaining vague for a considerable period of time (Randles, Butler & Street, 1984). The original investigators (Brenda Butler and Dot Street) discovered the case through hearing various rumours of a "UFO landing", living close to the sighting locus (Randles, Butler & Street, 1984). On the 13th January 1981 a base officer called *Colonel Charles Halt* wrote a memo to various official parties summarising the December UFO encounter, and had incidentally also made a tape-recorded transcript of the second morning's events (described later). Both these items had entered the public domain by the mid 1980s (Randles, 1998a). While other details were eventually uncovered, many witnesses were publicly known only by aliases for a considerable period of time.

Their actual names were nonetheless gradually disclosed from the mid 1980s onwards following their discharge from the USAF; one witness even publishing a book of his alleged experiences (Warren and Robbins, 1997).

Most notable of all, some near-contemporary original witness statements associated with the first sighting was incidentally discovered by Scottish UFO researcher James Easton in 1997, being passed to him via an American UFO group (Ridpath, 2011). Pictures of the landing traces associated with the first event surfaced in the late 1990s (Warren and Robbins, 1997 & Bruni, 2001). Lastly, more detailed sighting accounts have also been made by several Rendlesham witnesses - unfortunately written several decades after the event (i.e. Kean, 2010).

This data, combined, forms the basis from which any definitive account (or resolution) of the Rendlesham event could ever hope to be constituted.

RENDLESHAM "EVENT 0"?:

A short time prior to the Rendlesham Forest incident a rocket booster associated with the *Cosmos 749* Soviet spy satellite re-entered the Earth's atmosphere on the 25th December 1980 at around 21:07 GMT. While technically visible over the southern English coast, the skies over Ipswich were covered by cloud at the time (Mason and Miles, 1981).

Given the timing of this event it is tempting to suspect that the Cosmos 749 re-entry may have influenced the Rendlesham incident. If the re-entry was quickly understood to have involved Soviet hardware, this alone could have triggered concern due to the significant cold war tensions existing at the time. The Soviet invasion of Afghanistan had occurred in December 1979 (only a year prior to the UFO incident). Possible cold war escalation was therefore considered a very real possibility at the time – with the Woodbridge/Bentwaters airbases likely to play a direct role in any such hypothetical conflict. Secondly, unaware civilian observers viewing the re-entry event elsewhere in the UK (as with other such incidents in the past) reported it as a "UFO"; possibly generating local UFO rumours and, perhaps, a climate of local expectation relating to this issue... (Randles, 1998a, pp 21-22).

RENDLESHAM EVENT "1" - 26TH DECEMBER 1980

At around 0300 hrs GMT on the 26th December, (inaccurately cited as "27th Dec" in the Halt Memo), base personnel observed "unusual lights" by the East (or "back") gate at Woodbridge airbase, which gave the impression of either landing or crashing into the woods. Three airbase personnel entered the wood to investigate. One, *Jim Penniston*, is probably the individual known in some earlier accounts by the non-de-plume of *"James (or Jim) Archer"*. He was accompanied by *John Burroughs* and by a security detail driver called *John*

Cabansag (termed "Kavanasac" in some early sources (Randles, 1998a, pp73-80 and Randles , 1998b). Burroughs and Penniston are the two main observers for the 26th December event in regards to existent witness testimony. Two other individuals (*Fred A. Buren* and *Master Sergeant Chandler*) had only peripheral involvement in the first morning's events and did not enter the forest at that juncture.

What Penniston and Burroughs observed next has become a matter of notable contention. The hand-written statements located by James Easton in 1997 indicate the witnesses only saw an unusual light (or at most a poorly-defined shape). The 13th January 1981 Halt memo, however, states they encountered

> *a strange glowing object….metallic in appearance and triangular in shape, approximately two to three meters across the base and approximately two meters high. It illuminated the entire forest with a white light. The object …had a pulsing red light on top and a bank(s) of blue lights underneath…. hovering or on legs".* The UFO was reported to evade the observers "*manoeuvred through the trees and disappeared*". The Halt memo further claimed that "*animals on a nearby farm went into a frenzy*" and that the "*object was briefly sighted again approximately an hour later near the back gate.*
> (Randles, 1998a, pp 214-215).

A triangular configuration of ground marks interpreted as "pad" impressions "*1.5 inches deep and 7 inches in diameter"* were found "*the next day*", located around 3.21 km from the airbase's East gate. The local police also saw these marks, but concluded they were made by local fauna (Sussex Constabulary, 2011). Penniston made a more detailed statement in the early 1990s, describing the "UFO" as triangular shaped object seemingly made of a smooth "glass" like material adorned with markings on its body comparable to "hieroglyphics". The object's close proximity was said to be associated with a feeling akin to "static electricity". Penniston claims to have observed the object for possibly up to 45 minutes before it moved away at "impossible" speed. During this time he claims to have written notes relating to his observation and even took photographs. (Randles, 1998a, pp 73-84 and Kean, 2010, pp 179-183).

RENDLESHAM EVENT "2" - 28TH DECEMBER 1980.

The second morning's events resulted as a consequence *of Col. Charles Halt* entering the forest to investigate the 26th December landing traces with a Geiger counter and to see if anything of significance could be observed. Halt's party is now known to have included a "*Sgt. Nevills*", "*Bruce Englund*" and a "Master Sgt. Ball" (Ridpath, 2011). These individuals have yet to make a formal

statement on the events of that morning; thus our only detailed source is Charles Halt. It appears Halt was in communication with John Burroughs during these events but turned down his request to join them on site. Halt discovered the ground traces were associated with "elevated" radiation readings; subsequently examination of which by various expert witnesses, however, indicate they were only marginally significant and attributable to sources such as the local geology and surrounding pine trees (Roberts, Clarke and Randles, 2000, pp 207-209). Shortly after examining the sighting locus, Halt and his company observed various unusual lights for several hours. The most notable was a bright light compared by Halt to a "winking eye". The events of 28th December, thought to cover a period of around 3 hours, were intermittently noted by Halt on a hand tape recorder, resulting in an audio recording of around 18 minutes in length (Randles, 1998a, pp107-115). This, in addition to the 13th January 1980 "Halt Memo" represents the sole accounts of the events of that morning; which, incidentally, incorrectly cites the second event as occurring on the 29th December 1980**!** (Easton, 2001).

OTHER OBSERVATIONS:

Two other individuals; *Adrian Bustinza* and *Larry Warren* (termed "*Art Wallace*" in earlier accounts) have also provided testimony relating to separate but reputedly connected observations (Randles, 1998a, pp 101-102, 103-104). Of the two, Larry Warren has provided the most detailed account (in book form), describing a high strangeness encounter with a low level UFO covered in space-shuttle like "tiles", UFO entities and alleged involvement with mysterious figures within the military (Warren and Robbins, 1997). Another account - ironically one of the first to surface - was given by a witness known by the alias of *"Steve Roberts*". This mysterious individual recounted a UFO landing event involving a classic disc-shaped UFOs and observations of aliens floating in light beams, who communicated with a high-ranking airbase officer associated with the base. At the present time this account is generally ignored (or at least sidelined by other more prominent accounts). The "witness" who made this claim has never come forward or been publicly identified (Randles, Butler & Street, 1984, and Randles, 1998a, pp 129-131).

RATIONAL EXPLANATIONS

The biggest question posed by the Rendlesham incident is whether the events of either morning are potentially explicable in rational terms. Soon after the case entered the public domain a local forester called *Vince Thurkettle* proposed the idea that the Orford Ness Lighthouse (situated approximately 10 km and 095° of the general sighting locus) could have been responsible for both incidents. While seemingly an absurd proposition, science writer Ian Ridpath found this solution surprisingly viable. Ridpath elaborated on Thurkettle's idea by proposing that a fireball meteor, visible at 0250 hrs on the 26th December 1980, was interpreted as a "UFO" that landed (or crashed) in the woods. The airbase

personnel, on entering the forest to locate this object, encountered the lighthouse beacon, perceiving it as a low level "UFO" (Ridpath, 2011). It is notable when Ridpath initially proposed the fireball meteor explanation the first morning's event was believed to have occurred on the 27th December 1980 (based on the incorrect date stated in the Halt memo)! However, historical documentation associated with the Suffolk Constabulary clearly shows the police were called out to the airbase on the 26th December 1980, validating Ridpath's supposition (Suffolk Constabulary (2011)). Ridpath further states Halt and his team subsequently observed the same lighthouse beacon (Halt's "winking eye") when they entered the woods on the 28th December 1980 (Ridpath, 2011).

Other general facets of the case also seemingly validate the lighthouse beacon hypothesis. At the time of the sighting Orford Ness was rendered invisible by tree cover, and hence not visible directly from RAF Woodbridge's East Gate (Bruni, 2001), but was visible to observers located deeper within the wood. Furthermore, the lighthouse is seemingly orientated in the same general direction as the more significant "UFOs" seen on both mornings. Lastly, the statements located by James Easton describe a mystery light reasonably consistent with the lighthouse hypothesis. Equally striking is the fact that the "winking eye" described on the Halt tape appears and re-appears in periods exactly matching the lighthouse beacon's "eclipse" and "pulse" rate (Ridpath, 2011)!

We must, however, also note the apparent objections to the Ridpath/Thurkettle theory. The 26th December "UFO" described by Penniston alludes to an exotic object with unusual properties, described as moving away from the witnesses after being observed. While it is fair to note Penniston's more detailed account only surfaced in the mid 1990s, some details consistent with it - namely the UFO's shape and its evasive behaviour - is cited in the 1981 Halt memo. Additionally Halt's formal 2010 affidavit now states he saw both anomalous lights and the Orford Ness Lighthouse beacon at the same time! To counter this, it should equally be noted that other individuals involved in the Rendlesham incident (most notably Col. Ted Conrad) still stand by their original testimony and even suspect a rational solution (Clarke, 2011).

Since Ridpath and Thurkettle proposed the Orford Ness lighthouse theory, new prosaic explanations have been advanced. Kevin Conde, a former airbase security guard serving at the base during the early 1980's, suggested the 26th December sighting was possibly initiated by or involved a patrol car with flashing lights; Conde having reportedly played such a joke on the airbase. However, on closer examination Conde's prank was seemingly not enacted on either the 26th or 28th December 1980 (Ridpath, 2011). Another suggestion, made in 2010 by Graham Haynes (an individual associated with the Bentwaters

Cold War museum) proposed the first morning's events could have been a practical joke involving a dummy Apollo capsule (probably then in the possession of the 67th Aerospace Rescue and Recovery Squadron) suspended from chains from a helicopter and dumped through the forest canopy (Woodger, 2010).

UFOLOGICAL IMPLICATIONS:

Even in its most early and poorly defined form the Rendlesham incident had a profound effect on British Ufology. It is significant the first morning's events were initially suspected to involve a crashed "flying saucer" recovered by the military. It is equally notable that the first book on the Roswell incident (by Charles Berlitz and William Moore) was published in 1980-81 (Berlitz & Moore, 1980); although unrelated rumours of "UFO crashes" had been circulating a few years prior to that date (Stringfield, 1978, 1979, 1980). Accounts of crashed alien spacecraft found and subsequently held by governmental agencies became so widespread (and almost stereotypical in their similarity) during the 1980's and 1990's that they became known and summarised by the term "*UFO Retrieval*" (Randles, 1995). UFO abduction stories were also being more prominently discussed within the UFO literature at around the same time (Hopkins, 1981).

Within UK Ufology these factors combined to generate a resurgence of interest in the Extra Terrestrial Hypothesis (ETH) during the 1980s, as embodied by groups such as the Yorkshire UFO Society (YUFOS). Advocates of what was termed "the neo ETH" were equally enthusiastic believers in the concept of a "cover-up" by governmental authorities; again, another notable post-Watergate era trend. The atmosphere of monetarism embodied by the enduring centre-right administrations controlling America and Britain during the 1980s encouraged the idea that commercialisation of Ufology could be a useful means to finance Ufological work. Such thinking resulted in an exclusive on the Rendlesham incident being sold for £12,000 to the (now defunct) *News of the World* Sunday tabloid in October 1983; an outcome not universally welcomed within Ufology at the time (Sandell, 1985).

TOWARDS A REASSESSMENT OF RENDLESHAM….

It remains a significant fact that the Rendlesham incident is termed "Britain's Roswell", even today. This designation embodies several general facts; that the case was initially believed to be a "UFO retrieval" and (like Roswell) involved the US military, military airbase personnel) and "government documents". It has also (again like Roswell) perceived as a conceptual Rosetta Stone capable of unlocking "the UFO mystery". But unfortunately - like Roswell - the incident failed to be conclusive evidence of "exotic" UFO reality, with "disclosure" raising as many questions as it answered. An event, once thought to be a "UFO retrieval" event, involving contact with "UFO entities" has now been demoted to a "Close Encounter" case in most depictions of the first morning's events. It

cannot be without significance the general conception of this event has shifted at least once during the thirty years it has been "public currency".

The Rendlesham incident did not occur in a cultural vacuum, although the possible relevance of the era's political situation has seemingly been overlooked. This particular UFO incident occurred at a significant period during the cold war, to American airbase personnel... following a wave of sightings over southern England.... generated by a Soviet rocket booster re-entry the previous night. In light of this, it is not unsurprising the "landing traces" were checked for radioactivity. Fear of nuclear weapons and "cold war" technology continued to permeate interpretations of the case throughout the 1980s and 1990s (Sandell, 1985). It is equally notable the Watergate scandal occurred only 8 years before the Rendlesham incident. Cynicism relating to official cover-ups and "whitewashes" of most politically awkward events (including UFO sightings) was therefore notable during the early 1980s and has continued to grow in strength to the present day. While doubtless an incidental detail, the fact that the Rendlesham event was "leaked" in the form of a tape recording further reflects the cultural zeitgeist of the period. The case also appeals to the innate militarism often associated with many factions within Ufology, involving as it does airbase personnel and "official" statements; often deemed the "gold standard" of evidence among many UFO researchers.

In reality, the information quotient associated with this case is unfortunately deficient or flawed in other ways. Much of this is attributable to the witnesses being active service personnel and American citizens garrisoning a foreign country. This placed British-based researchers at a disadvantage in regard to witness access, while American-based researchers were equally disadvantaged in regard to accessing the sighting location.

So, more than 30 years after this event, is it either viable or worthwhile to attempt a re-assessment of the Rendlesham incident? This author feels the case offers wide scope for such an effort, given the significance of some aspects (as explained above) have seemingly been unappreciated to date. Any such attempt to re-assess the Rendlesham case thus needs to take fully into account the impact of such factors. It should equally consider the foibles of human sociology, perception, and memory recall; factors sadly often regarded the tools of "UFO debunkers" rather than the universal realities they actually represent. Therefore, in the light of this, ASSAP has decided to attempt a review of known evidence relating to this case; this article representing but the initial study summary of this notable but problematic UFO incident.

REFERENCES:

Bentwaters Cold War Museum (2011): http://bcwm.org.uk/

Berlitz C and Moore W (1980) *The Roswell Incident* Grosset & Dunlap, New York

Bruni , G. (2001) You can't tell the people. *The Definitive Account of the Rendlesham Forest UFO Mystery* Sidgwick & Jackstone , London, UK

Clarke, D, Randles J., and Roberts, A. (2000) *The UFOs that Never Were* London House, UK. (Chapter 9: "*Rendle Shame Forest*" Jenny Randles pp 164-222)

Clarke, David (2011): New Light on Rendlesham (Col. Conrad interview). http://drdavidclarke.co.uk/secret-files/secret-files-4/

Easton J (2001) Rendlesham Revelations *Fortean Times November 2001*

Forestry.gov (2011) http://www.forestry.gov.uk/rendlesham

Kean, L. (2010) *UFOs : General, Pilots and Government Officials Go on the Record* Harmony Books , *USA* (Halt, C. And Penniston , J; "The extraordinary incident at Rendlesham Forest" *pp 179-197*).

Hopkins (1981) *Missing Time* Ballantine Books, New York, USA.

Mason J and Miles H (1981) Re-Entry of "Cosmos 749" Rocket on 1980 December 25*Journal of the British Astronomical Association* Vol. 91, Issue 6; pp 561-566

Randles, J. Butler, B and Street, D (1984) *Skycrash; A Cosmic Conspiracy* Neville Spearman, UK.

Randles, J 1995: *UFO retrievals; the Recovery of Alien Spacecraft* Cassell Illustrated, London.

Randles, J 1998A: *UFO: Crash Landing? Friend or Foe? – The True Story of the Rendlesham Forest Close Encounter*
Blandford/Cassell , London .

Randles, J 1998B: Northern UFO News *issue 179* (pp 4) June 1998

Ridpath, I (2011):

- Details of the 26th December 1980 Fireball meteor event: http://www.ianridpath.com/ufo/rendlesham1a.htm
- Cosmos 749: http://www.ianridpath.com/ufo/rendlesham6.htm
- Lighthouse Hypothesis: http://www.ianridpath.com/ufo/rendlesham2.htm
- New Witness Statements originally found by James Easton: http://www.ianridpath.com/ufo/rendlesham2c.htm
- Halt Tape: http://www.ianridpath.com/ufo/halttape.htm
- Conde Claim http://www.ianridpath.com/ufo/statement.htm

Stringfield, L (1978) Retrievals of the Third Kind: A case study of alleged UFOs and occupants in military custody (1978). *Ninth Annual MUFON Symposium, Dayton, Ohio, July, 1978*.

Stringfield, L. (1979) Retrievals of the Third Kind *Flying Saucer Review* Vol, 25, No. 4. August 1979

Stringfield, L (1980) The UFO Crash/Retrieval Syndrome: Status report II: New Sources, New Data *(Privately Published)*

Suffolk Constabulary (2011) "Unusual lights" (PDF file containing scans of Police documents relating to Rendlesham incident) http://www.suffolk.police.uk/

Sandell R (1985) Review of "Skycrash" *Magonia 18* (January 1985)

Waudby C. (2005) "Rendlesham Forest " *Fortean Times* May 2005.

Woodger, A (18 December 2010) Rendlesham Forest mystery still leaves questions *BBC.co.uk*
http://news.bbc.co.uk/local/suffolk/hi/people_and_places/history/newsid_9301000/9301923.stm:

Warren, L. & Robbins P. (1997) *Left at East Gate: A First-Hand Account of the Rendlesham Forest UFO Incident, Its Cover-up, and Investigation* Michael O'Mara Books Ltd, London, UK.

PSYCHIC SENSITIVITY:
PHOTOGRAPHIC EXPERIMENT

William J Eyre, Terry Porter and Michael J Rush

This experimental study was designed and executed as part of Project Merlin's Module 19 - Sensitives and Their Significance (Pincott, 2008), which is specifically concerned with the fundamental question: 'Can sensitives obtain veridical information without using recognised senses or normal modes of communication?'. It revolves around a scenario of a group of sensitives and a control group attempting to elicit information about deceased persons by examining their photographs. The results indicate no additional ability on the part of the sensitives to obtain such information. However, it is hoped that this paper will inspire other ASSAP researchers to undertake experimental research without the need for a professional Parapsychology laboratory.

BACKGROUND

Project Merlin is an ASSAP initiative consisting of a matrix of modules designed to throw light on the nature of various xenonormal and paranormal phenomena by carrying out appropriate research. The Psychic Sensitivity module gave a team of researchers from ASSAP and CPSG (Chesterfield Psychic Study Group) the impetus to design, execute and analyse the findings of an experiment which was intended to study whether sensitives were capable of acquiring information about deceased people by studying their photographs, with the photographs being obtained and selected in such a way that the use of the normal senses would not be able to elicit that information.

Some readers will identify with the authors' observation (rightly or wrongly) that people often seem to be as they look, i.e. that people who look aggressive usually are aggressive; that people who look studious usually are studious, etc. So, is everyone capable of determining specific characteristics of people through a normal ability to intuit (based on facial expressions and conveyance of emotion), or are some gifted people capable of discerning more accurate information whilst looking at those people (or photographs of them) than that which can be obtained by the rest of us? By using groups of sensitive and non-sensitive ppts (participants), this study tried to answer this question.

Study 2 of a previous piece of research (Kelly and Arcangel, 2011) had produced some very impressive evidence that mediums could obtain information about deceased persons by studying photographs of them supplied by ppts who had personally known the deceased persons. The accuracy of the information was determined by sending the medium's reading for the associated deceased person to each ppt, together with an additional five readings (that were chosen at random and meant for another ppt), then by asking the ppt to identify the

correct reading. Whilst the method used in the current study is different, the authors were nevertheless interested to know whether their experiment would show a similar result.

AIM AND HYPOTHESIS

The aim of the study was to see whether it is possible to determine information about deceased persons by simply examining photographs of them, such that the information could not be ascertained from the photographs themselves solely by use of the five normal senses.
The operationalised hypothesis was that a group of ppts who claim to be psychically sensitive will obtain significantly more correct pieces of specific information about a set of deceased persons by examining their photographs than a control group of ppts who claim no sensitive ability (one-tailed experimental hypothesis).

METHOD

Design
A quasi, single blind, laboratory experiment was to be carried out using an independent measures design.

Participants
It was planned to utilise an opportune sample of five ppts who were either members of CPSG or known to the Group and who claimed to have sensitive abilities, together with a control group consisting of a self-selecting sample of five members of CPSG who claimed no sensitive ability.

Apparatus
The required apparatus consisted of:
- seven photographs of deceased persons, together with four specific types of information about each such person;
- multiple copies of a question-and-answer sheet;
- a stop watch;
- a supply of pens.

PROCEDURE

Acquisition of Source Materials:
Experimenter 1 (Eyre) initially contacted seven members of ASSAP living remotely from Chesterfield, to enquire as to whether they would be willing and able to supply a photograph of a deceased person known to them, together with the following four pieces of information about the person:
- first name;

- main type of occupation;
- cause of death;
- personality traits.

These were to be filled in on a question-and-answer sheet supplied by the experimenter. The question-and-answer sheet was as per Appendix A, with Participant No., Photograph Letter, Q1 (question 1) and Q6 omitted. It was explained to the members contacted that the photographs must not depict any image from which an obvious deduction could be made about the required pieces of information, e.g. show an occupational uniform relating to the person's main type of occupation. The members contacted were asked to declare that they did not personally know any members of CPSG (other than Experimenter 1) so as to minimise the possibility of the ppts having known the photographed persons. Any question-and-answer sheet received where all questions had not been answered was to be discarded. The photographs were used with the permission of the respective families.

As not all the members contacted were in a position to be able to oblige, further members of ASSAP were contacted until seven valid photographs and sets of associated information had been obtained. The experimenter marked the back of each photograph received with a discrete letter.

Experimenter 1 passed the following to Experimenter 2 (Porter):

- the seven photographs in sealed, opaque envelopes (but withheld the associated pieces of information, thus making the experiment single blind);
- the names of all the ppts, with an indication as to which ppt was in the sensitives group and which was in the control group.

Conduct of Experimental Session:

The weather contrived to impede the researchers, with so much snow on the roads of Chesterfield that it would have been impractical for a number of the ppts to have attended the originally planned experimental session. The experiment was therefore rescheduled. Unfortunately, two of the ppts (one sensitive and one control) had to drop out for health reasons at short notice. However, the experiment still took place on the rescheduled date with four sensitives and four control ppts.

Experimenter 2 supervised the session, in which the ppts were seated at tables, with the ppts sufficiently spaced apart so as not to be able to copy answers from one another. The experimenter:

- allocated a ppt number to each ppt;
- explained the ethical terms of the experiment to the ppts (e.g. the right to withdraw, preservation of confidentiality, notification of possible publication of anonymised data and the right to access the results after the analysis);

- provided each ppt with a supply of five question-and-answer sheets (as per Appendix A) and a pen;
- explained the procedure to be used, including an instruction that the ppts must not write upon or mark the photographs in any way and advised the control group that they should use their best guess or follow their intuition;
- gave the ppts the opportunity to ask for clarification on how to fill in the sheets and;
- arranged for five of the seven enveloped photographs to be selected at random, for use during the remainder of the experiment.

Every other ppt around the room (i.e. four in total) was provided with one of the photographs, face down. Each of these ppts wrote the photograph letter and his ppt number on the top of a question-and-answer sheet. When everyone was ready, the experimenter started timing the run of the experiment and requested the ppts to turn over their photographs. The ppts were then given six minutes in which to ascertain the answers to the questions on the sheets and to write down those answers, without talking at all and without using any extraneous devices.

At the end of the timed run, the experimenter passed each photograph on to the next ppt, leaving it face down. He also collected in the completed question-and-answer sheets. The run was repeated, this time utilising the ppts who did not take part in the first run. Those who participated in the first run were able to rest during the second run.

This procedure continued to be repeated in round robin fashion until all ppts had undertaken the experiment with all the photographs. Thus, by the end of the experiment, 40 completed question-and-answer sheets had been collected in.

Experimenter 2 passed to Experimenter 3 (Rush):

- the completed question-and-answer sheets (in a sealed, opaque envelope);
- the five photographs used (in a sealed, opaque envelope);
- a list of the ppt numbers in each of the sensitive and control groups.

Experimenter 1 passed the correct pieces of information about the deceased persons to Experimenter 3 (in a sealed, opaque envelope).

Marking of Question-and-Answer Sheets:

Experimenter 3 checked the photographs for cues, clues or tampering. Experimenter 3 marked the answers on the sheets by comparing them with the correct pieces of information, awarding 4 marks for each correct answer to Q2 to Q4 and 1 mark for each correct answer to each sub-question within Q5. Thus the maximum marks per sheet were 16.

Experimenter 3 carried out a statistical analysis of the results. If Q1 ("Do you recognise the person as being someone you knew before this experiment began?") was answered "yes" on any sheet, that sheet was to be discarded for statistical analysis purposes. Q6 ("How confident are you about the answers provided above?") was always ignored in carrying out the main statistical analysis and only used for a secondary analysis.

RESULTS

Sensitive Group Results

The actual results obtained by the sensitive group were as per figure 1.

Ppt No.	Photograph	Q1 Known?	Q2 Name?	Q3 Occupation?	Q4 Death?	Q5 Personality?	Total
1	C	No	0	0	0	3	**3**
1	D	No	0	4	0	2	**6**
1	F	No	0	0	4	1	**5**
1	I	No	0	4	0	3	**7**
1	J	No	0	0	0	1	**1**
					Participant Score:		**22**
4	C	No	0	0	0	0	**0**
4	D	No	0	4	0	1	**5**
4	F	No	0	0	4	1	**5**
4	I	No	0	0	0	3	**3**
4	J	No	0	0	4	2	**6**
					Participant Score:		**19**
5	C	No	0	0	0	0	**0**
5	D	No	0	0	4	1	**5**
5	F	No	0	0	0	1	**1**
5	I	No	0	0	0	1	**1**
5	J	No	0	0	0	0	**0**
					Participant Score:		**7**
7	C	No	0	0	0	2	**2**
7	D	No	0	4	0	0	**4**
7	F	No	0	0	4	0	**4**
7	I		0	0	0	1	**1**
7	J		0	0	4	1	**5**
					Participant Score:		**16**
Group Score:			**0**	**16**	**24**	**24**	**64**

Figure 1

Control Group Results

The actual results obtained by the control group were as per figure 2.

Ppt No.	Photograph	Q1 Known?	Q2 Name?	Q3 Occupation?	Q4 Death?	Q5 Personality?	Total
2	C	No	0	0	4	1	**5**
2	D		0	0	4	1	**5**
2	F	No	0	0	4	2	**6**
2	I	No	0	0	0	3	**3**
2	J	No	0	0	0	2	**2**
					Participant Score:		**21**
3	C	No	0	0	4	1	**5**
3	D	No	0	4	4	0	**8**
3	F	No	0	0	4	0	**4**
3	I	No	0	0	0	2	**2**
3	J	No	0	0	4	1	**5**
					Participant Score:		**24**
6	C	No	0	0	0	1	**1**
6	D	No	0	0	4	0	**4**
6	F	No	0	0	4	1	**5**
6	I	No	0	4	4	3	**11**
6	J	No	0	0	4	4	**8**
					Participant Score:		**29**
8	C	No	0	0	0	0	**0**
8	D	No	0	4	4	1	**9**
8	F	No	0	0	4	0	**4**
8	I	No	0	0	4	2	**6**
8	J	No	0	0	4	1	**5**
					Participant Score:		**24**
Group Score:			**0**	**12**	**60**	**26**	**98**

Figure 2

Comparison of Results

The sensitive group scored a total of 64 hits, whereas the control group scored a total of 98 hits.

The mean score for the sensitive group was 16, whereas the mean score for the control group was 24.5.

Had the sensitive group scored more highly than the control group, it was intended that a one-tailed T-test be applied, to compare the means and standard deviations of the two sets of results, in order to see whether the difference in group scores was statistically significant. However, in the event, it can clearly be seen that the sensitive group did not score more highly than the control group.

DISCUSSION

The experimenters were surprised to find that the control group obtained a higher number of hits than the sensitive group, suggesting that psychic

sensitivity could not be brought to bear in the scenario around which this experiment was designed.
Although the purpose of the experiment was to compare the results of a sensitive group with those of a control group (rather than comparing them with chance results), it may nevertheless be of interest that the distribution of hits tended to follow, for the most part, that which would have been expected by chance for each of the seven questions and each of the groups (figures 3 & 4), although the control group's high degree of accuracy in determining cause of death (Q4) is an unexpected outlier. Q2 (the person's name) had the lowest probability of a hit by chance, Q3 (occupation) had a 1/12 probability of a hit by chance, Q4 (cause of death) had a 1/4 probability of a hit by chance, and Q5a-d (personality) each had a 1/3 probability of a hit by chance.

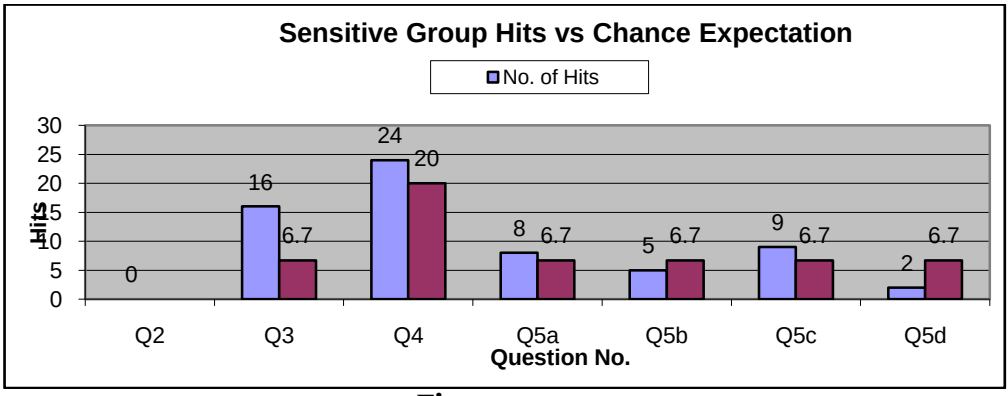

Figure 3

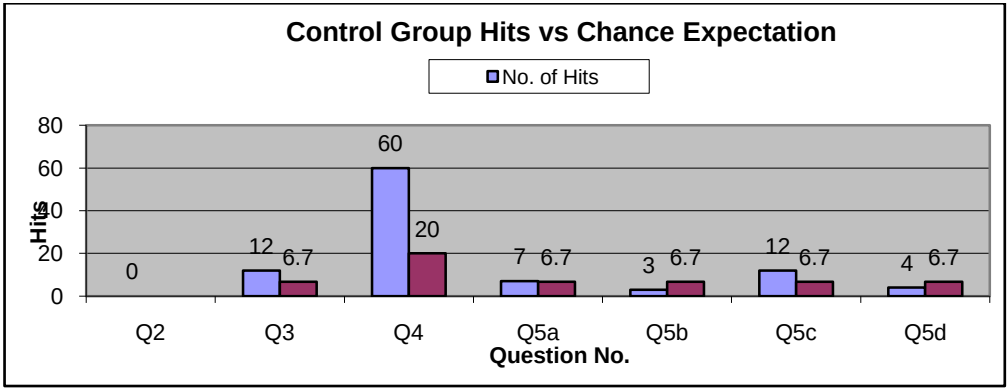

Figure 4

One of the differences between this study and Kelly and Arcangel's is that in their study, the ppts had experienced "significant losses" and actually *wished to contact* the photographed persons, whereas these criteria did not apply in the current study. So it is conceivable that this could have contributed to the lack of success of the sensitive ppts in the current study.

Several ppts from both groups left multiple questions unanswered. The questions were either left blank or two answers were provided for the same question. These questions were considered to be unanswered. However, the number of unanswered questions was roughly equal between the control and test groups, so any statistical effect should be negligible.

It appears that ppts in the sensitive group tended to be more confident about their performance, even though this was not borne out by their actual scores (figure 5). Ppts in the control group seemed less confident about their performance and tended to underate their actual scores (figure 6). However, a T-test for this difference is not significant, with p=0.27.

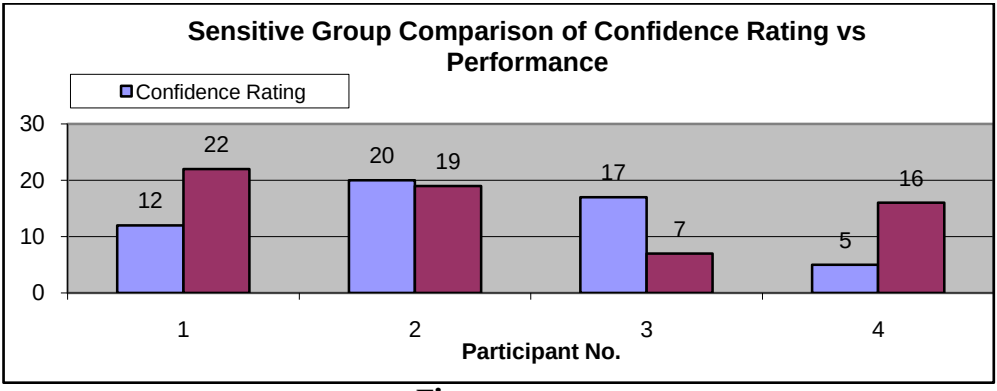

Figure 5

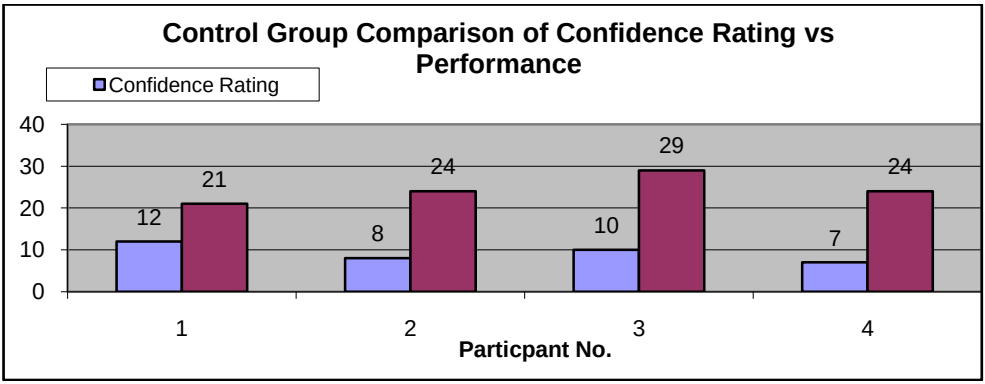

Figure 6

DISCUSSION: METHODS AND ISSUES

It was decided to use, for the most part, multi-choice questions so that the accuracy of the answers could be determined quantitatively, for comparison of means between the two groups of ppts, thus producing a more scientifically valid conclusion. On the other hand, it could be argued that requesting specific information about the deceased persons reduces the ecological validity of the study; in real life, mediums usually produce whatever information about spirits they happen to pick up, rather than seeking specific pieces of information.
The choice of questions asked about each deceased person was made to add an element of ecological validity because those particular pieces of information (first name, occupation, cause of death, personality traits) are the typical pieces of information that a mental medium tends to provide when giving a reading about a deceased person and for this reason equal weighting (i.e. marks out of 4) was given to each of these pieces of information. On the other hand, one could argue that providing a photograph of the deceased person, as opposed to presence of a live sitter, reduces the ecological validity of the study, as most reputable mediums would argue that there is no way to contact a specific spirit and that it is up to the spirits themselves to decide who is to communicate with the medium.
The above comments about the ecological validity of the current study need to be kept in perspective, however, as the study was not specifically designed to test the ability of mediums *per se*, but was simply looking at the ability of psychic sensitives at a more generic level. On the other hand, Kelly and Arcangel's research was aimed more specifically at studying the abilities of mediums and, in a mediumistic context, their method of providing general textual readings, to be selected by the ppts from a selection of readings, is more ecologically valid and still provides a quantitative method of measuring the results.

Although the protocol stipulated only that every other ppt would take part in each run of the experiment, as it happened, this resulted in all the sensitives taking part in every other run and all the non-sensitives taking part in the alternate runs. An issue arose during the conduct of the experiment with one of the sensitives vocalising her irritation that the photographs had been handled by other people prior to being given to the ppts, thus possibly causing (in the view of this ppt) the wrong 'energies' to be picked up, despite instructions being given that the experiment should be conducted in silence. As this vocalisation occurred during a sensitives run, this could to some extent have reduced the concentration of the sensitive ppts and partly explain why they achieved less accurate results than the control group, i.e. this could have been a confounding variable. The sensitive's complaint does not seem to be particularly valid, as the photographs had been computer printed by Experimenter 1 anyway and had never been handled by the persons that they depicted. However, a lesson learned is that the experimenters should have made it clearer to the ppts at the outset that their personal psychic / mediumistic ability was not being tested in the experiment.

Possible confounds include:

- personality traits being determined by the emotions conveyed in the photographs;
- the appearance, age and gender of the photographed persons leading ppts in certain directions with regards to occupation and cause of death.

However, such confounds should not detract from the results, as the results are comparative between groups (where the confounds apply equally to all ppts), rather than being designed to test individuals.
The small sample used (even smaller than that planned) limits the generalisability of any conclusion drawn. Because of their professional contacts, Kelly and Arcangel were able to use a larger sample of psychics in their experiment.

CONCLUSION

It was concluded that the experiment showed no evidence for persons claiming ability in psychic sensitivity being any more adept at determining information about deceased persons by examining their photographs than persons claiming no ability in psychic sensitivity.

REFERENCES

Kelly, E W and Arcangel, D (2011) 'An Investigation of Mediums who Claim to Give Information About Deceased Persons'. *The Journal of Nervous and Mental Disease*, Volume 199, Issue 1, 11-17.

Pincott, H (2008) 'Module 19 – Sensitives and Their Significance'. (ASSAP internal paper, circulated to Project Merlin researchers).

HILARY EVANS:
AN OBITUARY

Vice-President Hugh Pincott looks back on the life of Hilary Evans, one of ASSAP's most influential founders who died on 27 July, aged 82.

A book entitled *Harlots, Whores and Hookers: A History of Prostitution* does not rest easily beside *The WI Creative Guide to Cross-Stitch*. Nor *Visions, Apparitions, Alien Visitors: a Comparative Study of the Entity Enigma* beside *The Picture Researcher's Handbook*. Yet this was the breadth of scholarship demonstrated by one of the most intuitive paranormal researchers, analysts and commentators of the past century.

Hilary Evans was born in Shrewsbury in 1929, a vicar's son, spending early years with his parents in India. He read literature at Kings College, Cambridge and then at Birmingham, teaching for a few years afterwards. Hilary had two younger brothers and an adopted sister. He married Mary Lander in 1956, who predeceased him last year. They had one daughter, Valentine.

From 1953 to 1965 he worked as a copywriter with the Mather and Crowther advertising agency, engaged with campaigns for such glamorous organisations as *Allied Ironfounders Ltd*, the *British Industries Fair* and *Imperial Typewriters*. He was also with the London Press Exchange.

In his archives is a handwritten party invitation:

Hilary Evans being about to sell his soul to the devil (in the form of the advertising profession) begs his friends to come and mourn with him at 8 o'clock ... Mourners who bring alcohol in any form will be a great deal more welcome than those who don't.

Made redundant, in 1964 he developed with Mary, his hobby of collecting illustrative material (pre-photography): from a couple of filing cabinets in the basement of their home to the enterprise that the *Mary Evans Picture Library* (MEPL) has now become, with international reach and renown.

Hilary was both the spirit and guiding hand behind ASSAP's formation in a very real sense. He and I were on the Council of the Society for Psychical Research (SPR) in the mid-1970s and during a visit to the formidable Dr Dingwall he shared his belief that the way forward in Anomaly Studies (Hilary arguably coined this phrase) lay via an "umbrella organisation" which crossed subject boundaries.

Many researchers were carrying out excellent work in their respective fields, for example psi research and ufology, but he felt they were missing the possibility of explanation by not comparing and contrasting various anomalous experiences elsewhere.

The opportunity came possibly sooner than many of us expected. Hilary offered his media expertise freely to the SPR's Publications Committee, which had the bright idea of producing a range of small booklets that - as part of a membership drive - could serve as an introduction to the field of study for people new to the subject, with references to literature for further reading. This totally laudable venture went horribly wrong when the cost of printing four or five booklets at a printer chosen for high-quality work turned out to be some four times what Council had budgeted, though sales over a period might have recouped much of this. Great objection was raised even to the books' "garish" covers, though they looked plain enough and even attractive to many.

Frankly, this was no big deal in itself, but it afforded a convenient opportunity for many of the "old guard" - plus academics with vested interests and fear of "popularising" - to halt the advance of the so-called "modernisers" whose achievements had made them uneasy for some time. So Hilary, David Christie-Murray and I - considered as such - were thrown off Council, and within months, ASSAP was founded. Yes, I may have fired some shots but Hilary loaded the gun.

Mary's and Hilary's generosity during this period and long after was legendary. Hospitality, paper, copying, typesetting facilities, advice and guidance: the MEPL was virtually ASSAP's own office.

An almost compulsive author, Hilary wrote or edited some 35 books and illustrated 15 others. Twelve volumes related to paranormal and related anomalous experiences, most of which have became required reading - classics, even - for anyone hoping to understand the mysteries we investigate. They include:

- Gods, Spirits, Cosmic Guardians: A Comparative Study of the Encounter Experience
- Intrusions: Society and the Paranormal
- The Evidence For UFOs
- From Other Worlds: The Truth Behind Aliens, Abductions UFOs and the Paranormal
- Alternate States of Consciousness: Unself, Otherself and Superself
- Panic Attacks: Media Manipulation and Mass Delusion

- Frontiers of Reality: Where Science Meets the Paranormal
- Outbreak! The Encyclopaedia of Extraordinary Social Behaviour (with Robert Bartholomew)

Many seminal works on the UFO phenomenon were written jointly with other expert researchers, and ASSAP published an intriguing slim volume concerning *The SLI Effect* (Street Lamp Interference). He was a leading proponent of UFO phenomena as culturally-shaped visionary experiences. He once told me they were a more important study than hauntings. Hilary believed that understanding extraordinary phenomena required understanding the person who experienced them. Also, investigating the common psychological processes behind varying phenomena, studying them together rather than in isolation.

All Hilary's publications were well researched and referenced, academically rigorous, but above all, immensely readable. His interest also extended to Cryptozoology and other Fortean Phenomena. Even-handed as ever, he assisted the fledgling *Skeptic* magazine with suitable pictures.

Thousands of pounds of royalties were earned for ASSAP with the launch of *The Evidence For ....* series: nine volumes written by respected researchers in topics as diverse as *Phantom Hitch-Hikers* and *Alien Abductions* to *Mind Over Matter* and *The Bermuda Triangle*.

Just as well Hilary and Mary owned a large house at Blackheath, London: in four floors and a spacious attic, most walls were covered in bookshelves - including two bathrooms! Hilary's own study extended to three rooms on one floor. Very apt indeed was the blue plaque outside which commemorated a former occupant - Samuel Smiles, the prominent Victorian author, renowned especially for *Self-Help* originally published as *The Education of the Working Classes*.

Hilary Evans had a well-developed social conscience too, being particularly interested - though not active - in local politics: he and Mary supported several social initiatives in the area generously. His slightly Bohemian appearance - long hair, well-trimmed beard, and invariably smart casual clothing blended well with Blackheath too.

A strong international thread ran through Hilary's life. Apart from early childhood in India he did his National Service with the Palestine Police Force. As Aquisitions Director of MEPL, several times a year he was to be seen in Paris browsing through the *bouquinistes* for those rare illustrations. And of course the UFO conferences in France, Belgium, Norway, Sweden and elsewhere. In the past few years nearly six

tons of his books, periodicals and papers have been delivered to the archives of UFO Sweden at Norrkoping.

Fellow researchers have been quick to pay tribute. Dr David Clarke, senior lecturer in journalism at Sheffield Hallam University and an authority on folklore, regarded him as a real gentleman and a friend. "Hilary was a towering intellectual presence in a field bedevilled by sensationalism and controversy. The loss of his moderating influence will leave a void that cannot easily be filled."

UFO Sweden's Clas Svahn said Hilary was a man full of knowledge. "His books should be required reading for everyone who thinks that they know the answer to the UFO enigma. And he wanted to read and write so much more."

Lionel Beer, President of the British UFO Research Association (BUFORA), and an ASSAP Life Member, remembers that Hilary was one of the "good guys". "There were precious few who were willing to share information and debate the issues without acrimony and self-interest."

Bob Rickard, the first editor of *Fortean Times*, and a leading founder-member recalls: "It was an invitation from Hilary that brought me to the launch meeting, and such was the atmosphere of enthusiasm, I found myself agreeing to help establish the future ASSAP library. Unfortunately, I had to give that up shortly after as editing *FT* became more demanding. I remember being deeply impressed by Hilary's interest in and knowledge of Fortean Phenomena, cryptozoology and particularly ufology. There is no doubt his immense breadth of scholarship helped set the high tone of ASSAP's aspirations, and from which it has benefitted since. A loss of this magnitude will be very hard to bear."

I will simply add: It is extremely rare to find gigantic qualities of rigorous intellectual inquiry blended with humility and humour in a thoroughly decent chap who cared for those around him. Hilary was delighted with ASSAP's recent progress: he enjoyed an occasional good ale too. So let us raise a glass to his memory and continuing influence within the Association.

MILESTONES:
A PERSONAL VIEW OF ASSAP'S FIRST 30 YEARS

THE EARLY DAYS

ASSAP got off to an acrimonious start. Revolution was in the air in the Society for Psychical Research (SPR) and, as with all revolutions, innocents and moderates were also dragged into the maelstrom. Psychical research as a field of study had been around a while, led in the UK by the SPR, but had arguably made little progress. According to a leaflet circulated at the time, the ringleaders gathered around Dr Hugh Pincott were looking to breathe new life into the subject. An association with more inclusive policies on membership, contributors, investigations, areas of study and publications was needed to give the field a much-needed shot in the arm. By the summer of 1981 a breakaway group had formed ASSAP.

The fledgling ASSAP attracted big names from across many disciplines, not only the study of mediumship and hauntings, but also Fortean research, ufology and earth mysteries. A photograph from 1981 in the ever-supportive, but regrettably now defunct, *Psychic News* shows the movers and shakers posing for their first publicity shot. A roll call from those heady days includes the late David Christie-Murray and Dr Vernon Harrison; Jenny Randles; Bob Rickard; Alan Cleaver; Hilary Evans, Dr Hugh Pincott and Maurice Townsend.

The first few years were spent finding out what and who we knew and what we were capable of. We wanted to study everything, so we gradually built up a library and a clippings collection and compiled reading lists. We organised training days and produced numerous publications. We issued an investigators' code of conduct, inspired by Bufora, and set up a network of investigators to look into reports coming in from all over the country, with cases referred by individuals, the police, local councils and newspapers. Information that members entered on their application forms was plundered to find new talent for administration, publicity, organising conferences and designing experiments. All this was aimed at establishing the cross-disciplinary approach to research and investigations that became ASSAP's mantra.

GROWING PAINS

We were perhaps guilty of overstretching our resources and disappointing some of those members whose support we had courted. We never commanded huge numbers, except perhaps in the *X Files* years, and retaining members was a constant challenge. The cross-disciplinary approach proved to be a weakness as well as a strength: meeting the needs of a disparate membership diluted our efforts. Single-subject groups achieved more than us in terms of exposure and numbers. In ASSAP the same few people were doing everything. Events such as

investigator training days attracted respectable numbers, as did the garden and Christmas parties, but many projects that required long-term member commitment, such as the Merlin Matrix, proved difficult to get off the ground. And yet we constantly helped the media fill column inches, were consulted on the authenticity of anomalous photos and strange objects, provided people for TV programmes, and put bums on seats at the Fortean Times UnConvention.
Bufora founder (and ASSAP member) Lionel Beer convened an ASSAP policy meeting in London in 1992, after realising that we were faltering due to lack of broad-based support and reliance on too few active members. We bucked our ideas up and became more resilient, but we still needed to look at our aims and objectives again in 1999, when new chairman Phil Walton encouraged us to set out achievable targets to take us into the next Millennium. A survey, to which a third of members responded, led to more modest goals to fit our talents and the interests of the majority.
The *X Files* years had been fairly positive for us, but we soon found out what happens when TV jumps on the paranormal bandwagon. Televised investigations, some of which were subsequently revealed to have been partly scripted, generated such excitement that people joined ASSAP without knowing our background, demanding no more than to experience the same thrills as they saw on TV. Were these the people we wanted to attract? We found ourselves forced to look yet again at the disparity between what the leaders wanted to do with ASSAP and what the ordinary members were joining for. Were the TV programmes queering our pitch with unproven and non-scientific investigation techniques, or were they challenging us to find a new direction? How would this fit with our charitable status?

ASSAP – THE NEXT GENERATION

At the 25th anniversary event in Worcester, organised with Midlands-based ParaSearch, Paul Devereux's talk reflected the weariness of the older generation, who had been fighting for so long. ASSAP had never been too proud to take stock and address its failings, but to many of us it was clearly time for a new generation to take over.
Dave Wood and Nicky Sewell took a lot on and, to the relief of us oldies, have proved more than capable. Five years on, membership and activity levels are growing and our publications are of an excellent standard. I put that down to their energy, enthusiasm and organisational skills. ASSAP is moving forwards again refreshed and reinvigorated.
ASSAP has accomplished a lot and we have not made fools of ourselves in the process, so let's have a closer look at some of our achievements.

CELEBRATING WHAT WE'VE ACHIEVED

ASSAP's website

From humble beginnings in the early days of the internet, the website has grown under the guardianship of former chairman Maurice Townsend into a major resource for members and non-members alike. This storehouse of knowledge not only preserves research and articles of lasting value, but continues to push the frontiers of psychical research in as many fields as feasible. Two particular highlights I should mention are the science-based research into orbs, and the Blogger's thought-provoking musings on human perception. Subjects in the blog archive include ghosts, UFOs, poltergeists, flying rods, miracles, hypnotic regression, big cats, vampires, near-sleep experiences, premonitions, shadow ghosts, paranormal photos, auras, and river monsters. The brightly attractive and accessible website is a contrast to the ghoul-laden offerings of many other paranormal groups.

Publications

There are *ASSAP News* and *Anomaly*, of course, but over the years there have been many books and booklets, including the "Strange…" series aimed at producing what we dubbed a Domesday Book of the paranormal. As early as 1983 we launched the first few of a series of ASSAP books entitled *The Evidence for…* published by Thorson's. Hilary Evans edited the series and wrote *The Evidence for UFOs*. Kevin McClure's *The Evidence for Visions of the Virgin Mary* perhaps had the greatest international success. Others followed, by prominent writers such as Janet and Colin Bord, Michael Goss, David Group, John Rimmer and D Scott Rogo. In 1999 Collins & Brown published *The Paranormal Investigator's Handbook*, a well-received introduction to investigation and research techniques, edited by Maurice Townsend and Val Hope with (regrettably uncredited) contributions from Hugh Pincott (coincidences), Paul Chambers (out-of-body experiences), Rob Stephenson (earth mysteries), Phil Walton (UFOs), Clive Seymour (remote viewing) and Hilary Evans (street-lamp interference or SLI).

Influential friends

Michael Bentine, comedian, author and psychical researcher, became ASSAP's first president in 1989. He suggested that ASSAP's role might be to develop standards for assessing the effect of paranormal phenomena on observers. Sadly he died in 1996. Michael's widow, Clementina, backed the establishment of the Michael Bentine Memorial Shield, first awarded in 1997 to Bill Eyre, for the best report submitted on an ASSAP investigation. In order to maintain standards, the shield is awarded only if a report of a suitable calibre is produced.

Michael was hard to replace as president, but at the Fortean Times UnConvention in 1999 Phil Walton approached the Rev. Lionel Fanthorpe, a multimedia cleric, academic, weight trainer, martial arts instructor, TV presenter, teacher, songwriter, author, investigator and Harley Davidson fan. Have I missed anything out? Lionel and wife Pat became ASSAP's first two-handed presidential team, affectionately known as Pres and Lady One. Lionel and Pat have appeared at many ASSAP events, giving talks, presenting prizes and generally mingling. Our anniversary celebrations in York saw Lionel sing a self-penned ditty for us, based on 20 years of ASSAP, and the words were subsequently published in *ASSAP News*.

Media interest

Early media appearances included Hilary Evans on Radio Two's *John Dunn Show*, which produced 120 responses. Jenny Randles made frequent radio appearances, including *Woman's Hour* one Christmas Eve, and in 1983 she began a series of shows covering a different aspect of the paranormal each week on Radio City, with a phone-in section. She got a call from pop singer Gerry Marsden, telling her about a UFO encounter while he was in his car in September 1980. You'll never drive alone, Gerry!

In 1990 ASSAP acted as consultant to the Thames Television series *Stories in the Night*. As ever, our input would have been greater had we not insisted on objectivity. Phil and Chris Walton appeared on *Blue Peter* and got their Blue Peter badges. Mel Warren appeared on the BBC's *Good Morning* breakfast TV show in 1994 and was not intimidated by the light-hearted presentation into giving the silly answers that the interviewer wanted. ASSAP and BUFORA members were invited to form part of the studio audience during the BBC's coverage of the Mars landings in 1997. Although we sat there while Clive Anderson chatted to Patrick Moore and clapped in all the right places, we played no part in the show. In 1998 an ASSAP team was filmed at Coombe Abbey Hotel near Coventry for a Discovery Channel series in which the presenter attended courses to learn about different activities. The site was suggested by local member Terry Hewitt.

Not all the programmes we are involved in get screened in the UK. *Sightings* was a series produced by an American company in 1996. This was followed by a photo shoot for *The Times* to illustrate ASSAP's use of technology and led to a generous donation of night-vision binoculars by Moonlight Night-Vision Equipment, whose gear was featured on the front cover of the newspaper's Science supplement. Members from the local group that met at Hugh Pincott's Blackheath flat were filmed by a Japanese film crew as they ran across the heath encumbered by equipment, and the ASSAP Q&A panel at the first Fortean Times UnConvention in 1994 was filmed by Canadian TV.

UnConvention

We conducted psychic tests and demonstrated hypnosis as side events at early Fortean Times UnConventions. In 1995 *The Observer* published a photo of a table-tilting session run by Alan Cleaver as part of our contribution. These tests were scaled up to become the Paranormal Olympics, fuelled by the inventiveness of Phil Walton. The 1998 sessions are memorable for some as the time when a shriek rent the air in the stuffy room on Gower Street: a participant seemed to make the scales move in the psychokinesis exercise. And she had only dropped by because she had been unable to get into one of the popular talks. I shall not reveal the name of the shrieker. Over the years the tests have included psychokinesis, map dowsing, water dowsing, metal bending, dice throwing, psychometry, thoughtography and more.

... and it did not take too long before we patched up our differences with the SPR.

This has been an honest look at thirty years, but hopefully a celebratory one, too!

WHY EVERYTHING WE THINK WE KNOW ABOUT GHOSTS IS (PROBABLY!) WRONG

Christian Jensen Romer

It is easy to be controversial, and makes for a good title, so I must begin with an admission; I have no idea what the reader believes about ghosts, and so can't tell if you are wrong or not, and secondly I'm probably wrong myself.

Furthermore, when I talk about ghosts I mean "the experience of an apparition"; I'm not going to define apparition, except loosely as an "appearance of a person or object not physically present". I don't mean necessarily "spirits". "Spirits of the dead" may or may not be the same as ghosts, but the case for each stands quite independently. You can have life after death without ghosts, and ghosts without life after death. They may well be, but need not be, related.

I have also committed the sin of using the terms "ghosts", "apparitions" and even "haunting" as synonyms in this article, simply to make it a little more readable and avoid repetition. All those terms have technical uses in parapsychology; but on the few occasions where I have employed them in a technical sense I have endeavoured to make this clear.

Some years back I was reading a popular book that described a number of purported cases of ghost experiences, when something struck me forcibly. Almost all the accounts were closer to the kind of phenomena featured on the ghost-hunting popular TV show *Most Haunted* than the kind of things my years of careful reading in parapsychology would have led me to expect.

That popular ghost-hunting T.V. could be closer to the actual recorded ghost narratives than say Tyrrell's or Hornell Hart's magisterial studies of the ghost experience struck me as absurd. Could quite frankly dubious cable T.V. be a step ahead of parapsychology here?

Investigating Ghosts

How do we research the ghost experience? There are several methods. The first is simple – we go and try to see them ourselves, by hanging around purportedly haunted locations. This approach is the "vigil" approach. In fact, it is almost synonymous with ghost-hunting in the public mind, and it's nothing new – long before *Most Haunted* and the explosion of paranormal television shows, Elliot O' Donnell was writing books about his adventures with spooks doing just this sort of thing.

Given the horrendous ethical minefield that is investigating cases in private homes, many ghost groups stick to public houses, castles and stately homes. These ghost-hunters are primarily concerned with trying to experience the haunting and record evidence of it, usually directly by sound, photographic, or video recordings, or instrumental readings.

Despite the popularity of this approach, there are other methods of investigating apparitions. It is theoretically possible to "experiment" with creating 'apparitions' in the lab – for example by psychomanteum studies, where the percipient is placed in a dark chamber gazing at a mirror and where some report startling experiences (Moody, 1993, Terhune 2006). Another form of research that attempts to employ quantitative methods, albeit in the field was pioneered by Gertrude Schmeidler, (Schmeidler 1966) and involves mapping of the subjective experiences of a large number of people (or a small number of self-professed "psychics") on a map where information on earlier "spontaneous" experiences are recorded. Some valuable work has been done by Wiseman et al, at Edinburgh Vaults and Hampton Court Palace. (Wiseman 2002; 2003; Houran 2002) looking for environmental variables that tally with areas where members of the public report unusual sensations while walking around under controlled conditions.

Alternatively one can do what I tend to do, and just interview witnesses and try to visit the locations and make sense of what happened, taking what one might call a "detective" approach to the case, tracking down testimony and considering its plausibility and possible factors influencing the "sighting". Many of the cases written up in the journal literature are of this type. Some are extraordinarily well conducted studies of a specific set of environmental variables in a place with a long history of purported "hauntings", such as, for example, the work done by Braithwaite and Townsend at Muncaster Castle (Braithwaite & Townsend 2005).

THE SURVEY TRADITION

However there is another method used to research the ghost experience, which dates back to the closing years of the nineteenth century – the Survey tradition. In fact, possibly the most exhaustive piece of parapsychological research ever undertaken was of this type: the Society for Psychical Research's (henceforth 'SPR') *Census of Hallucinations*. 17,000 people were approached and asked 'Had they ever, when awake, had the impression of seeing or hearing or of being touched by anything which, so far as they could discover, was not due to any external cause?' .9.8% of those surveyed responded positively. When you hear the pub quiz factoid that "one in ten people experience a ghost", that probably comes from this Census Report that was published in 1894.

When you do this sort of qualitative research, what you do is amass a vast number of cases, and try to find commonalities, themes and motifs in the ghost experiences reported. A number of researchers have used a similar approach, allowing us to look at how the "apparition" experience varies over the years. A brief non-inclusive list focussing on the major British studies might include

1894 The SPR's *Census of Hallucinations*
1948 D.J West's *Mass Observation Survey*
1974 McCreeley & Green
1990's D.J. West's Pilot Survey
2002 Dr Hilary Evans *Seeing Ghosts*
2008 Wiseman and Watt Online study
2008 Dave Wood (ASSAP Chair)
2009 Romer & Smith: *The Accidental Census*
2010 -2012 *Strange Survey,* Rebecca Smith's Ph.D. study

In fact other collections of spontaneous cases like those of Louisa Rhine and the early SPR collection *Phantasms of the Living*, as well as the dozens of collections of "true life ghost stories" published over the years are effectively part of this survey tradition. All that distinguishes the SPR Census from most books of local ghost stories is the methodological rigour and formality of the way the cases are written up, and of course the scale.

METHODOLOGICAL ISSUES

Clearly in a short article I lack the space to properly explain the methodology employed in each of these studies. (I am also sure many readers will choose to skip even this brief overview of some of the key themes, put off by the word "methodology".)

Surveys are a phenomenological (in the sense of how the term is employed by David Hufford (Hufford 1982) approach; they do not allow us to study the apparitional experience directly, but they do allow us to study the percipients report of the experience. This is the case in many studies however: I might choose to study genius, while not being a genius, or depression, yet have never experienced many of the emotions and symptoms experienced by some depressive patients. The important thing to grasp is that it is the report of the experience that is being studied, and that no human experience is entirely un-mediated by cultural and contextual factors. So is the Victorian experience of apparitions reported in the *Census* of 1894 similar to that of the present day, those cases from the studies of the 21st century? There are minor differences, which I do not have space to properly explore here; but on the whole, the overwhelming feeling one has is that the experiences reported are essentially

similar, and I would find it hard to be able to place a date on many of the apparitional reports, so independent of they seem of time, place and culture.

An obvious question that arises is “how do we know the survey respondents are not lying?” The answer is simple - “we don't”. Complex exclusion criteria have been a factor of many studies, and questionnaire research always faces this issue, and some methods have been evolved to reduce the number of false reports accepted. Ultimately however, someone who wishes to hoax the researcher by making spurious claims can always do so, and that case may well enter the database of “classic cases”. However cases which feature a strong set of literary conventions or folklore motifs are obviously suspect, and others may be questioned. The value of the survey approach is that the case for understanding the apparitional experience it makes is based on a large body of cases: while any given ghost narrative may be questioned, and scepticism is the proper approach to take, the overall picture that develops is the important thing.

Given that the “phenomenological” approach employed deals with ghost accounts, not the apparition itself, can we really learn anything from it? To explain how the Survey approach works requires a very brief diversion into some key concepts in research methodology. There are several crucial divisions in research; between laboratory research, and fieldwork, between deliberately produced ostensible psychical phenomena and “spontaneous cases” which just happen unexpectedly, and between qualitative and quantitative research approaches.

Quantitative research has been jokingly categorized as “bean counting”; it is concerned with numbers, and statistical analysis of material. Most census data of the type gathered by the UK Government in the National Censuses which occur each decade is tabulated and presented in this form – such and such a percentage of the populace are employed in manual trades, or state their religion as “Hindu”, or live in households with 2 children for example. A great deal of the early survey material was concerned with such numerical data: how many people had the experience, what were their ages, genders, educational level, social class, etc. All remain valid questions, though today professional survey organisations which conduct large scale polling are perhaps better suited for gathering this kind of information than the independent researcher, simply because they have the reach, facilities and methodological knowledge to deliver high quality data.

Qualitative research is a little different. It deals not with numbers, but with understanding how and why things are and answering non-numerical questions. It is used in a number of academic disciplines but especially in the Social Sciences, and in marketing research and focus groups. Data is collected in the form of interviews, recordings, written statements or survey responses and

is then analysed using one of a number of theoretical approaches, often today Grounded Theory or Thematic Analysis.

To help understand how such analysis is performed, let us consider a short narrative from the *Accidental Census* (2009). In this study the responses were extremely short, collected by use of the Facebook social media type, and were then explored by email with the percipient by the collector.

No.20

English female, 30's

When at university, I saw my boyfriend's housemate standing in the kitchen doorway. Said housemate was taking part in a rowing contest on the other side of the country at the time.

The house was a 3 story terrace with only one entrance - through the kitchen. Beyond the kitchen was a small hall with doors to the downstairs loo, one bedroom and the staircase up to other bedrooms. John and I were eating at the kitchen table when I became vaguely aware of someone standing in the hallway. Richard (let's call him that, I can't actually remember the lad's name) was tall, blond and sporty, and lived in the ground floor room, so when I saw a tall figure in a tracksuit I didn't really think much of it, as it was prob. just Richard going to the loo.

Shortly after that - during the same meal - John said that we could do ...something...(prob to do with hogging the bathroom) ...since we were the only people in the house that weekend. That was when I said "but Richard's in, I saw him" to be told that no he wasn't, he was rowing for college over at Lancaster.

Folklore suggests that this must be a sign of imminent doom, but all was well. I really can't remember if I told Richard about it. Prob. not, as it would have made me sound a bit weird.

This case is of the "phantasm of the living type", and while brief it provides a wealth of material for analysis. The method employed in the study was to create two columns, with the account on the left side of the page, and the right hand side was then used to write notes on what was going on line by line in the narrative.

So for example

John and I were eating at the kitchen table

Notes: sitting (percipient), eating (percipient), with others, kitchen (percipient)

when I became vaguely aware of someone standing in the hallway

Notes: “became vaguely aware”, vague sense of person present, not seen directly?, hall (apparition), standing (apparition), different room.

While this process is labour intensive, exploring the material in this way leads to the development of a real feel for what is going on. The authors both independently produced notes on each case, and from these develop codes, such as in this case the direct quote “became vaguely aware” which is an interesting phrase because it suggests that the sighting was not as simple as just seeing Richard walk in. We were able to explore questions arising from matters like this through correspondence. Some codes such as the position of the apparition and the percipient are obvious, others such as the ones handling the witnesses response less so, but over a large number of cases the codes begin to coalesce into categories, such as, for example, “apparitions of the living” or “apparitions seen while eating” or “witness does not realise anything unusual about figure seen at time” or “apparition and percipient of different gender”. It is important to write brief memos, as you go, exploring your ideas on how the categories and data relate, and eventually you start to build theoretical models – but everything derives not from the existing literature on apparitions, but from what is actually reported in the cases. It is obviously not possible to do justice to qualitative research methods here, and this short explanation is meant to simply act as a brief guide to one possible approach, in the hope that a few readers will be interested enough to explore the topic further.

To understand the value of Qualitative Research methods in the study of apparitions it is important to understand another key division in research methods, between “Top Down Models” and “Bottom Up Models”, which are not as salacious as they sound! A “Top Down” approach is where one starts out with a theory, for example, “ghosts are produced by telepathy”, and then examines how the data collected fits this model. A “Bottom Up” approach collects a number of accounts from people who claim to have seen apparitions (percipients) and then rather than test them against existing theories, the researcher instead looks carefully at what the accounts contain, and attempts to build hypotheses that are drawn directly from the data, remaining “naive” as to existing theories. (In fact if you think you would like to try this approach, you may wish to skip the section on “Theories of Apparitions” below!). Grounded Theory, one popular qualitative approach is so named because the theories are “grounded in the data” - the research questions arise from what is there in the accounts, rather than the hypotheses being dictated by existing theoretical frameworks.

ANALYSING APPARITIONS

Many readers of *Anomaly* have probably noticed that in technical discussion of apparitions a number of classic cases crop up time after time. Many of these

cases were first published in the Journal of the SPR, in SPR collections such as *Phantasms of the Living* or are from the spontaneous case collection of Dr Louisa Rhine (J.B.Rhine's wife). Yet the majority of "canonical" apparitional cases we read are probably still today taken from the 1894 *Report on the Census of Hallucinations,* and at least five books and articles exist analysing material from that collection. Perhaps the two most important are Tyrrell's book *Apparitions* (Tyrrell, 1943), a classic, if somewhat hard read, and the equally dense article *Six Theories on Apparitions (*1956) by Prof. Hornell Hart. What these two works attempt, with some success, is to critically examine then current theories of apparitions in the light of the cases presented in the *Census* and *Phantasms of the Living*. While DJ West has performed invaluable work in keeping the Census tradition alive and has carried out several major research projects, and presented valuable data for comparison with the earlier studies, he did not choose to publish the extensive "raw data" of the witness statements and supporting testimony gathered by follow up enquiries that the *Census* authors did. (Sadly the SPR never dedicated an issue of *Proceedings* to any of West's studies, which would have provided the space for a detailed examination of his cases. West, one of the great figures in psychical research, has in my opinion been done a grave disservice by the lack of recognition afforded to his studies for this reason). It was not until the 1970's that a major new collection of cases that were published along with an accompanying analysis, by Charles McCreery & Celia Green in their *Apparitions* (1974). This remains an excellent (and by the standards of most books on this topic, highly readable) exposition on the ghost experience, and Green & McCreery identified a number of interesting aspects of the subject. It was not until 2002 that a new book on theories of apparitions, Dr. Hilary Evan's superb *Seeing Ghosts* (Evans, 2002) performed more detailed analytic work, though Evans did not conduct a large scale case collection of his own.

For those interested in the study of apparitions these four books are essential reading. There are many other fine books on the subject, but Tyrrell, Hart, McCreery & Green and Evans remain the authorities that every student of the subject should (in this author's opinion) consult. Yet all of these books careful analysis of the ghost experience are based firmly upon cases and data that were garnered from the survey tradition, not from individual case investigations. So such work is clearly important, and has shaped our modern understanding of apparitions, and our theories about ghosts. It was while conducting a small census of this type that the author first came to seriously question the classic theories of apparitions from the parapsychological community, as not fitting the evidence provided by the narratives, particularly the evidence of physical effects – objects moving, doors opening and closing, and so forth – that seemed to crop up frequently in what were otherwise classic apparitional accounts.

TELEPATHIC THEORIES OF APPARITIONS

There are of course dozens of competing theories about ghosts and hauntings. The most popular even today are probably the Spirit Hypothesis (that ghosts are "dead guys"), Recording Hypotheses (ghosts are "recordings trapped in an environment and replayed when the conditions are right"), the Sceptical Hypothesis (ghosts are "misperceptions, hallucinations, misinterpretation or downright hoaxes") and perhaps surprisingly the Daemonic Hypothesis (ghosts are non-corporeal yet non-human intelligences, such as faeries, angels, djinn, extra-dimensional entities or demons). In the USA in particular demonic theories of hauntings are proving surprisingly popular at the present time, with the ghost-hunting community there having a large number of self professed "demonologists" active, following in the footsteps of perhaps the most famous of all, Ed and Lorraine Warren. For a detailed recent study of competing theories I would recommend a paper by Peter McCue (2002).

To do justice to the many hypotheses offered over the years to explain the ghost experience would take a paper many times longer than this; so I will restrict my comments to the tentative theories produced by the early SPR group who undertook the *Census of Hallucinations* and to Tyrrell who analysed the findings of that great project later. I therefore will restrict myself to outlining very briefly the theories of Frederic Myers, Edmund Gurney and G..N.M.Tyrrell here, as representing one major strand of thought in apparitional research, indeed arguably the dominant position in parapsychology to this day. Their theories have much in common, and some major differences, but are all "grounded" in the *Census of Hallucinations* cases.

The *Census of Hallucinations* contains an important clue as to the theoretical structures that underlie the research in its title. A hallucination is defined as "perceptions in a conscious and awake state in the absence of external stimuli which have qualities of real perception, in that they are vivid, substantial, and located in external objective space." Many hallucinations occur in persons who are suffering from stress, fatigue or certain illnesses, both physical and mental. However hallucinations are also prevalent in persons who are seemingly well, and not suffering from any kind of disorder (Bell et al. 2011) Some of the most common of such experiences are the sense of being touched when no one is present, the sensation of hearing one's name called, and seeing motion out of the "corner of the eye" which if often mistaken for a cat or small dog or similar.

Many hallucinatory experiences in normal healthy life are associated with the edge of sleep, and the hypnagogic and hypnapompic states are well known to many with an interest in this area; vivid visual imagery seen on falling asleep, or waking. The author once had a hypnapompic image, essentially a carryover from a dream, of a stocky blonde man who he believed was an intruder in his

bedroom. He threw a bedside light at the figure, only to discover he had actually been awakened by his then partner as the cat was being sick on the bed! Most hypnapompic imagery is less realistic than this persistence of a dream into the waking state, but it is well known and doubtless accounts for many apparitional reports. The *Census* and later studies have removed cases where there is some doubt as to whether the percipient was actually fully awake, and we must recall that dreams, themselves as hallucinatory episodes, show the incredible power of the mind to hallucinate vividly and often convincingly.

It is not therefore particularly surprising that people see "ghosts", given the well known capacity of the human brain to hallucinate. A second, perhaps better known explanation for many ghost sightings is simple misperception – when we mistake something for something else. I am sure many readers are aware of how the shadow cast by a coat on the back of the door can take on ominous outlines and appear as a menacing phantom in the early hours of the morning, and again to draw upon my personal experience, I once saw a figure rush out on a rainy night and attack a friend of mine walking home. The "ghostly assailant" was as we subsequently discovered, nothing more than a shadow cast by a street lamp on a wall, but my cry of horror was real enough!

So given how easily our senses can be deceived, are we correct to take on a resolutely sceptical approach and assume that ghosts are nothing more than "phantasies of a disordered brain" as the 18th century Rationalists believed, brought on by tiredness, indigestion or ill health? Certainly the medicalization of the ghost experience became a dominant trend in 18th and 19th century thinking on these matters, with even theologians decrying ghost stories as nothing more than "mere" hallucinations. (McCorristine 2007)

This consensus (still popular among academics today) was to be ferociously challenged by the 1894 *Report on the Census of Hallucinations*. Of course, the majority of cases were of the type one would expect, and entirely consistent with the misperception and hallucination hypotheses. There remained however a small number of what the SPR termed veridical cases. A veridical case is not easily explicable by the hallucination hypothesis, because in it some information was transferred to the percipient by the apparition that could not have been known at that time by any normal sensory apparatus. The classic examples are the appearance of a deceased person to a relative or friend at some distance, before news of the death or illness had arrived. (It may surprise some readers that the exact time and condition that constitutes death is still debated today in the medical establishment, though of course a consensus exists that "brain death" is the best measurement. For this reason twelve hours before and after death were treated as death coincidences by the *Census*).

Other crisis apparitions were of the living; some event or danger seemed to have occurred that caused them to appear at their moment of need to a distant person, and in some cases this may have saved them, other apparitions provided information that was unknown to the recipient, and subsequently confirmed (one of the most famous cases of which dating some thirty years from after the Census, The Chaffin Will Case, has recently been severely critiqued by new research by Mary Roach (Anon, 1928; Roach, 2007).

That many apparitional sightings were of persons alive and in good health, and not undergoing physical or emotional crisis was already known to the SPR from *Phantasms of the Living* (Gurney 1886), and the *Census* bore this finding out. Of the apparitions where the identity of the "ghost" was known to the percipient, half were of living persons in good health. This seemed to raise severe difficulties to the idea that apparitions were the discarnate spirits of the dead, and the hypothesis of an 'astral body' that could leave the body at will was challenged by the fact that in some cases the "ghost" was not aware they had appeared elsewhere.

It was not the appearance of the spook that caused the threat to the hallucination hypothesis with the veridical cases, but rather the transfer of information. But what if the information was transferred by something that we would today call telepathy? F.W.H.Myers, wrestling with the problem posed by apparitions, was fully aware of the apparent success of what today would be called ESP tests performed by other SPR members, and was equally aware that one counter to the idea of human survival suggested by the alleged evidence of mediums was that they had read the minds of the sitters. He coined the phrase telepathy for this mind-mind contact, and in fact it was widely held by many in the SPR circle that telepathy had been demonstrated by various experiments written up in the *Proceedings* and *Journal*.

It was with this exciting prospect of an experimentally demonstrable telepathy that the *Report on the Census* (Sidgwick et al 1894) authors analysed their case materials. (There was much more going on, as we shall see later, but this is perhaps the key influence upon their thinking.) A number of telepathic theories to explain veridical apparitions arose, with the first and simplest being that proposed by FWH Myers (1903) himself. In his model the "ghost" is a living person, who through some conscious or unconscious need sends a telepathic message to the percipient. The percipients brain receives the message, which then manifests as a hallucination: they then "see" the ghost.

Edmund Gurney developed a slightly more complex version of this – in his model, it is not that the "ghost" (a living person) initiates the apparition, but the percipient. According to Gurney we all constantly scan by telepathy the world around us for information of use to us, and we may well pick up information

about a distant party, such as their dads death. Again, the brain then tricks us into "seeing" an apparition to explain how the information came to us. This model can explain cases where the apparition appeared some hours after the death of the "ghost", as other people who knew of the tragedy could be the source of the "signal".

Tyrrell's (1943) theory is close to Gurney's: it is the percipient who initiates a "scan", receives the information, and then hallucinates it, using the well known capacity of the brain to dream to generate a hallucination where the apparition makes sense in its environment. Like Myers and Gurney's theories however, additional models had to be devised to explain certain types of case, such as collective cases (see below) and hauntings, where a number of people over many years see a ghost that appears to be connected to a place, rather than a specific witness.

Nonetheless, rather than postulate spirits or invisible entities that permanently exist and move around us, or the "residual energy" of the Recording hypothesis, the idea that apparitions are hallucinatory, but in some cases are associated with real information transferred from a living (or in some of their theoretical speculations dead) agent is a very attractive one, that does seem to make sense of a large number of the features reported in the *Census* cases. It is probably fair to say that for the twentieth century, parapsychological work on apparitions has been dominated by these telepathic/hallucinatory models of the experience. The question is, are they correct?

ARE GHOSTS HALLUCINATIONS?

Let us assume for a moment a universe where "ghosts" are hallucinatory experiences, generated entirely within the brain. This is a simple and entirely sensible position – in fact I think it's what the 18th and 19th century consensus of scholars was – ghosts are just imagination, or mental aberrations, or straight misperception of normal (or unusual) events or objects. All of this is perfectly reasonable and doubtless accounts for a very large number of "ghost" experiences. We all know we can hallucinate, even if our only experience of hallucination is the weird and wonderful world of dreams. Such "ghosts" will share certain properties, being the product of a "disordered" brain.

The theoretical properties of these hallucinations are –

i) They will only appear to one witness at a time – though a misperception (where there is something there, it just fools the senses, as in an optical illusion – misperceptions are not hallucination technically) could theoretically be shared by many. If a stick in the water looks like the Loch Ness Monster, it is possible that hundreds of observers could simultaneously see it and reach the erroneous conclusion it is a lake monster.

ii) They will convey no information to the percipient not known to them at the time. Again a caveat – if a ghostly monk now appears to you tonight, and tells you the winner of the Grand National, we would all be impressed. If it subsequently turns out to be incorrect, we might wonder if you simply dreamed the whole affair. Yet even if you were right, that could still be the explanation. Some horse has to win after all? The conveying of veridical information adds weight to the apparition being an external "thing", not a hallucination, but does not alone substantiate it.

iii) They will not objectively cause physical 'real world' effects – no opening doors, moving objects, or otherwise impinging upon physical reality. Being mental constructs they can't – if physical effects are ascribed to a ghost, then they must be mis-attributed. So this model cannot be invoked to explain poltergeist effects, and there has been a sharp tendency therefore in parapsychology to differentiate between apparitional cases and poltergeists, as being completely different types of phenomena. We shall return to this later.

iv) They will not reappear in the same place over time to different witnesses, as in a "haunting". This requires a little explanation – if it is well known that an Oxford courtyard is purportedly haunted by a Civil War general who was executed by firing squad there, we should not be surprised if others purport to see "the ghost". If however over a period of many years many people witness an apparition, and agree on certain characteristics, independently and without apparent foreknowledge of the purported haunt or the history of the place – then surely we may be justified in doubting the hallucination explanation?

So how well do ghost accounts meet these criteria? On point I. "seen by a single witness" we know this is commonly not the case. About 10% of SPR *Census* cases were seen simultaneously by multiple percipients – the experience which got me interested in all this was of that type, shared with four other witnesses. We can invoke misperception as I have already stated – human perception is notoriously fallible, and a whole theatre of people can be wowed by a magicians trick.

Furthermore, in many cases there is communication between the parties – "do you see the monk?" etc, and even where there is no verbal communication there is the possibility of non-verbal prompting. In his classic analysis of the SPR *Census* cases Tyrrell noted that in many multi-percipient cases witnesses saw the apparition from their perspective – a very clever trick for a hallucination. So if I was in front of the ghost, I would see his face – if you were behind, his tailcoats. Yet Tyrrell saw this as perhaps evidence of telepathic refinement; to make the apparition convincing to the primary percipient, others present must be drawn in to the apparitional drama. And of course this does not always happen – the Census contains several cases where others present did not see the

"ghost", even though they should have if it was physically occupying space in the way a normal mundane object does.

Yet I would not want to make too much of this (certainly less than Tyrrell et al did) – for we have the problem that by the time testimony is recorded there has often been conferring among witnesses, which I suspect does much to shape the memory of the experience. In my own experience (at Thetford Priory, Norfolk, in 1987) one of the other percipients (David Aukett) forbade us to discuss the experience until we had committed it to paper – and on comparing we found that our descriptions of the apparitional figure were sharply divergent. (We did however all agree on the movements and the staircase which we saw, which did not exist in reality). I am fairly certain (given that none of us can now recall what happened that night with any degree of confidence at all) that the staircase down which the apparition descended and then exited (and which subsequently proved to no longer exist) was mentioned in the verbal exchange during the sighting – presumably why we agree on this detail – once someone mentioned it, we all "saw" it.

So point one is in fact, I freely admit, questionable evidence against the hallucination theory, but clearly it must be taken in to account.

Let's move on to ii) where "the ghost tells us something we did not know". The problem with veridical cases, assuming they hold up to thorough investigation and we are convinced by the contemporary evidence or the percipients honesty, is that it could simply be coincidence. Sidgwick et al calculated that there were four hundred and forty times more death coincidences than would be expected by chance in the *Census* cases, but their mathematics was somewhat questionable. Unlikely coincidences do occur after all, and one might think of something, and then it occurs, simply by random chance. One might even hallucinate quite normally information that one has subconsciously pieced together, in an act of intuition manifesting as a waking dream, at least in theory.

It is iii). - physical effects, that would be most fatal to the hallucination theory. Before we consider the SPR findings, let us look again at the *Census* question.

Have you ever, when believing yourself to be completely awake, had a vivid impression of seeing or being touched by a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause? (Sidgwick et al, 1894)

So the *Census* question actually ruled out iii) – physical effects, barring the common and I suspect very normal somatosensory hallucination of being touched. The SPR theorists did not ask about objects moving, or ghosts physically affecting objects – because they had decided they were telepathically induced hallucinations, and such clearly ridiculous phenomena were quite evidently incompatible with this theory. Rebecca Smith is currently writing her PhD on a pseudo-replication of the *Census of Hallucinations,* and has shown me

many occasions where the census cases do appear to contain physical aspects; these have in most cases passed without comment in the analysis or have been explained away as part of the hallucinatory tableau. Sadly it seems to her that the SPR group were in fact engaging in "top down" analysis, being so convinced of the evidence for the telepathic/hallucinatory model that they overlooked testimony in their sources that was damaging to that case. In the next section I will attempt an explanation as to why in terms of what was going on in the Society for Psychical Research at the time, and subsequently, and why I feel this may have had grave implications for 150 years worth of parapsychological research on ghosts.

We may now turn to point iv., "hauntings" (in the technical sense). In fact Myers theories included an explanation for hauntings, that is "ghosts seen in a location independently by different witnesses over the decades" – he thought a telepathic impulse could somehow be caught in the environment, and then be replayed years later to a suitably sensitive percipient. So if the reader has just expired laughing at my poor arguments, your ghost may be seen in the future by later generations – but it is just a recording of the past events, your amused demise! In fact this "recording hypothesis" is one of the most popular lay theories of ghosts today – but it also rules out any kind of iii) physical phenomena. In fact, at the time of writing, a major cross-cultural study of popular beliefs in emotions remaining and affecting the physical environment has just been published. (Savani et al 2011).

THE PROBLEM OF THE POLTERGEIST

And yet – in a large number of cases, apparitions appear to correspond with actual physical effects. Objects move, doors open and close, and stuff gets thrown about, etc. Parapsychologists usually differentiate between "haunts" (where an apparition is seen in a building many times by different witnesses) and "poltergeists" (where physical effects occur), but there is an overlap. And if ghosts are effecting physical objects, they are clearly not hallucinations, which are purely mental phenomena, unless something else is involved, a point I shall return to in my speculative conclusion.

Now it could be that these physical effects are in fact hallucinations, or misperception in themselves. Film exists from the Rosenheim poltergeist case where the lights swing, and there are a few other pieces of alleged poltergeist footage – but the evidence is hardly overwhelming. However smashed items, weird electrical disturbances, peculiar flight and impact characteristics seem to be consistent across many of these poltergeist cases. Why? Physical phenomena are an embarrassment to many psychical researchers – but we find them so often I have to concede they have some basis in fact. The same kind of things have been reported for 2,600 years, across many cultures. Yet in the 1890's the poltergeist was a highly disreputable creature, with SPR member Frank

Podmore ascribing the poltergeist to nothing more than naughty children playing tricks, an analysis that many modern readers may be sympathetic to.

Yet the poltergeist cases are really just as acceptable, if in some cases not better attested, than the apparitional cases. So why were they ignored in the Census? Well partly the clue is in the name: the Census of Hallucinations was just that, and it is clear from the early Proceedings that the SPR group who analysed the cases were deeply committed to a telepathic/hallucinatory model. Physical phenomena were, as Becky Smith has pointed out, an embarrassment, and were therefore outside the scope of the research project.

Yet something even deeper was at work. The founding of the Society for Psychical Research in 1882 had attracted a number of leading scientists and thinkers, and the American Society for Psychical Research did the same when it was founded a few years later. The early SPR did a great deal of work investigating purported mediums, against a background of popular enthusiasm for Spiritualism, and earned a strong reputation, despite its lack of "corporate opinions", for what today would be called debunking of ostensible psychic phenomena. Controversy over the sceptical tone of SPR publications and investigations led to a crisis in 1888, when a large number of members who were disposed towards spiritualism and belief in (in particular) physical mediumship left the SPR, to form their own organisation (Grattan-Guinness, 1982)

The remaining "rump" of SPR members were certainly no friends to the "lower" or "physical phenomena" of the séance room, and a series of critical reports on mediums such as Eusapia Palladino (balanced by the more positive Fielding report of 1908) led to an atmosphere where claims of physical effects were regarded with grave suspicion. Then the telepathic hypothesis, which was entirely compatible with the mental phenomena of the more "respectable" mediums yet could not be implicated in the suspected conjuring tricks of the physical mediums emerged, and the *Census of Hallucinations* was conducted with this prevailing attitude of latent hostility among (some but not all) SPR members to alleged physical phenomena. Stephen E. Braude has thrown much light on this period in his excellent work *The Limits of Influence: Psychokinesis and the Philosophy of Science* (1996). Braude, Smith and myself have all independently reached a broadly similar position; namely that the early SPR was in effect hostile to certain types of "embarrassing" testimony, and may have downplayed them unconsciously in their analysis.

Furthermore, a strong party in British intellectual life was hostile to the SPR as investigating nonsense (others, including of course Disraeli and Balfour, strongly favoured it: Balfour served as Secretary and his brother as President of the SPR, and Gladstone described its research as "the most important work being done in the world today".) The SPR had to deal with a dual attack, from both extreme proponents of the spiritualist party who saw the Society as

debunkers, and from hostile materialists who saw it as simply studying popular superstition and outside of the scientific method. It would be unsurprising if some SPR members were hostile to any "spiritualist" interpretation of the evidence from apparitions, and the constant attempt to find scientifically respectable explanations for phenomena must have made the telepathic/hallucinatory models of apparitional experience seem extremely attractive.

Of course later generations of researchers were to rehabilitate physical phenomena, and the SPR has been at the forefront of poltergeist research, but I believe it is from this moment in 1894 that the split between the "poltergeist" and the "ghost" dates. It has been accepted with occasional queries right through to the present day, though some writers have bravely opted for a discarnate intelligence or spirit based model at least for some poltergeist experiences, including some of the major theorists in the area. (For example Playfair 1980, Wilson, 1981, Stevenson 1972, Spencer, 1997).

The orthodox position in mainstream parapsychology, if such a thing can be said to exist, appears to be that poltergeists are best understood as generated by a living agent unconsciously generating psi in what I have in the past described as a "nervous breakdown taking place outside the head" – the theory of recurrent spontaneous psychokinesis, or RSPK for short. A considerable body of theoretical work exists in support of this hypothesis (for example Roll 1980, Rogo 1979). Of course William Roll has probed the possibility ghosts are really poltergeists too, but I have not been able to obtain a copy of the relevant paper. (Roll, 1997) Any attempt to claim that physical phenomena have been unfairly removed from the discussion of apparitional cases must however contend with the authority on these matters, Gauld & Cornell's magisterial study *Poltergeists* (1979), which is likely to be cited by any parapsychologist challenged on the idea that poltergeist and apparitional cases may actually be little more than an accidental classification dating from the 19th century, descriptive but not necessarily reflecting different causalities.

Gauld himself questions strongly whether poltergeists and hauntings are separate types of phenomena, or a continuum of one phenomena classified by their 'symptoms'. Central to the book is Chapter 12: The Poltergeist and the Computer, where he performs a cluster analysis on 500 cases drawn from the Literature and covering several continents and much of recorded history. At the end of ten iterations the clusters are reduced to two groups, Group 1, broadly representing what parapsychologists would recognise as poltergeist cases, and Group 2, traditional hauntings. It seems the traditional divide between apparitional cases and poltergeist cases may hold true.

Yet Gauld notes with apparent satisfaction that many of the Group 2 "hauntings" still contain significant physical effects, and that the Group 1 "poltergeists" contain cases where apparitions were seen. Alan Gauld dismisses

(to my mind quite correctly) the tendencies of the telepathic theorists of ghosts to claim any reported physical effects were hallucinatory in a passage so vivid it deserves to be cited in full:-

"ostensibly physical phenomena have taken place that have in fact left a clear physical trace behind them: objects have in reality been displaced, bolts drawn, doors opened, objects smashed, etc. ...if normal human beings together or in succession see door-handles turn, feel beds rise under them or bedclothes pulled off them, hear bell jangle.... then we have evidence that certain types of physical events occurred: and if one dismisses this evidence for reasons of theoretical tidiness related to ones views about certain types of visual hallucinations (recurrent apparitions) one is in danger of isolating one's theoretical position from any modification by the facts – a tendency which, carried to extremes, lands people in lunatic asylums."

Despite these strong words, physical effects in hauntings are still largely ignored, for just such theoretical reasons; yet one cannot help feeling that in parapsychology the "lower" (physical) phenomena remain as disreputable as in 1894.

RECORDING HYPOTHESES

So if the evidence from actual reports of apparitional experiences does not seem to support the telepathic/hallucinatory model of ghosts, then how do "recording models" fare? Space will not permit a detailed discussion here, but a brief overview of the evidence seems in order. The earliest "recording hypothesis" I am aware of is that of FWH Myers, where he postulates a psychic ether which permeates buildings or the environment, on which certain events may be recorded, and later replayed to one suitably sensitive if the conditions are right. Myers did not live to fully develop the idea, which he used to explain hauntings (in the technical sense) and collective cases where his telepathic model appeared flawed. However his ideas were taken up and developed by H.H.Price, and are discussed in Hart's essay *Six Theories* in some detail. It was not until however Nigel Kneales radio play of 1972 *The Stone Tape* that the idea really entered popular consciousness, and became one of the most widely held popular theories of apparitions. The play coincided with a new technology reaching the mass market, the tape recorder, and many homes would have these, so the idea of a recording was timely. Wood (2007) provides an excellent discussion of recording hypotheses.

In essence recording hypotheses are just as incompatible with physical effects as telepathic/hallucinatory models. Indeed the actual mode in which the 'recording' is played back may well be considered to be telepathic/hallucinatory, but perhaps the central feature of recording theories is that there is no self-aware entity present, merely a recording, what Derek Acorah calls "residual

energy". In recording theories there is no one there to communicate or interact with; it is akin to watching an old episode of *The Muppet Show* repeated on TV – Kermit is not going to suddenly turn and hold a discussion with you, or move your tea cup.

While the theory is attractive for cases where the same figure is seen repeatedly replaying exactly the same action, it is not the behaviour of many of the apparitions detailed in the literature, or collected in surveys. One example would be the Cheltenham Ghost (Morton 1892) where the apparition appeared to be aware of and indeed actively avoided engaging with the witnesses, but dozens of cases could be cited where this difficulty arises. It is also of course extremely difficult to find a way in which the recording hypothesis can be brought to bear on the physical phenomena commonly reported alongside apparitions.

THE ACCIDENTAL CENSUS

To examine closely the findings of each of the surveys conducted over the years is far beyond the scope of this article, but in 2009, quite by accident, the author became involved in a small scale census that is of interest simply because of the similarities in the way it was conducted and the original SPR census, though they may not be immediately obvious.

Briefly, Becky Smith was writing a proposal for a pseudo-replication of the Census of Hallucinations using the internet, and owing to generous research funding from the SPR she has undertaken the research as part of her Ph.D. studies at Coventry University. (It is worth noting that I have not yet seen Smith's data, as her research is being conducted completely independently of the research I am discussing here, and for ethical reasons and to maintain the independence of her analysis she has not revealed any of her findings to me to date. This means that I am fully aware that everything I say in this article may prove completely nullified in just under a year when Smith publishes her findings. Nonetheless as they employ a different methodology, different type of analysis and are of a much larger sample it still seems pertinent to discuss the Accidental Census now.)

The author jokingly posted the *Census of Hallucinations* question on Smith's Facebook wall, where her friends could read it. To my amusement several responded with different accounts of personal appearances. Interested, I then posted the question on my own "wall": more accounts were forthcoming. Realising we had the opportunity to collect some first-hand narratives from people we knew, and easily conduct follow up research, we both refined the question and over a period of several months posted it again and again, and then developed a set of notes for interested friends to act as "collectors", and to post the account on their "walls" and collect cases for us. This was done fairly

informally, but by the time we ceased the project (as Smith was about to register for her Ph.D. and begin her own very different collection of narratives, which is conducted via the website www.strangesurvey.com) we had collected 62 accounts which met the criteria of the original SPR census. (Cases were excluded for a large number of reasons from the Census of Hallucinations, for example because the percipient was in bed and may have been asleep.). While the sample is clearly too small to allow for generalisations to be made, the cases covered North America, Continental Europe and the British Isles, and a wide range of experiences.

While this is hardly a sensible way to go about any kind of research, the serendipitous opportunity was in fact very close to the original SPR method. The SPR administered a questionnaire via "Collectors", who generally asked the questions of people who were known to them. This was believed to reduce the possibility of deliberate hoaxing, and allow for the avoidance of informants known to be untruthful in such matters. In the *Accidental Census* the use of the social media site Facebook meant there was usually at least some relationship between the informant and the collector. Smith concluded, probably wisely, that this methodology was too innovative for her own research, and has instead used a more traditional web based questionnaire based upon the *Census of Hallucinations* to allow for a direct comparison.

What was striking about this small scale "accidental census" was how much it caused Smith and myself to question both popular beliefs concerning the ghost experience, and the theories in the parapsychological literature. Whereas I had formerly questioned telepathic models of the apparitional experience on the common sense objection that it was using one paranormal claim (ESP) to explain another (apparitions), after we completed the project the author came to question a large number of what I have termed "myths" regarding the apparitional experience. However an obvious objection, beyond the very small size of the sample, arises – what if the ghost experience itself, or what is considered part of that experience has somehow changed in recent decades?

THE CHANGING FACE OF THE GHOST EXPERIENCE

What was most striking was how similar many of the accounts were to classic apparitional accounts from the 1894 census. The wording of the question undoubtedly led to many of these similarities, but it seemed to us that apparitions still behaved much as they always had. However Wood (2008) has shown that the number of classic visual apparitions appears to be declining compared with earlier surveys in his census (with Nicky Sewell) of Swindon, Wiltshire. Drawing upon earlier work by Sewell and Gould on trends in the depiction of hauntings in popular television Wood argues compellingly that popular television depictions in reality T.V. ghost-hunting shows (like the aforementioned *Most Haunted*) have influenced public perceptions of what

constitutes a ghost experience. Researcher Trystan Swale has also identified what he perceives as a change in the phenomena reported in the last ten years, and again ascribes it to the influence of reality television shows concerning apparitions.

This may go some way towards explaining the press releases that accompanied the release of Dr. Richard Wiseman's 2010 book *Paranormality*, where he reveals survey results that show much higher figures for the number of people claiming to have witnessed a "ghost" than earlier studies suggested. Today a photograph with an "orb" (an easily explained photographic anomaly that occurs on digital camera shots) or even a rustling of a plastic bag can often be interpreted as a ghost by those inclined to believe in them, and all the more so given the explosion of public interest in participating in "ghost hunts", whether commercial such as those offered by several companies, or arranged by an enthusiastic "local group". For the *Accidental Census* we excluded any report where the percipient was actively ghost-hunting at the time of the experience, or which were based entirely on photographic anomalies, no matter how striking. Such social and cultural factors may be the cause of the decline of the reported apparition rather than any actual absence of traditional "ghosts".

Still we must not take this too far just yet. A further possibility is reflected in the age of percipients at the time of the experience. Many experiences are reported from early childhood, and we chose to discard those where the percipient was aged ten or under at the time of the experience. Given a large number of these experiences were of visual apparitions, and that the average age of the census respondents is much older, this would, if not taken into account lead to a situation where it may appear that visual apparitions were more common in the past than in the most recent decade, if the average informant was over twenty. A second "spike" in the number of visual apparitions reported occurs around the ages of 17-21, so again, if the average informant was, as in our study, in their thirties, then it would again appear that visual apparitions were forming a smaller part of the reported experiences than they had in previous decades. It should be possible to check this hypothesis from the *Haunted Swindon* dataset.

A third possibility arose from the *Accidental Census*. It has long been suggested by researchers that genuine apparitional experiences are what psychologists term 'flashbulb memories'. Wikipedia defines the term as "highly detailed, exceptionally vivid 'snapshots' of the moment and circumstances in which surprising and consequential (or emotionally arousing) news was heard." I have heard both Caroline Watt and Patricia Robertson refer to how these events are supposedly never forgotten, and Jeff Belanger in his book *Our Haunted Lives* (2006) where he writes "...these are profound events, and they've been burned in to your long-term memory... Whether 5 or 50 years have gone by, the experience is still vivid."

This has always puzzled me. I have had a few personal experiences that

appeared to me to be paranormal, but as the years pass, I have clearly forgotten more and more about them, and when I come to write about them now I have to check back to my earlier writings. This is equally true for me of matters as diverse as when I first met people, what I was doing on 9/11, my first day at school, etc. Many seemingly important and dramatic events in my life, such as a car crash, I struggle to now recall at all, and I even forget who I was with in the car, let alone what the car looked like and how I felt during and after the crash as I lay trapped in the wreckage. I can imagine it, but I can't actually remember much, beyond a friends joke as we were finally all pulled free, which just came to my mind as I typed these words. I suspect, but have no way to demonstrate, that the act of re-telling an event helps one recall it; the more the narrative is repeated, the more one is likely to recall it later.

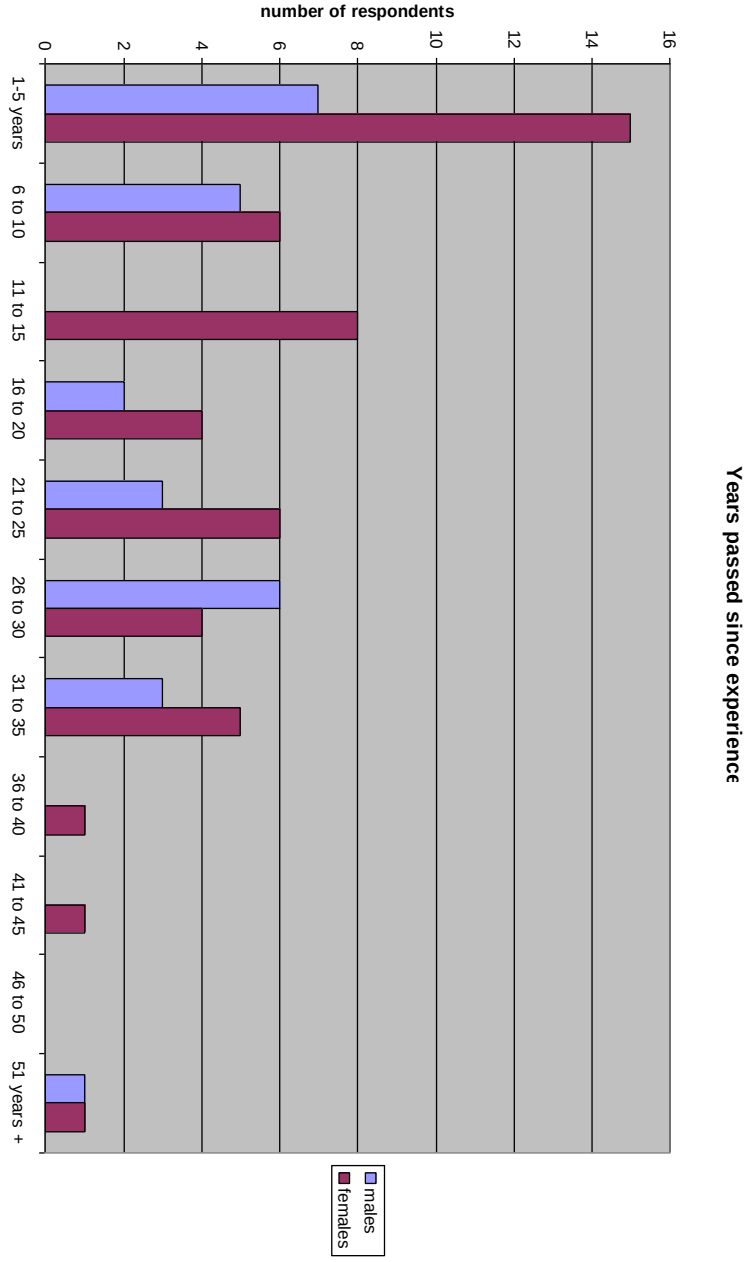

Figure One: Reports of Experiences Over Time, by Gender

Perhaps some people do have “flashbulb memories”; the notion has been critiqued by psychologists, and I certainly do not seem to. Even in the original SPR Census it was noted that the longer the interviewer spoke to the informant, the more chance they would remember some incident that met the survey question. (Sidgwick, 1894). In fact the SPR Census found something odd; the number of recent reports, within the last year for example, was many times higher than the number of older reports. This effect was very evident in the Accidental Census, and during the conference presentation I showed a number of charts based upon the data to show how memories of paranormal experiences seem to fade over time, and/or people are far more likely to report recent phenomena. I tested this hypothesis by collecting 100 cases at random maintaining the gender bias of the three surveys (see below). I used what? from recent studies and then looked at time elapsed since the experience.

The ages of the informants provide a cap for the time that could have elapsed since the experience, which is obvious and means we can disregard the right hand part of the chart past age 30. There does however appear to be a clear relationship between gender and the time elapsed since the experience, perhaps suggesting that women are more likely to report recent experiences than men, who are more likely to recall events further back in time, perhaps in childhood. Given the very small size of the sample I have resisted the urge to draw further conclusions from this, and await with interest Smith's data to see if the pattern is there demonstrated at a statistically significant level.

Two years ago I collected a small amount of survey data on somatosensory hallucinations – the sense of being touched when no one was present. 40% of respondents felt that they had been “touched” in the last month, putting it down to muscle twinges or misperception in the majority of cases. Yet few could remember having had the experience before (7%). This suggest strongly that minor experiences like this, or believing one hears one's name called, are very quickly forgotten. However such experiences are often considered “ghostly” in the correct context, as can be demonstrated by Smith (2008) where she studied 172 narratives of ghostly experiences of people in a hotel that had featured on the TV show *Most Haunted,* many of whom were there specifically to “ghost-hunt”, that were collected over a three year period.

My working hypothesis is that therefore visual hallucinations are more commonly remembered with the passing of time, and will therefore if the questionnaire used for the survey is open to physical effects and these more often forgotten phenomena, and if the context is correct (that is that a reputation for haunting is in place) already, then visual apparitions will crop up less as a percentage than in former decades. Looking at the Accidental Census data it does appear that visual apparitions are far more likely to be recalled after twenty years than any other category. Further research is of course needed, but I

have come to severely question the "flashbulb memory" hypothesis when applied to paranormal experiences.

ARE GHOSTS HISTORIC?

Something else of interest came up in the *Accidental Census*. Swale has suggested that in the past ghosts were often archetypal, of the brown monk, grey lady and phantom cavalier type. Such stories are certainly over represented in collections of British Folklore, but the author wondered if this might be because for an author writing a folklore collection these stories might be seen as reflecting genuine oral legends and historic material, and therefore be recorded while other apparitions, especially personal cases involving family members, were disregarded for genre reasons. I have closely examined the *Census Report* (1894) and find that perhaps the majority of apparitions appear in what was then modern dress, that is, Victorian fashions, or those of the proceeding decades. Often even in the *Census* apparitional clothing is noted as outdated such as the figure dressed in 1970's Saturday Night Fever styles I researched in Suffolk following a sighting in the late 1980's; but this does not actually tell us much. A primary way in which the percipient becomes aware of the fact that the apparition is not of "this world" is the fact it is dressed in an archaic manner, so there may be a selection effect, in that apparitions dressed in contemporary manner may not be noted as apparitional at all! Clothing of visual apparitions reported in the modern surveys was in most cases modern, with a small number of Victorian or "old fashioned" cases making up a minority. If my suggestion that it is the archaic nature of the dress that causes the apparition to draw attention and be noted as such, then I would speculate that such cases will be over represented in road ghosts cases and those reported in outside locations, as opposed to those in private homes, unless there is a long history of haunting associated with the property.

Our census research seemed to show no particular association between the age of a property as far as known and the likelihood of a report, though Wood (2008) notes there may be such an effect in Swindon. I think the fairest conclusion would be that while old houses may well have more legends of haunting associated with them, spontaneous case experiences can occur in buildings of any age, including in our sample, several new builds. This again seems to testify against the Recording hypotheses as an explanation for apparitional experiences.

WHERE & WHEN CAN I SEE A GHOST?

The association of ghosts with stately homes, crumbling castles and lonely inns, while undoubtedly useful to the commercial; ghost night companies, does not appear to be borne out by the Accidental Census figures. One might expect "set

and setting" to play a large part in producing expectation conducive to apparitional experiences, yet in fact the locations where apparitions were reported were astonishingly mundane and prosaic. A detailed analysis must wait, but 70.5% of experiences reported when at home (including the garden). Of the remaining 29.5% when not at home almost a quarter happened while the percipient was in a car travelling. Only 16% of cases occurred outside. Other locations varied - a training course workshop, a park bench, two experiences in churches during services, a fashion show, and so forth. Only one - a burial mound overlooking Bristol - met the "spooky" criteria, and that was provided by the author himself.

Given you are much more likely, it would appear, to witness an apparition at home than anywhere else (I am tempted to set up commercial ghost nights based on this premise, where interested parties can pay me to sleep in their beds with them to see if ghosts appear) it may be of interest to look at where the apparitions were seen:•53% occurred in the bedroom, 11% on the stairs, 8% in the kitchen, 6% in the Dining Room , and 5% in the Garden or Living Room. Other locations in the house get only one mention: curiously only two people reported an experience in the loo or bathroom.

As to when, in Wood (2008) Wood and Sewell discovered most visual apparitions occurred in the afternoon. In our sample 37% of sightings occurred during the day, but after removing cases associated with sleep paralysis and edge of sleep phenomena, we were left with 50% of cases occurring in daylight, and 50% in darkness. The sample was too small to be sure if this is significant, and there was no strong seasonal association, beyond a slight prevalence of cases in the summer months.

THREE THEORIES OF APPARITIONS

While it is tempting to continue to assail popular and academic theories of the apparitional experience in the light of survey research, obviously much more work is needed. It seems fitting to instead offer a few highly speculative models of the apparitional experience for future researchers to shoot down, based upon their own research. I will therefore offer three possible models that seem in keeping with the facts as I currently see them reported.

The first I shall call the Contextual Hypothesis. In a previous article (Romer 1996) I suggested that cases of haunting are often best considered as a series of potentially unrelated incidents, that become a "haunting" by being mis-associated with each other. It is, as I noted earlier, no great surprise that even healthy people hallucinate, and once someone in a property has seen a figure, then minor phenomena of the type frequently reported, instead of being mildly puzzling and quickly forgotten, are woven into the narrative of a "ghost", and a

haunting story develops that is far greater than the sum of its parts. This sceptical and naturalistic hypothesis is supported by some modern research, where persons asked to keep a journal of unusual incidents reported a large array of minor phenomena. (Houran 1996)

A second model is similar, but is based on the idea that humans may possess psi abilities, ESP that includes the potential for psychokinesis. I have developed this at length in unpublished writings, and refer to it as the Psi-de Effect Hypothesis. If psi exists, then we might expect that normally there would be some resistance to manifesting effects that were visible and noticeable to the agent; after all we all "know" it is simply impossible. My psi-de effects ideas suggest that once a place has a reputation for haunting, people may actually haunt themselves, moving objects, picking up information by ESP and hallucinating figures, and manifesting the ghostly activity by their own psi powers. Of course this theory explains a miracle by invoking another miracle, but it does explain why different phenomena seem to be associated with different groups of investigators, even in the same location. The contextual hypothesis arguably does this just as well.

The third hypothesis I propose is nothing new at all: it is the Invisible Intelligences Hypothesis. Perhaps after all these years of research and theorising we are no closer to a scientific theory of ghosts than we were in 1882, and it really is just "dead guys", daemonic entities or the similar. I am aware that hypotheses about spirits and discarnate entities are immensely unfashionable in parapsychology, and often how parapsychologist differentiate themselves from the popular ghost- hunting mob is by their sophisticated and convoluted models. I cannot help but feel however that Invisible Intelligences remains far more in keeping with the evidence we find in the accounts than many of the theories that academic parapsychologist have promulgated, no matter how disreputable they may be.

AN END NOTE

It came as a great relief while writing this piece to discover that almost everyone who has made a detailed study of apparitions actually agrees with me that they are associated with physical phenomena, though few have expressed it as strongly as Alan Gauld did. It was even more of a relief to find that ASSAP Chair David Wood (2008) found physical effects in 50% of his census cases. I would just like to take this chance to thank ASSAP for the opportunity to address the 30th anniversary conference and to publish this paper based upon that talk, and the marvellous audience who did not lynch me after my somewhat controversial statements on apparitional research. If any reader is interested in conducting their own detailed analysis or case collection of this type, I would encourage them to write to me if they feel I could offer any support. Until Rebecca Smith's

Ph.D. research is published I cannot say if my speculations in this paper will stand or not, but I also wish to thank her for her kind assistance over the years.

REFERENCES

Anon (1928) Case of the Will of Mr James L Chaffin, *Proceedings of the Society for Psychical Research*, **36**, 517-24.

Belanger, J. (2006) *Our Haunted Lives*, Career Press, New Jersey.

Bell, V, Halligan, P, Pugh. K, Freeman, D (2011) Correlates of Perceptual Distortions in Clinical and Non-Clinical Populations using the Cardiff Anomalous Perceptions Scale (CAPS), *Psychiatry Research*, (In Press).

Braithwaite, J, Townsend, M, (2005) Sleeping with the Entity -A Quantitative Magnetic Investigation of an English Castles "Haunted" Bedroom in the European Journal of Parapsychology, **201**, 65-78.

Braude, Stephen E. (1996: revised edition) *The Limits of Influence: Psychokinesis & and the Philosophy of Science,* University Press of America, Lanham, Maryland.

Evans, Hilary (2002), *Seeing Ghosts,* John Murray, London.

Gauld, A, Cornell, A, (1979) *Poltergeists*, Routledge & Kegan Paul, London.

Grattan-Guinness, I. (1982) *Psychical Research: A Guide To Its History, Principles and Practices,* Society for Psychical Research, 1982.

Green, C., and McCreery, C. (1975). *Apparitions*. London: Hamish Hamilton

Gurney, E., Myers, F.W.H. and Podmore, F. (1886). *Phantasms of the Living*, Vols. I and II. Trubner and Co. London.

Hart, Hornell, (1956) Six Theories About Apparitions, *Proceedings of the Society for Psychical Research,* **50**, 153-239.

Houran, J., Wiseman, R., and Thalbourne, M. (2002). Perceptual-personality characteristics associated with naturalistic haunt experiences. *European Journal of Parapsychology,* **17**, 17-44.

Hufford D.J. (1982) The Terror That Comes In The Night: An Experience-Centered Study of Supernatural Assault Traditions. University of Pennsylvania Press, Philadelphia.

Lange, R, Houran, J. Harte, T. Havens, R. Contextual Mediation of Perceptions in Haunting and Poltergeist-like Experiences, *Perceptual and Motor Skills*, **82**, 755-62.

McCorristine, S. (2007) Dreaming While Awake: The Evolution of the Concept of Hallucination in the Nineteenth Century, *Forum: The University of Edinburgh Postgraduate Journal of Culture & the Arts*, Special Issue 1.

McCue, Peter (2002), Theories of Haunting: A Critical Overview, *Journal of the Society for Psychical Research*, 66, 866.

Moody R, Perry, P. (1993) *Reunions: Visionary Encounters with Departed Loved Ones,* Little, Brown and Co, London.

Morton, R.C. (1892) Record Of a Haunted House, *Proceedings of the Society for Psychical Research,* **8**,1311-32.

Myers, F.W.H. (1903). *Human Personality and its Survival of Bodily Death*. London: Longmans Green.

Playfair, Guy Lyon, (1980) *This House Is Haunted: the Investigation of the Enfield Poltergeist,* Stein & Day, London.

Roach, M, (2007), *Six Feet Over: Adventures in the Afterlife,* Canongate, London. (First published in America as *Spook* in 2005.)

Rogo, D. Scott, (1979), *The Poltergeist Experience*, Penguin, Harmindsworth.

Roll, W.G. (1979). *The Poltergeist*. New York: Paraview

Roll, W.G. (1994). Are ghosts really poltergeists? *Proceedings of Presented Papers: The Parapsychological Association 37th Annual Convention* (pp. 347 – 351). Durham, NC: Parapsychological Association, Inc.

Romer, C. Jensen, The Poverty of Theory: Some Notes on the Investigation of Spontaneous Cases, *Journal of the Society for Psychical Research*, **61,** 161-163

Savani, Krishna; Kumar, Satishchandra; Naidu, N. V. R.; Dweck, Carol S. (2011)"Beliefs about emotional residue: The idea that emotions leave a trace in the physical environment".in the *Journal of Personality and Social Psychology,* **101(4),** 684-701.

Schmeidler, G. (1966) Quantitative Investigation of a "Haunted House". *Journal of the American Society for Psychical Research*, **60**, 137-149.

Sidgwick, Eleanor; Johnson, Alice; and others (1894). Report on the Census of Hallucinations, *Proceedings of the Society for Psychical Research,* **10.**

Smith, R. (2008) *A Grounded Theory Analysis of Anomalous Events at a Purportedly Haunted Location*, MSc dissertation, Coventry University Library.

Spencer, John and Anne, (1997) *The Poltergeist Experience: An Investigation Into Psychic Disturbance*, Headline, London.

Stevenson, I. (1972) Poltergeists: Are They Living or Are They Dead?, *Journal of the American Society for Psychical Research,* 66 (3), 233-252.

Terhune, D. B., & Smith, M. D. (2006). The induction of anomalous experiences in a mirror-gazing facility: Suggestion, cognitive perceptual personality traits and phenomenological state effects. *Journal of Nervous and Mental Disease*, **194**, 415 – 421.

Tyrrell, G. N. M. (1943), *Apparitions*. Gerald Duckworth, London.

Wilson, Colin, (1981) *Poltergeist,* New English Library , London.

Wiseman, R., Watt, C., Greening, E., Stevens, P. & O'Keeffe, C. (2002). An investigation into the alleged haunting of Hampton Court Palace: Psychological variables and magnetic fields. *Journal of Parapsychology,* **66**(4), 387-408.

Wiseman, R., Watt, C., Stevens, P., Greening, E. & O'Keeffe, C. (2003). An investigation into alleged 'hauntings'. *The British Journal of Psychology,* **94**, 195-211

West, D.J. (1948) Mass-Observation Questionnaire on Hallucinations. *Journal of the Society for Psychical Research* **34**, 187-196

West, D.J. (1990) A Pilot Census of Hallucinations. *Proceedings of the Society for Psychical Research* **57** (215), 163-207

West, D.J. (1995) Notes on a Recent Psychic Survey. *Journal of the Society for Psychical Research* **60** (838), 168-171

Wiliams, B. Wilson, M, Ventola, A. (2010) An Apparitional Experiences Primer at http://www.publicparapsychology.org/PublicParapsych/Apparitional Experiences Primer Final.pdf

Wood, D. (2007) "Stone Tape Theory: An Explanation". *Paranormal Site Investigators*.

Wood, D. (2008) Where Have All The Apparitions Gone? Conclusions of a census of hauntings. Paranormal Review, **46,** 10-13.

PROBLEMS IN ESTABLISHING THE AUTHENTICITY OF CROP CIRCLES

Trystan Swale

Pat Delgado had not been overly dramatic when he told Today newspaper 'Thousands of lives are going to be wrecked over this'. The veteran cerealogist had just been informed by reporter Graham Brough that a crop circle he had declared genuine (i.e. made by unknown forces) was man-made. Its creators were two sexagenarians from Hampshire: Doug Bower and Dave Chorley. Not only had they made this particular crop circle they also laid claim to starting the whole phenomenon back in the mid-1970s.[1]

The public learned of events the following day, Monday 9th September 1991, when Today ran the headline 'Men Who Conned The World'. Alongside the pair's confession the article presented an overview of the tools used to make crop circles: 'plinths, string and a baseball cap.' For some readers Doug and Dave's confession was enough to render the crop circle mystery dead, their suspicions confirmed or beliefs in tatters. Others, including some prominent cerealogists were more doubtful. Colin Andrews branded a subsequent circle making demonstration by Bower and Chorley as 'extremely ragged and obviously a fake'. Regardless of personal viewpoint, the problem with simply accepting or refuting Doug and Dave's confession was best described by Rupert Sheldrake in 1992: "Just because it's possible to produce a forged twenty pound note does not prove that all twenty pound notes are forgeries."

Producing a method to ascertain whether the metaphorical twenty pound note is genuine remains a problem for circles enthusiasts. Two major thrusts have been made towards resolving the situation: producing some kind of 'litmus test' and an approach to human circle makers to account for all their creations.

I begin with an overview of crop circle testing. Various attempts have been made but all have proven to be flawed. The most notable are considered here:

ROCKEFELLER AND ANDREWS

In 1999 the American philanthropist Laurance Rockefeller funded Colin Andrews to conduct a two year study into the role played by humans in crop circle making. This involved the scrutiny of man-made formations

[1]The date at which Bower and Chorley began their circle making remains the subject of debate. Today followed Bower's suggestion of 1978 whereas Chorley believed this too late. In conversation with author Rob Irving, Chorley stated 1976 as the starting date based upon recollection of events in his son's schooling.

commissioned by the media and businesses. Other information used included that collected from 'detective work, site inspections, physical evidence, aerial photography, personal experiences...and from undercover researchers.' From this Andrews produced a list detailing the tell-tale signs of human involvement:

1. People had stood in key positions essential for construction.
2. People had entered these positions before or during the construction.
3. The designs were marked out in a logical, conventional and sequential manner. Layout marks were found under the flattened plants.[2]
4. The tools used left unique marks and these were detected from ground inspection and aerial photographs.[3]

Andrews applied this check list to all crop circles known to have appeared in England during 1999 and 2000. From this he concluded that 20% of his sample was clearly not man-made.

The major failing in Andrews' research is the assumption that all man-made crop circles will necessarily conform to his criteria given the range of crop types (crop circles have been found in wheat, barley, oats, oil seed rape and maize), crop condition, crop age and human circle making techniques. Andrews himself notes in published correspondence to former circle maker Rod Dickinson that his research should not be referred to as 'any kind of scientific experiment...I think in good time the 80% figure might in fact rise as my own techniques and those of other avenues of inquiry improve.'

As of his appearance on the streamed Internet show 'Circlemakers TV' in June 2011 Andrews was still quoting the same 80%/20% figures.

BLT RESEARCH

Since 1999 BLT Research Team have documented physical changes found in plants and soil within crop circles. These changes include the enlargement and bending of plant stem nodes, expulsion cavities within the nodes and stunted germination. BLT has proposed these changes are caused by 'electromagnetic' energy and have replicated their findings by placing 'normal plants...in a commercial microwave oven for between 20-30 seconds'.

[2]The process typically begins by anchoring a surveyor's tape to a central position. This is either a post or, as is more typical, a human. This person will turn as a fellow circle maker 'scribes' a circle by holding the tape taut and sidestepping.

[3]The main tools examined were the stomper board and garden roller. The stomper is a plank with the two ends of a rope handle attached to either end.a

The cultural impact of BLT's criteria for genuineness is not unsubstantial. In 2011 Physics World published an article in which Richard Taylor queried whether human circle makers utilise magnetometers from microwave ovens as tools. From a personal perspective I have encountered numerous crop circle enthusiasts who use BLT's criteria as a test for authenticity.

Criticism of BLT's work is widespread. The Italian Committee for the Investigation of Claims of the Paranormal have accused WC Levengood and Nancy Talbott (The L and T of BLT) of 'misrepresentation of the experimental protocols, the misleading application of statistical procedures, the arbitrary discarding of unwanted results and the weakness of the proposed physical model to the suggested hypothesis' within their published papers.

Skeptical investigator Joe Nickell has queried the logical foundations of BLT's findings, stating 'There is, in fact, no satisfactory evidence that a single 'genuine' (i.e., vortex-produced) crop-circle exists, so Levengood's reasoning is circular: Although there are no guaranteed genuine formations on which to conduct research, the research supposedly proves the genuineness of the formations.'

Colin Andrews also stepped into the fray, demonstrating BLT's inability to distinguish between wheat flattened by humans and wheat levelled by rain in a blind test. In 1995 Andrews filmed James Withers, a volunteer plant sampler for BLT, make a small crop circle using a plank of wood. A wheat sample was taken from this circle together with a sample from an area of rain damaged crop. Both samples were found to contain 'node length changes' caused by the same 'transient energy'.

LUCY PRINGLE

Lucy Pringle determines authenticity through a straightforward test. She buries '25ml glass and plastic (pvc) bottles of Volvic water both inside and...outside crop formations' for a fixed period of time and then measures differences in nitrate and ammonia levels between the samples. The evidence gathered by testing is almost certainly worthless; it seems that Pringle merely assumes the nitrate and ammonia levels of her buried water are identical at the start.

Pringle and her associates have experimented with other disputed methods of authenticating crop circles. These include limited research with Asyra electroacupuncture systems, homeopathy and dowsing.

FREDDY SILVA

Another dowsing cerealogist is Freddy Silva. From his own experiences Silva concludes man-made 'crop circles have no dowsing energy pattern', the exception being those where people have meditated 'with focused intent'.

Silva gives three hallmarks of genuineness noting they are shared with 'stone circles, menhirs, dolmens, cairns, long barrows, tumuli, old churches, cathedrals and other ancient sites of worship and invocation':

1. EM (electromagnetic) energy is detectable at the very physical perimeter of a crop circle, indicating that a shielding element is in place.

2. Concentric rings of energy radiate outward from the crop circle, and continue in bands beyond the physical design- like ripples in a pond. These can continue to be picked up up to a half mile away from the visible crop circle.

3. Radial lines of energy emanate from the centre of the design.

Neither the specifics of Silva's energies or methods by which they can be empirically measured are defined. Without this information Silva's claims must be viewed with substantial caution.

SEEKING ASSISTANCE FROM THE CIRCLE MAKERS

Whilst some cerealogists seek hallmarks of authenticity other enthusiasts have, verbally at least, suggested the answer lies with human circle makers and accountability for their work. If they were to down tools for just one year then researchers could analyse those crop circles which did appear. Alternatively, human circle makers could document, digitally encrypt and archive their designs in a database before visiting the fields. The files could be decrypted at the end of the season and all man-made circles accounted for. Both suggestions are of dubious in assuming the goodwill of known human circle makers to adhere to a pact.[4] There remains the issue of communicating an agreement and policing new or unknown circle makers. The proposed database also places human circle makers closer to prosecution for criminal damage through association with their designs.

[4] A similar database entitled Total Human Solution was begun in 2001 by Geoff Holister. It contains the details of thirteen undisclosed crop circles although the website's domain has long since expired.

CONCLUSION

It is clear that cerealogists have failed to produce a test to differentiate human made crop circles from those said to be produced by unknown forces. Those who claim to have discovered the answer have fallen back upon pseudoscientific, disputed methodology or limited their experimentation. At the same time it is unlikely that circle makers will aid cerealogists through adherence to a moratorium or design database. Their search for answers will continue.

REFERENCES

Andrews, C. (2011) 'Biography', available from http://www.colinandrews.net/Biography.html, cited October 2011

Andrews, C. (2008) 'The assessment: looking at the man-made', available from http://www.colinandrews.net/CropCirclesAssessment.html, cited October 2011

Andrews, C. (2010) 'Crop circles: 'Nancy Talbott and BLT got it wrong and they should just admit it' - two crop circle experts lock horns, available from http://www.colinandrews.net/Crop-Circles-BLT-Wrong.html, cited September 2011

BLT Research (date unknown) 'History', available from http://www.bltresearch.com/history.php, cited October 2011

BLT Research (date unknown) 'Plant abnormalities', available from http://www.bltresearch.com/plantab.php, cited October 2011

Carroll, R.T. (2011) 'Dowsing (a.k.a. water witching)', available from http://www.skepdic.com/dowsing.html, cited May 2011

Circlemakers TV (2011) 'Show 22 - Colin Andrews', available from http://www.livestream.com/circlemakerstv/video?clipId=pla_209271ca-0d72-4933-8206-6c06ad0ded51&utm_source=lslibrary&utm_medium=ui-thumb, cited June 2011

Crop Circle Connector (2011) 'Peter Sorensen', available from http://cropcircleconnector.com/Sorensen/PeterSorensen99.html, cited August 2011

Dickinson, R. (2000) 'Myth men', available from http://www.circlemakers.org/andrewsreply1.html, cited October 2011

Enright, J.T. (1999) 'Testing dowsing: the failure of the Munich experiments', Skeptical Enquirer, vol 23.1, available from

http://www.csicop.org/si/show/testing_dowsing_the_failure_of_the_munich_experiments/, cited October 2011

Grassi et all (2005), 'Balls of light: the questionable science of crop circles', Journal of Scientific Exploration, vol 19 no. 2

Holister, G. (2001), 'Total human solution - concept', available from http://web.archive.org/web/20011019145517/http://www.totalhumansolution.co.uk/concept.php3, cited October 2011

Irving, R. and Lundberg, J. (2006) 'The field guide: the art, history and philosophy of crop circle making', London: Strange Attractor

Nickell, J. (1996), 'Levengood's crop-circle plant research', Skeptical Enquirer, vol 6.2, available from http://www.csicop.org/sb/show/levengoods_crop-circle_plant_research/, cited September 2011

Pringle, L. (2011), 'Biography', available from http://www.lucypringle.co.uk/articles/biography/, cited September 2011

Pringle, L. (2003), 'Is there any evidence for memory of water?', available from http://www.lucypringle.co.uk/articles/memory/, cited September 2011

Pringle, L. (2004), 'The passage of time', available from http://www.lucypringle.co.uk/articles/passage/, cited October 2011

Pringle, L. (1996), 'Swings and roundabouts', available from http://www.lucypringle.co.uk/articles/swings/, cited October 2011

Schnabel, J. (1993) 'Round in circles: physicists, poltergeists, pranksters and the secret history of the crop watchers, London: Hamish Hamilton

Silva, F. (unknown), 'Dowsing crop circles', available from http://www.cropcirclesecrets.org/dowsing.html, cited September 2011

Taylor, R. (2011), 'Coming soon to a field near you', Physics World, available from http://physicsworld.com/cws/article/print/46671, cited September 2011

THE ANTHROPOLOGY OF SPIRIT MEDIUMSHIP:
MEDIUMSHIP, ANIMISM AND ALTERED STATES OF CONSCIOUSNESS

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INTRODUCTION

When it comes to examining the many varied phenomena of spirit mediumship two very distinct components quickly become apparent. These two components are the belief in spiritual beings and the use of altered states of consciousness to initiate communication with these beings. Although these are not the only components of mediumship practices (Leacock & Leacock, 1975; Levy et al, 1996, pp. 171-172; Kelly & Locke, 2009, p.30; Hunter, 2010; Halloy, 2010), which vary hugely cross-culturally (Lewis, 1971; Schmidt & Huskinson, 2010; Dawson, 2011), they do provide an interesting framework through which to explore mediumship and so will be the main topic of this short article. Throughout the article I will refer to my own fieldwork with the Bristol Spirit Lodge (Hunter, 2009; 2010a; 2010b; 2010c) as well as the writings of other anthropologists who have conducted fieldwork within mediumistic cultures.

ANIMISM

Anthropology, as a disciplined enquiry into the nature of human beings and their cultures and life-ways (Barnard, 2000, pp. 1-14; Eriksen, 2001, p.4; Bowie, 2001, p.1), has long concerned itself with trying to understand the extremely widespread human belief in the existence of intelligent and invisible agents, commonly referred to in the anthropological literature as "Spirits." Indeed, the man widely regarded as the discipline's founding father, Edward Burnett Tylor, saw the belief in spiritual beings as the minimum, most fundamental, definition of religion (Tylor, 1920 [1871], p. 426) and from this observation developed one of anthropology's first grand theories; a theory which Tylor called "animism" (Harvey, 2005, pp.5-9). It is the theory of animism in particular that I want to discuss here, as the development of the animism debate can, I believe, shed interesting light on contemporary explorations of spirit mediumship in a general sense.

The term animism derives from the Latin root word "anima" meaning "soul," and in his 1871 book Primitive Culture, Tylor established the term as referring to the "belief in supernatural beings," that is the idea that the world is inhabited by a plurality of souls, not all of which are human:

"It is habitually found that the theory of Animism divides into two great dogmas, forming parts of one consistent doctrine; first, concerning souls of individual creatures, capable of continued existence after the death or destruction of the body; second, concerning other spirits, upward to the rank of powerful deities" (Tylor, 1920 [1871], p. 426)

Through examining the available ethnographic data, which consisted primarily of the reports of missionaries and explorers, Tylor attacked the assertions his contemporaries who suggested that there were societies in existence which bore no trace of religious belief (Tylor, 1920 [1871], p.418-424). He argued that the numerous descriptions of spirits of all different varieties, from ghosts of the dead to spirits of the weather, and so on, found in the ethnographic literature indicated the existence of, at the very least, a concept of spiritual entities in the belief systems that had been documented up to that point. Tylor concluded from this the idea that the "doctrine of souls," as he termed it, represented the earliest stage in the development of religious ideas. Indeed, Tylor considered animism to be essentially homologous with religion itself (Harvey, 2010). He wrote:

"Animism is, in fact, the groundwork of the Philosophy of Religion, from that of savages up to that of civilized men. And although it may at first sight seem to afford but a bare and meagre definition of a minimum of religion, it will be found practically sufficient; for where the root is, the branches will generally be produced." (Tylor, 1920 [1871], p. 426)

Tylor, however, was not content with simply highlighting the prevalence of animism in global cultures; he had to go one step further through attempting to explain this belief. In keeping with the search for grand theories, like Darwin's theory of natural selection as expounded in On the Origin of Species (1859), Tylor sought the origin of religion, and he found it in the misinterpretation of experience, and in faulty reasoning. He argued that animistic ideas resulted directly from a misguided attempt to explain the peculiarities of death and the dream state: how, for instance, when dreaming, we can seem to travel to distant lands or meet with friends and relatives who live far away. He writes:

"When the sleeper awakens from a dream, he believes he has really somehow been away, or that other people have come to him. As it is well known by

experience that men's bodies do not go on these excursions, the natural explanation is that every man's living self or soul is his phantom or image, which can go out of his body and see and be seen itself in dreams" (1930, p.88)

From the idea that human beings possess souls, Tylor further reasoned that primitive people saw, in the various elemental movements of the world around them, hints of the existence of other similarly conscious entities. In his evolutionary scheme, inspired by Darwinian thought, he concluded that these perceived entities gradually, over the course of millennia of cultural development, took on the form of omnipresent gods akin to the Judeo-Christian God (Tylor, 1920 [1871], p. 426; Bowker, 1973, pp. 9-10). It seemed that Tylor had achieved his goal of devising a grand scientific theory of religion, and in so doing had demonstrated that the Christian faith, and indeed religion as a whole, was nothing more than a "survival" into the modern-world of a savage and primitive mentality. Later anthropologists, such as Evans-Pritchard (1965), however, argued the case for a not-so-hidden agenda in the writings of Tylor and many of his contemporaries. These early theorists were keen to establish the dominance of positivist scientific rationalism as an advanced world-view over-and-above what they saw as "less developed" systems of understanding. Through suggesting that animistic beliefs (from which religious doctrines were considered to have emerged), were founded on faulty reasoning, and misinterpretations of experiential phenomena, the doctrines of the established religions must also be suspect. He writes:

"They [nineteenth century anthropologists] sought, and found, in primitive religions a weapon which could, they thought, be used with deadly effect against Christianity. If primitive religion could be explained away as an intellectual aberration, as a mirage induced by emotional stress, or by its social function, it was implied that the higher religions could be discredited and disposed of in the same way" (1965, p. 15).

Later anthropologists, therefore, lost interest in Tylor's theory of animism, seeing clearly within it the traits that were so typical of his time (colonial ideas of western intellectual superiority and a tendency towards the arbitrary reduction of complex phenomena), and it wasn't until the 1960s, nearly a century after Tylor's first writings on animism, that the term re-entered anthropological discourse, only this time with some quite different connotations.

In his paper Ojibwa Ontology, Behaviour and World View (2002 [1960]), the ethnographer Irving Hallowell developed the concept of 'other-than-human persons' in his analysis of the Native American Ojibwa world-view. Hallowell's research reinvigorated the concept of animism and brought it, once again, to prominence in the anthropological discourse. During his fieldwork Hallowell

noticed that the Ojibwa notion of personhood referred not only to human persons, but also to other entities, physical and non-physical, as well.

The example he employed to highlight this idea, and to show just how ingrained this notion was within Ojibwa thought and culture, was in the use of the term 'grandfather,' which when used in the collective plural, as in 'our grandfathers,' was generally a referent for "spiritual beings who are persons of a category other than human" (Hallowell, 1960, p. 21). Hallowell noted that that these "other than human" persons were not thought of in abstract terms, but rather were seen as active participants in the social-group in much the same way as a "real" grandfather might. From this observation Hallowell concluded previous anthropological methods had been somewhat lacking:

"...if, in the world view of a people, 'persons' as a class include entities other than human beings, then our objective approach is not adequate for presenting an accurate description of 'the way a man, in a particular society, sees himself in relation to all else.' A different perspective is required for this purpose." (p. 21)

Hallowell realised that previous ethnographers had failed to grasp a central component of the Ojibwa world-view; through ignoring the way in which the Ojibwa spoke about, thought about, and interacted with the world around them earlier ethnographers had completely misunderstood the Ojibwa notion of personhood, as well as their more general ontological scheme. In developing his ideas, based on firsthand fieldwork experience, Hallowell came to an understanding of the Ojibwa concept of personhood as relational: persons were not classified according to whether they were human or physical, but rather according to their capacity to engage in relationships with other persons.

Persons, from this perspective, are defined by their capacity to be related to and engaged with, and through this interaction are granted an ontological, as well as a social, status. The only way to approach, and understand, this alternative way of living in the world with its many personified inhabitants is to experience it through intimate participation.

More recently Hallowell's ideas have been used by anthropologist Nurit Bird-David (1999) in her study of Devaru spirit incorporation in southern India (which I will discuss a little later), and formed the basis of her reformulation of animism as being essentially concerned with relationships between persons. This new shift towards an appreciation of the world-view of the people under study, and the new emphasis on the concepts of personhood and relationality, has led to the development of what is often termed the "new animism."

In a similar vein Graham Harvey (2005) defines animists as "people who recognise that the word is full of persons, only some of whom are human, and that life is always lived in relationship with others" (p. xi). The new animism aims to redress the deficiencies of Tylor's, and the early anthropologists', theories of animism as the minimum definition of religion through shifting the perspective of observation from the surface appearance of culture and belief to the internal experience of alternative world-views.

The primary problem with Tylor's theory of animism is his assertion that the origins of animistic beliefs are to be found in delusions and misinterpretations of experiences. This idea implies a lack of rationality on behalf of traditional epistemologies and ontologies and is clearly representative of significantly outmoded colonial, and ethnocentric, theories. Modern participant observers have revealed not only the internal rationality of different world-views, but also their efficacy as alternative modes of living in, and experiencing, the world.

ALTERED STATES OF CONSCIOUSNESS

Altered states of consciousness have for a long time been recognised as fundamentally intertwined with mediumship traditions. Writing in the 1890s Sir James George Fraser referred to the "abnormal" state in which spirit incorporation usually occurs (Fraser, 1993 [1890] p. 108). More recently, in the 1970s, the anthropologist Erika Bourguignon identified the widespread prevalence of institutionalised altered states of consciousness in human societies throughout the world. Bourguignon estimated that 89% of the world's societies possessed some form of institutionalised altered state of consciousness, and that of these societies 57% associated such altered states with the incorporation of non-physical entities (as cited in Krippner & Friedman, 2009, p. 93).

The general characteristics of the ASCs associated with mediumship and spirit incorporation practices include "alterations or discontinuity in consciousness, awareness or personality" (Bourguignon, 1976, p.8) and amnesia of the period during which the entity was incorporated by the medium. These features have been classed under the heading of "dissociation" in the psychiatric literature (Crabtree, 1988; Levy et al. 1996, p. 18), and consequently are seen as indications of underlying pathological conditions. The psychoanalyst Adam Crabtree (1988) defines Dissociative Identity Disorder (DID) as a "condition in which two or more personalities manifest themselves in one human being." The similarities with mediumistic phenomena, therefore, are striking and psychical researchers have long been aware of the inherent difficulties in attempting to distinguish between the pathological and the potentially paranormal (the psychical researcher David Scott Rogo, for instance, referred

to “The Infinite Boundary” of “Spirit Possession, Madness, and Multiple Personality” (Rogo, 1988)).

It is the amnesic component of the medium’s trance that is generally considered the feature which differentiates mediumistic ASCs from those associated with shamanistic practices (Eliade, 1989, p.6; Winkelman, 2000, p. 156). Mircea Eliade highlights this distinction when he writes; “the shaman controls his ‘spirits’ in the sense that he, a human being, is able to communicate with the dead, ‘demons’, and ‘nature spirits’, without thereby becoming their instrument” (Eliade, 1989, p.6). The medium, therefore, is understood to surrender his/her control of the body to an external intelligence, while the shaman remains in complete control during his performance and is able to recall his trance journeys through the spirit worlds.

The anthropologist Morton Klass (2003) attempted to a make a further terminological distinction whereby the term “trance” is used solely to describe the more shamanic experience of soul-flight and journeys to other worlds, and suggested that the concept of “Patterned Dissociative Identity” be used to refer to instances of spirit possession in which the personality of the medium is altered or replaced by another in a culturally recognised context (Klass, 2003, pp. 118-119).

Although it is useful and easy to make such clear-cut distinctions in theory the real life ethnographic data do not always fit so neatly into rigidly defined categories, and aspects of mediumship and shamanism very often overlap with one another (Jokic, 2008). Mediumship, for example, can often be a technique in the wider repertoire of the shaman, and Euro-American platform, or clairvoyant, mediums do not necessarily lose consciousness or display alterations of personality when receiving and giving messages from the spirit world.

It is clear therefore, that we are dealing not with a single altered state of consciousness, but rather with a variety of different states which are, despite their differences, utilised for communing with the invisible world of spirits. Indeed members of the Lodge (with whom I conducted my own fieldwork), as well as many spiritualists in general, are aware of a continuum of different altered states utilised by mediums. The depth of the trance is usually determined according to the degree to which the medium is disconnected from reality -- if a medium is still able to perceive his/her surroundings the trance is light, if, on the other hand, the medium is completely senseless to the physical world the trance is considered to be deep. The dislocation of the medium's consciousness from his/her surroundings is often described in terms very similar to the classic description of an out-of-body experience (cf. Blackmore, 1992), as this description from my fieldwork demonstrates:

"Often now, when [the spirits] are talking I'll go back into myself and get a strange sensation of vertigo and being detached from the conversation, not just intellectually but physically as well. As if I'm on the edge of a precipice or inside a vast canyon. It's a sense of scale I think, I feel very small in comparison to something very large..." (Hunter, 2009, p.74)

My own experience, during my undergraduate fieldwork, of slipping into what the circle leader identified as a trance state, also featured several of the characteristics of an OBE:

"...this time the physical sensations...came on again much faster; my heart rate increased and the tingling in my hands returned. I began to feel myself distancing from my body, and at the point of greatest distance I felt as though there was a space in my body that could easily be filled, it was as though I had made room in my physical body by moving myself out of it." (Hunter, 2009, 71)

It is through these altered states that ostensible spirits are apparently able to make their presence known. Altered states of consciousness, particularly dissociative states with their capacity to dislocate the individual's consciousness, seem to open up the space required for alternate personalities to emerge. Establishing whether-or-not these alternate personalities are products of the unconscious mind temporarily allowed to surface, or ontologically distinct spirit individuals, is beyond the scope of this short article (though others have approached the issue, for instance Myers, 1992 [1903], and see also Gauld, 1983; Taves, 1999; Braude, 2003; Pearsall, 2004; Blum, 2007 for more general summaries.

At this point, all that is required is to acknowledge the importance of altered states of consciousness in allowing these other personalities to express themselves as distinct from the medium's normal everyday waking consciousness. The following section will explore the ways in which such personalities are recognised -- the culturally recognised patterns in Klass' patterned dissociative identity (Klass, 2002).

EXPRESSIONS OF PERSONHOOD AT THE LODGE AND FURTHER AFIELD

In many non-western societies a particular spirit or deity, when incorporated, is discerned through specific, socially and culturally recognised, characteristics and behaviours. For instance in the Afro-Brazilian religion of Batuque a medium must act in a certain way if they are to be perceived as genuinely

under the influence of an encantado. Anthropologists Seth and Ruth Leacock (1975) describe this when they write:

"Although in the early moments of the trance there may be some uncontrolled movements, the medium must quickly gain control if his or her activity is to be interpreted as representing possession by a supernatural being. It is certainly not enough to fall on the floor and thrash around, or stagger about, or make incoherent sounds, or give other evidence of having some kind of unusual psychological experience. The meaning of this kind of behaviour is ambiguous in Batuque beliefs. In order to prove that an encantado is really present, the medium must dance, sing the proper songs, and interact with the other participants in the ceremony in an acceptable manner. The behaviour that is most admired in the accomplished medium is very often the behaviour that appears the least frenzied and the most normal to the outside observer" (Leacock & Leacock, 1975, pp. 171-172)

To simply fall into trance, then, is not necessarily enough to signify the presence of non-physical persons. In order for persons to be discerned specific, culturally recognised, behaviours are required, and these may take a long time to perfect. In this sense, therefore, the mediumship process may be interpreted as a complex form of performance. Levy et al. (1996), for example, write that "[f]ull possession behaviour is highly skilful" requiring "mastery of playing and of subtle, specialised kinds of communally significant communication" (1996, p. 18).

Performance, therefore, plays a significant role in the expression of the non-physical persons embodied by mediums. In this context, however, the world performance should not be read as an indicator that what the medium does is necessarily fake (Beattie, 1977, p. 2), rather it should be considered as a specific tool employed to allow ostensibly non-physical entities (whether ontologically distinct or an aspect of the medium's subconscious) to express themselves in a culturally recognised manner.

When a spirit first makes itself known through an entranced medium at the Lodge the communication is often weak and it may take several development sittings for an individual spirit personality to fully express itself and for this expression to be recognised. Occasionally a personality will show the early signs of emerging but will never reach it's full expression as a regular communicator. The strongest, most fully developed, communicators generally form a group called a "spirit team."

A medium will regularly channel the members of his/her spirit team, and these communicators will become recognised by sitters as distinct individual personalities. Of the members of the spirit team there is usually one who takes

the role of "main spirit guide," "control" or "gatekeeper." This spirit is often the most developed personality of the spirit team and, more often than not, was the first personality to present through the entranced medium in the earliest stages of his/her development.

Because each personality must express itself through a single physical body, the spirits utilise exaggerated body movements and unusual vocal tones to differentiate themselves from one another. Occasionally the presence of a spirit is inferred simply by the physical posturing of the medium's body, and this posturing is recognised as signifying the presence of a distinct personality. In some mediums (a medium referred to as S in particular), more than one spirit may present itself simultaneously through the body of the medium, in such instances individual presences are inferred from the distinctive movements of certain body parts: for instance the legs may move in a manner distinctive to one particular personality, while the arms may behave in a completely different manner associated with the personality of another spirit.

The exaggerated postures and vocalisations can often give the impression that the individual spirit personalities are caricatures. I would suggest that this is a necessary aspect of the mediumship process, assisting in the development and expression in the social moment of distinctive personalities: the exaggeration of postures and movements serves to signify the presence of a particular spirit-person. Bird-David (1999) describes an analogous process in her analysis of the Devaru performances of the South Indian Nayaka. She writes:

> The Devara evoked often improvise on the same repetitive phrases. The saying, the voicing, the gesturing are important. These principle aspects of their behaviour are, in Bateson's term (1979), meta-communication, namely, communicating that Devaru are communicating, because the Devaru are present as they move, talk, make gestures, etc. They are present as they communicate and socially interact with Nayaka" (Bird-David, 1999, p.76)

Over time the spirit-teams of the individual mediums will become regular fixtures at the Lodge's weekly seances and are treated in many ways as anyone else who attends regularly. Through this regular interaction the spirit communicators become much more than abstractions; interaction allows them to manifest in a socially real and very tangible way. Similarly, Bird-David (1999) understands the Devaru as relational persons, brought into social existence through interactions, i.e. conversation. She writes that: "[k]eeping the conversation going is important because it keeps the Nayaka Devaru interaction and in a sense the Devara themselves 'alive.'" Moreover, the form this interaction takes is described as "highly personal, informal, and friendly" and consists of "joking, teasing, [and] bargaining." The conversations are said

to include "numerous repetitions or minor variations on a theme" in which the Nayaka and the Devaru "nag and tease, praise and flatter, blame and cajole each other, expressing and demanding care and concern" (Bird-David, 1999, p.76). The interactions between spirits and sitters at the Lodge could equally be described in this way. Take the following seance transcript for example:

> Chris [Circle leader]: Are you there yet Charlie?
> Charlie [Spirit]: Of course.
> Chris: Is it okay to open the cabinet?
> Charlie: If you wish.
> Chris: I'll do it slowly... How are you?
> Charlie: Very well, how are you?
> Chris: Fine. We've been sitting in the dark. How was it for you?
> Charlie: Wonderful, how was it for you?
> Chris: Not too bad actually. I wouldn't say it was the best ever, but not too bad!
> Charlie: Some people are never satisfied.

(Di Nucci & Hunter, 2009, pp. 158-159)

The tone of the interaction is very informal. This sort of quick jokey interchange between the circle leader and the spirit will usually precede the more advanced, philosophical, discussions which form the bulk of the communication. These could be interpreted as a means to build up the personality of the communicator until it is sufficiently formed and able to sustain itself for a more rigorous discourse. The developing personality requires, in Bird-David's terms "care and concern" (1999, p. 76) from the sitters. If, as participants and observers in the seance, we do not interact with the developing personality it will not be able to emerge fully. I would argue that the practices of the Bristol Spirit Lodge can be interpreted as a subculture, within our dominant western society, of a relational animism. The Lodge has developed specific means of promoting the emergence of spirit personalities through mediums utilising altered states of consciousness, and (sub)culturally specific means of recognising and discerning the presence of spirits in the behaviour of entranced mediums.

CONCLUSIONS

The following points are preliminary observations and should not be seen as definitive conclusions, rather, I hope, they can be seen as a springboard for further inquiry. It is the author's hope that these observations and ideas will be of benefit to anthropologists, parapsychologists and psychical researchers engaged in the study of contemporary spirit mediumship in a variety of geographical and cultural contexts:

- Altered states of consciousness and performance allow for the emergence and expression of non-physical persons.
- Discerning the presence of persons in entranced mediums is fundamentally embedded within the cultural matrix within which it occurs; different cultures recognise the presence of persons in different ways.
- Maintaining relationships with these persons enables them to become socially active entities and can grant them an ontological status.
- We cannot understand mediumship practices without an appreciation of the ontological frame-of-reference of the culture (or subculture) within which it occurs.
- When we engage with, and participate in, these alternate ontological frameworks unusual experiences may emerge, and these can bring into question the framework from which our investigations began (cf. Long, 1974; Stoller & Olkes, 1987; Turner, 1993, 1998, 2006; Young & Goulet, 1994).

REFERENCES

Barnard, A. (2000). History and Theory in Anthropology. Cambridge: Cambridge University Press.

Beattie, J. (1977). "Spirit Mediumship as Theatre". RAIN: Royal Anthropological Institute News. No. 20, pp. 1-6.

Bird-David, N. (1999). "Animism" Revisited: Personhood, Environment, and Rational Epistemology. Current Anthropology, Vol. 40, Supplement, pp. 67-79.

Blackmore, S.J. (1992). Beyond the Body: An Investigation of Out-of-Body Experiences. Chicago: Academy Chicago Publishers.

Blum, D. (2007). Ghost Hunters: The Victorians and the Hunt for Proof of Life after Death. London: Arrow Books.

Bowie, F. (2001). The Anthropology of Religion. Oxford: Blackwell Publishers.

Bowker, J. (1973). The Sense of God: Sociological, Anthropological and Psychological Approaches to the Origin of the Sense of God. Oxford: Clarendon Press.

Braude, S.E. (2003). Immortal Remains: The Evidence for Life After Death. Oxford: Rowman & Littlefield.

Crabtree, A. (1988). Multiple Man: Explorations in Possession and Multiple Personality. London: Grafton Books.

Dawson, A. (2011). Summoning the Spirits: Possession and Invocation in Contemporary Religion. London: I.B. Tauris.

Di Nucci, C. & Hunter, J. (2009). Charlie: Trance Communications & Spirit Teachings. lulu.com

Eliade, M. (1989). Shamanism: Archaic Techniques of Ecstasy. London: Penguin.

Eriksen, T.H. (2001). Small Places, Large Issues: An Introduction to Social and Cultural Anthropology. London: Pluto Press.

Evans-Pritchard, E.E. (1965). Theories of Primitive Religion. Oxford: Clarendon Press.

Fraser, J.G. (1993 [1890]). The Golden Bough. London: Wordsworth Editions.

Gauld, A. (1983). Mediumship and Survival: A Century of Investigations. London: Granada Publishing Ltd.

Hallowell, A.I. (2002 [1960]) "Ojibwa Ontology, Behaviour, and World View". In G. Harvey (ed) (2002) Readings in Indigenous Religions. London: Continuum. pp. 17-50.

Halloy, A. (2010) "Comments on "The Mind Possessed: The Cognition of Spirit Possession in an Afro-Brazilian Religious Tradition" by Emma Cohen". Religion and Society: Advances in Research, Vol. 1, pp. 164-176.

Harvey, G. (2005). Animism: Respecting the Living World. London: Hurst & Co.

Harvey, G. (2010). "Animism Rather Than Shamanism: New Approaches to What Shaman's Do (For Other Animists)." In: Schmidt, Bettina & Huskinson, Lucy (eds.) (2010). Spirit Possession and Trance: New Interdisciplinary Perspectives. Continuum Advances in Religious Studies (7). London: Continuum. pp. 14-34.

Hunter, J. (2009). Talking With the Spirits: An Experiential Exploration of Contemporary Trance and Physical Mediumship. Unpublished undergraduate Dissertation, University of Bristol.

Hunter, J. (2010a). Talking With the Spirits: Anthropology and the Interpretation of Spirit Communication. Anomaly: Journal of Research Into the Paranormal. Vol. 44. pp. 34-49.

Hunter, J. (2010b). "Contemporary Mediumship & Seance Groups in the UK: Speculations on the Bristol Spirit Lodge". Psychical Studies: Journal of the Unitarian Society for Psychical Studies. No. 76, pp. 7-13.

Hunter, J. (2010c). "Talking With the Spirits: More Than a Social Reality?" Paranormal Review. April 2010, Issue 54, pp. 9-13.

Jokic, Z. (2008). “The Wrath of the Forgotten Ongons: Shamanic Sickness, Spirit Embodiment, and Fragmentary Trancescape in Contemporary Buriat Shamanism”. Sibirica, Vol. 7, No. 1, pp. 23-50.

Klass, M. (2003). Mind Over Mind: The Anthropology and Psychology of Spirit Possession. Oxford: Rowman & Littlefield.

Kelly, E.F. & Locke, R.G. (2009). Altered States of Consciousness and Psi: An Historical Survey and Research Prospectus. New York: Parapsychology Foundation.

Krippner, S. & Friedman, H.L. (eds.) (2009). Mysterious Minds: The Neurobiology of Psychics, Mediums and Other Extraordinary People. Santa Barbara: Praeger.

Leacock, S. & Leacock, R. (1975). Spirits of the Deep: A Study of an Afro-Brazilian Cult. New York: Anchor Books.

Levy, R.I., Mageo, J.M., Howard, A. (1996). “Gods, Spirits, and History”. In J.M. Mageo, & A. Howard (eds) (1996). Spirits in Culture, History, and Mind. London: Routledge.

Lewis, I.M. (1971). Ecstatic Religion: An Anthropological Study of Spirit Possession and Shamanism. Middlesex: Penguin Books.

Long, J.K. (1974). Extrasensory Ecology: Parapsychology and Anthropology. London:

Mageo, J.M & Howard, A. (eds) (Boundary Spirits in Culture, History, and Mind. London: Boundary Routledge.

Myers, F.W.H. (1992 [1903]). Human Personality and Its Survival of Bodily Death. Norwich: Pilgrim Books.

Pearsall, R. (2004). The Table-Rappers: The Victorians and the Occult. Stroud: Sutton Publishing.

Rogo, D.S. (1988). The Infinite Boundary: Spirit Possession, Madness, and Multiple Personality. Wellingborough: The Aquarian Press.

Schmidt, B. & Huskinson, L. (eds.) (2010). Spirit Possession and Trance: New Interdisciplinary Perspectives. Continuum Advances in Religious Studies (7). London: Continuum.

Stoller, P. & Olkes, C. (1987). In Sorcery's Shadow. Chicago: University of Chicago Press.

Taves, A. (1999). Fits, Trance and Visions: Experiencing Religion and Explaining Experience from Wesley to James. Princeton: Princeton University Press.

Turner, E. 1993. The Reality of Spirits: A Tabooed or Permitted Field of Study? Anthropology of Consciousness, Vol. 4, No. 1, pp. 9-12.

Turner, E. 1998. Experiencing Ritual. Philadelphia: Pennsylvania University Press.

Turner, E., 2006. Advances in the Study of Spirit Experience: Drawing Together Many Threads. Anthropology of Consciousness, Vol. 17, No. 2, pp. 33-61.

Tylor, E.B. (1871 [1920]). Primitive Culture. London: John Murray.

Tylor, E. B. (1930). Anthropology: An Introduction to the Study of Man and Civilization. London: C.A. Watts and Co. Ltd.

Winkelman, M. (2000). Shamanism: The Neural Ecology of Consciousness and Healing. London: Bergin & Garvey.

Young, D.E. & Goulet, J. (1994). Being Changed by Cross-Cultural Encounters: The Anthropology of Extraordinary Experience. Ontario: Broadview Press.

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THE FUTURE OF PARANORMAL INVESTIGATION:
ONWARDS AND UPWARDS FOR THE NEXT 30 YEARS?

John Fraser

The title of my talk at ASSAPs 30th anniversary conference was 'Ghost Hunting - A New Science or Just a Waste of Time?'. As I was speaking at perhaps the largest residential paranormal conference for years, a 'waste of time ' conclusion may not have gone down too well. The talk's conclusion, taken from my recent book (Ghost Hunting a Survivor's Guide), did end on a generally positive note and to the best of my knowledge no rotten tomatoes (or poltergeist apports) were thrown.

However, I did not come to the conclusion that paranormal investigators could prove, or disprove, the essence of the unexplained, which may yet disappoint those who go out with their gadgets and meters (or dowsing rods and planchettes) hoping to change the world. I stated that all I believed an investigator can do, for now, is to keep more interesting paranormal sites well documented and 'alive' in the public's mind, in the hope that this work will ultimately be built on by others and, perhaps, even eventually taken seriously by science.

If findings in paranormal research are to be taken more seriously, there surely needs to be input, *over and above* that which currently exists, from the hardworking volunteers that form themselves into Paranormal Groups and then 'fish' for evidence at sites. I think that what my talk was really trying to say is that the paranormal research needed some kind of new 'Big Idea'

By a strange type of synchronicity, a new 'Big Idea' was announced by ASSAP a few hours after I spoke. The idea itself was the registering of ASSAP as a government-registered professional body, for the investigation of the unexplained, in the hope that such recognition will encourage a more co-ordinated approach amongst the myriad of both local, and national, independent groups.

I see this registration as being a potentially very useful tool but it is, of course, far too early to see the impact it may possibly make. What I wanted to briefly do, in this article, is examine the current informal organisational structure of things and hint at any possible impact these changes could hope to make.

It has been estimated that in 1995, there were just fewer than 100 local paranormal research groups, but by 2006, largely due to the invention of 'haunted TV', the figure had increased to well over 1000. This means that the vast majority of groups must, by definition, have no-one in them with more than a few years experience. There will be a number of those groups that, unfortunately, just don't care and will want to simply continue to (dis)function alone. But I believe that the majority would like the opportunity of at least co-ordinating with others in the field. One of ASSAP's key existing strengths is as an 'umbrella' and training organisation, to which others can affiliate , and to date it has achieved affiliations from a significant number of the better-known groups – though still only a small percentage of those which exist.
The question here for ASSAP would be the extent to which it can employ further resources for additional groups to affiliate, and to what extent it can facilitate them, without being swamped. This is a question I am sure the ASSAP executive will fully consider over the current months of open consultation.

Just as interesting though, is the impetus that this may give for the greater co-operation between nationally based groups, of which I stated in my book that the three most established were ASSAP, The Ghost Club and the SPR (Society for Psychical Research). Each organisation has a slightly different slant on its approach. I have already mentioned ASSAP's strengths. The SPR excels in its academic links, and second-to-none resources, for research built up in a period of over 100 years. The Ghost Club's role is as much as a debating and social club on the subject, as well as one that offers investigations. Each of these organisations seems to compliment the other. It is such a shame that they rarely, if ever, formally meet to swap ideas and to co-ordinate.

There is another resource that is, perhaps tragically, underrepresented in place-based paranormal research. In 1985, a grant from the estate of Arthur Keostler was used to set up a Parapsychology Department at Edinburgh University. This university-based interest has expanded quietly over the years to about 8 or 9 institutions. The best known university-based researchers include Chris French, at Goldsmiths, London and Richard Wiseman, at Hertfordshire University. There is a perception, perhaps, that parapsychology departments will simply do obscure lab-based research and compile reports with unfathomable names. Whilst in some cases this may still be true, in others it clearly is not. Wiseman, for example, is happy to investigate sites such as Hampton Court, while French is happy to work with the controversial biologist Rupert Sheldrake, to try to replicate Sheldrake's positive experiments on telephone telepathy. University-based expertise would undoubtedly bring credibility to the subject and a certain well-practised academic rigor that most of us may partially lack in a haunted house at

2.00am. Stronger links with such institutions is surely essential to 'professionalise' our aims.

Finally, and most controversially, there are very well-resourced organisations in our field that many research groups tend to deliberately avoid. The organisations that I refer to are, by their nature, mainly filled with either believers or disbelievers. On the believing side, this would include the Spiritualist Association of Great Britain and the Council for Psychic Studies. Both well-established organisations, set up in the 19th Century, and very well-resourced. I have, in the past, helped engage in fruitful discussions with the CPS with regards to revisiting scientific investigations relating to mediumship. It was only through circumstances totally beyond their control that stopped such projects from going ahead. If we admit a chance that those who believe *might* be right, why should we not welcome them on board to assist with research? Likewise, we should not necessarily treat all-out debunkers as people with nothing useful to say. Whilst we may question their total lack of an open mind, we could certainly learn a lot from them about techniques for testing out potentially fraudulent cases, which we all accept do occur from time to time.

There are so many organisations interested in the paranormal that are currently ploughing a very lonely furrow and are distrustful of their peers. Sometimes it can remind me about the scene in the 'Life Of Brian' when the 'Judeans People's Front' castigate 'The People's Front of Judea' - the joke being that they are both, of course, on the same side. I very much hope that ASSAP's big announcement will turn out to be an important first step in this direction, and that the full range of organisations that delve into the truth of the paranormal can learn that professionalism begins not with the latest set of equipment, but by simply working together.

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FURTHER COMMENTS ON ALLEGED PHONE CALLS FROM THE DEAD

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Following the September 2011 conference presentations of new research into alleged 'phone calls from the dead' (SPR, University of Edinburgh and ASSAP, University of Bath), the author discusses additional notes and comments on the phenomena in this brief paper. Early findings of the new research suggest that these anomalous events are cross-cultural with similarities in the call content to many of the original call cases collected and analysed. A distinction is also made between EVP and reported experiences of phone calls from the dead, with reference to explanations for the phenomena and the effect such experiences may have on the percipients.

EXPECTATIONS OF NEW RESEARCH

Discussions regarding accounts of alleged 'phone calls from the dead' (Cooper, 2010a) and issues of research methods applied to these forms of such spontaneous cases (Cooper, 2010b), have been presented. Currently a new collection of anomalous phone call experiences is underway to update the original work of D. Scott Rogo and Raymond Bayless (1979). From the original results and the new data it will be possible to see what changes, if any, in the phone call phenomena have occurred in the past 30 years since the original research was published. However from what little parapsychological literature is already available on this topic, and from what we already know of anomalous human experiences and spontaneous cases, what can we expect from further research?

It was suggested by Bayless (1980) that as we progressed in terms of communication technology more accounts may be reported in terms of anomalous electronic communication. There are reported accounts of supposed poltergeists interfering with telephone systems (Davies, 1991), paging systems (Bayless, 1979a) and even mobile phones with text messaging (Cooper, 2010b,c). Prof. John Beloff originally raised this point to argue that poltergeists interfering with electrical devices such as telephones are not as rare as we might think. In terms of human psychology and anomalous experiences the phenomena of telephonic communication has indeed advanced through time as technology has progressed with reported anomalous contact via the wireless telegraph being amongst some of the earliest reports (Wilson, 1915; Cooper, submitted). Although there are accounts that have be

interpreted as poltergeist phenomena and their manipulation of electronic devices, the majority of telephone accounts are believed by most people to be a final communication from the dead. Much like the 'crisis apparition', which represents or relays a final message of goodbye from a dying person visualised as the apparition, the phone calls from the dead have been termed before as a 'crisis poltergeist' (Cooper, 2010a). This is due to the combination of what is assumed to be a paranormal voice produced in the telephone conversation with the supposed dead caller and the physical action of the telephone ringing in the first place. No apparition is encountered yet a final message of goodbye from the recently departed is frequently reported.

When Rogo and Bayless (1979) first began researching phone call phenomena their initial findings produced the categories of:

Apparent Cases – A call from someone who has recently died or who has been dead for sometime calling the living who either does or does not know that the caller is dead and therefore the receiver of the call sometimes believes they are talking to a

Intention Cases – These are calls in which we intend to call someone with a specific conversation in mind. However for some reason we choose to postpone the call until a later time. You then receive a call from the person you intended to call. They refer to you calling earlier and discussing with them the topic you were going to discuss, or they call you answering your message about that topic. Essentially they received the message from someone with your voice who carried out your intended conversation which you never made, although you had the intention to do so.

Answer Cases - These are cases where a living person makes a call to someone they do not realise is dead and yet they get an answer. These calls are usually prolonged.

Following on from this, and the collection of more anomalous phone call events, Rogo and Bayless revised the call types, producing the follow categories:

Type 1 *Simple Calls* – These are the most common reported phone calls from the dead. The dead caller says only a few words and is unresponsive to any questions asked. At this point the caller may say nothing at all and the line will go dead without any sound of the caller hanging up the phone or being cut off.

Type 2 *Prolonged Calls* – These calls are rarer than type 1. They last for some time and involve a conversation like any other telephone call. The recipient does not realise, until after the call, that the caller was in fact dead at the time. Due to the recipient of the call not knowing the caller is dead, this somehow

seems to allow the conversation to last longer. Type 1 cases of simple calls show that the shock of knowing the caller is dead somehow leaves the conversation short or the dead caller unresponsive.

Type 3 *Answer Calls* – (As described above).

This still included the *Intention Calls* but were considered quite rare and don't involve supposedly dead callers. This also left out their initial definition of 'Apparent Calls', which could be either a type one call or a type two (or even a mixture). In some of the recent cases collected it appears that there are some accounts that do appear to be a mixture of type one and two calls though 'extremely' rare (see case 2, Cooper, 2010a). Therefore a further revised list of call types that can be encountered have been discussed (Cooper, 2010a,b) which includes call types one to three, and also four and five with the *Apparent Calls* listed as type four and the *Intention Calls* also included (as an additional anomalous experience involving the telephone):

Type 4 *'Apparent Calls'* – Most cases of phone calls from the dead involve a dead person calling a living person. The receiver of the call may or may not know that the caller is dead. Thus it may create a prolonged phone call or simple call. This is simply a possible mixture of type 1 and 2 calls.

Type 5 '*Intention Calls'* – (As described above).

Now that a list of call types has been established from the anomalous phone call reports that exist, the list can and has been used to explore the phenomena cross culturally. For example, Biondi (1984) explored cases of phone calls from the dead in Italy just after the original research was published. After being sent around forty cases which Biondi followed up, it was found that around twenty or so were difficult to explain. The accounts were compared to the call types found by Rogo and Bayless (1979). It was confirmed that the same call types were found in the Italian sample. The initial findings of the new research being carried out demonstrate that there are anomalous phone call cases which have been reported in the USA, Canada, the UK, Italy, Spain, France, Germany and more. It is likely that most cultures that use the telephone have at some point experienced what could be termed as a phone call from the dead, which may fit into the call categories that currently stand. However, more cases from different countries would need to be collected to support this hypothesis. With the introduction of computers, mobiles phones and text messaging as a means of communication this adds extra factors to be explored and considered within claims of posthumous electronic communication. The categories of call types may yet be revised again in the new analysis of recent cases which has yet to be conducted.

SURVEYING THE DATA

Dr. Gertrude Schmeidler, in her critical review of the phone call phenomena, said that the question of whether the research was scientific (from the book Rogo and Bayless produced) was a yes and no answer. Yes, it was scientific from the point that both Rogo and Bayless were respected scholars of parapsychology and had conducted numerous projects in parapsychology before the phone call phenomena. Hence they were both well acquainted with parapsychological phenomena and research methodology to conducted investigations of spontaneous cases. On the other hand the answer is also 'no' as the book alone was not considered by Dr. Schmeidler to be scientific, with the hopes that a follow up paper outlining the research methods applied to the phone call phenomena and the data produced would placed in a suitable journal and meet the peer review standard. However this was never done. It is possible that it was going to be done as Rogo did continue to collect accounts of these unusual experiences until his tragic death in 1990.

From dissecting the book *Phone Calls from the Dead* (Rogo and Bayless, 1979), we can find some aspects of the statistics which were being produced from their analysis of accounts:

1) 10% of cases occur around a specific anniversary, which is meaningful to the dead caller, the receiver of the call, or both.
2) Type 1 (simple calls) are the most common call types which outnumber the type 2 calls (prolonged calls) by four to one (4:1).
3) Calls from the dead in general outweigh paranormal calls from the living or related unusual phone call experiences by eight to one (8:1).

Rogo did appreciate that from point 3 sceptics may assume that people would only have submitted accounts of phone calls from the dead because they were perhaps asked to (thus showing bias data of an 8:1 ratio). This however is not the case nor is it the case in the recent research (see footnote, Cooper, 2010b, pp. 178). The message sent out in a request for these cases to be brought forward to the researchers asks that 'any unusual experience involving the telephone that could not be explained is to be considered and reported'. Perhaps it is the case that unusual calls from the living, such as type 5 calls, are simply not reported as often as calls from the dead because to the percipient they seem perfectly normal and are simply not recognised and subsequently discussed, i.e. the paranormal event is woven into everyday life and goes unnoticed. Or maybe type 5 cases really are rarer than calls from the dead and

as such no hypothesis has been constructed on this matter and only simple rational assumptions have been put forward. From a preliminary analysis of the new data there are still occurrences of anniversary calls and even bizarre text message accounts being reported which seem to account for ten percent or less of the spontaneous telephone cases collected. Furthermore, calls from the dead seem to still outweigh unusual calls from the living. The type 1 'simple calls' are the most prominent of all of the calls reported, however the other call types still appear to be occurring, while type 3 '*Answer Calls*' are the rarest of cases in the new data set.[5]

A NOTE ON EVP AND THE MECHANICS OF PHONE CALLS

When discussing phone calls from the dead there is the immediate assumption for some people that this is the same anomaly as electronic voice phenomenon (EVP). Admittedly it is similar in some respects, but it is not the same thing. It could be argued that EVP is the purposeful or accidental purported recording of anomalous voices, whilst on the other hand phone calls from the dead are the spontaneous experience of a telephone call and possible conversation which is believed to be with the dead (sometimes discovered at a later date to have been a paranormal call). Rogo and Bayless did however develop their interest in phone call phenomena through their work on EVP. Bayless (1959) can be recognised as the first person to document EVP in his research with the psychic medium Attlia von Szalay, which began in 1956. Shortly after the report was published Friedrich Jürgenson became recognised as the 'discoverer' of EVP due to possible greater publicity of this matter as Bayless' report in the *Journal of the American Society for Psychical Research* was given little or no attention in the parapsychological community[6]. Nevertheless Bayless continued to research EVP with Attlia von Szalay and the assistance of a young D. Scott Rogo, and subsequently published their findings (Bayless, 1979b; Rogo, 1969; 1970). It wasn't until the late nineteen seventies that both researchers began serious investigation into the phone call phenomena.

The closest relation that EVP can have to phone call phenomena is when people claim to have experienced or recorded live EVP. This would be cases in

[5] From 2009 to present, around 50 cases have been collected and investigated. The new analysis of data began August 2011 to investigate relationships to previous findings and will be discussed at a later date. The author welcomes any additional cases to be sent to him for investigation and possible inclusion in this study.

[6] It should be noted that the occurrence of EVP has been mentioned in various texts years before the report by Bayless. But this just demonstrates how much serious scientific consideration the phenomenon was given before its attention in the media.

which people ask questions out loud and the responses to the questions appear to be recorded and heard over the tape or electronic recording devices instantaneously. In contrast phone calls from the dead are often reported to be like any other telephone conversation we would have with someone. Rarely would a person report unusual sounds or irregularities in the phone conversation as being 'out of the ordinary' (which does sometimes happen with hearing the sound of static). There are some documented cases of what are believed to be live EVP, which could be argued to be the closest similarity of EVP and phone calls from the dead. Both suggest communication with the supposed dead via electric devices and appear to produce instance feedback to dialog and any questions asked. This has been documented in many books and reports on EVP. Most recently Mark Cowden (2011) argues to have produced the first documented case of live EVP with an alleged psychic medium present. However these reports do go back over a hundred years or so and instantaneous feedback of EVP from questions asked by the living has also been documented and discussed in classic cases (Ellis, 1978; Rogo, 1977). There are cases of *Voicemail Messages* which people believe to be from the dead, but currently there seems to be no more than half a dozen of these instances on record which present unusual characteristics, these case admittedly would be the closest partner to EVP in the phone call phenomena.

Sconce (2000) discusses *The Celestial Telegraph* and periodicals such as *The Spiritual Messenger*, which attempted to explain spiritual communication with the dead as a form of mental telegraphy. One opinion produced in these works by numerous authors suggested that electromagnetic telegraphy was the result of spiritualism and spirit communication. However the thought of a psychic medium trying to influence telephonic equipment is an interesting one to consider. With EVP Rogo (1977) did consider numerous times that if the dead are not actually sending messages to the living then perhaps psychokensis (PK) is the answer. It was suggested that some people may be able to unconsciously impress their thoughts onto magnetic tape via PK ability. This is similar to type 1 cases of phone call phenomena. Perhaps high levels of grief and stressful times for individuals (as we see in poltergeist activity) is enough for someone to unconsciously make the telephone ring and receive what is believed to be a final call from a deceased loved one. This would certainly be a paranormal event for the percipient but a psychological and parapsychological issue with regards to audible hallucinations and PK ability. This is supported to some extent by a case I have on file where a woman knowingly hallucinated an entire 'phone call from the dead' experience after the loss of her father. It was clear to her what had happened during and after the experience but making the experience stop was impossible unless she mentally picked up the telephone and had a final conversation. The voices were produced mentally much like thought and were not objective audio. This account and the occurrence of many of the type 1 phone calls from the dead

are supportive of the research conducted by Devers (1994) in which reported encounters with the dead appeared to be grief-resolving. There are also bereavement cases where people reported PK experiences surrounding the death of a loved one (Wright, 2011) which could account for the telephone ringing in the first place. Rees (1971) also demonstrated that hallucinations of widowhood during the immediate grieving process are very common and are most likely perceived to be paranormal by the percipient. Often these particular anomalous experiences surrounding death seem to enhance a person's well-being and outlook on life (also see Kennedy and Kanthamani, 1995). Whether the experience was genuinely paranormal or not, to have an encounter with the dead can act as a psychological aid whether the experience itself was an internal projection or an external reality.

It must be stressed that the possibilities of PK or genuine contact with the dead are only to be considered once all other rational explanations have been ruled out such as misinterpretation, fraud, electrical fault, psychological side effects of bereavement and so on (Cooper, 2010a,b). What we have discussed here are mere thoughts and theories as to the possibilities of a selected few cases of phone call phenomena which may present no rational explanation whatsoever. Whatever the cause of the phenomena may be the psychological aspects involved are numerous and must be considered at all times (e.g. stress, bereavement, transitions of psychological well-being before and after the experience).

CONCLUSION

This brief paper has given some additional insight into recent developments of phone call phenomena and some important considerations to take into account. New technology is demonstrating a continuation of reports of anomalous communication. However this does not mean that no one is reporting classic cases of phone calls from the dead via landline phones. On the contrary there are now a variety of issues to consider such as landlines, mobiles, texts messages, emails and answer phones/voicemail. Many of these cases can present rational explanations but there are cases that are not so straightforward nor easily explained away. In fact, some cases which do seem to be difficult to explain fit the categories of the original phone call types found. Though no recent cases have been discussed here they will be presented soon once the new analysis of 'phone calls from the dead' is completed.

This is an important topic of spontaneous anomalous experience; to be studied seriously and in the best methodological ways possible. It is no easy task to research spontaneous cases, and the methods applied are considered to be poor by many sciences outside of parapsychology. For any psychologist

studying human behaviour and experiences (unusual or not) the only way possible to make sense of such events is to use what methods are possible depending on the phenomenon, such as interviewing eyewitnesses, following up claims within the case, comparing other supposed similar accounts, and keeping an open but sceptical mind. There is much published and peer reviewed literature on research into apparitional experiences with excellent methodology applied and these accounts are no more unusual than the phone call phenomena. They could potentially provide stronger support to the survival hypothesis, as the late Prof. John Beloff believed they could, if the cases presented are indeed genuine. Therefore the topic of phone calls from the dead is currently being revised and should be researched like any other spontaneous event with thorough research methods applied.

REFERENCES

Bayless, R. (1959). Correspondence. *Journal of the American Society for Psychical Research, 53*, 35-39.

Bayless, R. (1979a). An "electronic poltergeist". *Journal of the Southern California Society for Psychical Research*, *1*, 18-24.

Bayless, R. (1979b). Low-amplitude, acoustical, tape-recorded PK with target objects: Experiments conducted by Wesley Frank and Raymond Bayless. *Journal of the Southern California Society for Psychical Research, 1*, 1-17.

Bayless, R. (1980). Electronic communication. *Journal of the Academy of Religion and Psychical Research*, *3*, 37-40.

Biondi, M. (1984). Le telefonate dall'Aldia': Una nuova fenomenologia paranormale? *Quaderni di Parapsicologia, 15*, 60-67.

Cooper, C.E. (2010a). Phone calls from the dead. *Anomaly*: *Journal of Research into the Paranormal, 44*, 3-21.

Cooper, C.E. (2010b). Spontaneous cases concerning telephone calls and text messages. *Australian Journal of Parapsychology*, *10*, 178-193.

Cooper, C.E. (2010c). Text messages from the dead. *Paranormal Review, 53*, 10-12.

Cooper, C.E. (submitted). A historical note on telephonic communication. *Journal of the Society for Psychical Research*.

Cowden, M.L. (2011). *Spirit Voices: The First Live Conversation Between Worlds*. New York: Anomalist Books.

Davies, C. (1991). A Yorkshire poltergeist. *Anomaly: Journal of Research into the Paranormal, 8*, 23-30.

Devers, E. (1994). *Experiencing the Deceased: Reconciling the Extraordinary*. Unpublished doctoral thesis, University of Florida, Gainsville.

Ellis, D.J. (1978). *The Mediumship of the Tape Recorder*. Pulborough, West Sussex: David J. Ellis.

Kennedy, J.E., & Kanthamani, H. (1995). An exploratory study of the effects of paranormal and spiritual experiences on peoples' lives and well-being. *Journal of the American Society for Psychical Research, 89*, 249-265.

Rees, W.D. (1971). The hallucinations of widowhood. *British Medical Journal, 4*, 37-44.

Rogo, D.S. (1969). Report on two preliminary sittings for 'direct voice' phenomena with Attila von Sealay. *Journal of Paraphysics, 3*, 126-129.

Rogo, D.S. (1970). A report on two controlled sittings with Attila von Sealay. *Journal of Paraphysics, 4*, 13-15.

Rogo, D.S. (1977). Paranormal tape-recorded voices: A paraphysical breakthrough. In J. White, & S. Krippner (Eds.) *Future Science: Life Energies and the Physics of Paranormal Phenomena* (pp. 451-464). New York: Anchor Books.

Rogo, D.S., & Bayless, R. (1979). *Phone Calls from the Dead*. Englewood Cliffs, NJ: Prentice Hall.

Sconce, J. (2000). *Haunted Media*: *Electronic Presence from Telegraphy to Television*. Durham: Duke University Press.

Wilson, D. (13th March, 1915). The ethereal transmission of thought. *Light*, 123-124.

Wright, S.H. (2011). Experiences of spontaneous psychokinesis after bereavement. *ITC Journal, 40*, 15-31.

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BIGFOOT/SASQUATCH: EVIDENCE !?!

Paul Vella

When discussing subjects such as this it is usually sensible to start at the beginning. The trouble is that I'm not sure where 'the beginning' is. I'm sure everyone reading this is familiar with the creature so I won't spent too much time explaining what it is, but I'll set some ground rules so that no-one can misunderstand what I say in this article.

- I do not 'believe' Bigfoot exists. I haven't seen one and I haven't seen enough evidence to prove beyond all reasonable doubt that they exist, but if I'm honest I'd like them to exist and I think there is sufficient evidence to make the subject worthy of further investigation.

- I am only going to discuss the North American Bigfoot.

- I'm going to call them 'bigfoot' – if they do exist, they are a species and the name should not be capitalised. They are not 'Big Foot', 'bigfeet', 'bigfoots' or any other such derivation. Nor are they really 'Sasquatch', which contrary to popular belief is not the only Native American word for the creature, since there are literally dozens of Native American words for the creature.

My interest in the subject started in the 1970s when I saw a BBC series during a half-term holiday called 'Fabulous Animals', narrated by David Attenborough. One of the episodes centred on bigfoot and I was fascinated. I continued to read everything I could on the subject and although it wasn't the most extensive subject at our local library I got a good feel for it. I then started getting interested in girls, beer and rugby, although not necessarily in that order.
Fast forward to the mid 90s, and I found myself working as a Digital Forensics Expert Witness and preparing cases involving complex computer data for criminal trials. One particular day, my mind wandered (as it often does) back to bigfoot and in minutes I was reading pages on that new-fangled World Wide Web about bigfoot. All the websites at the time were very poorly written, but detailed what was consistently referred to as 'evidence'. Had you been in my office that day you would have seen a light bulb go on above my head when it occurred to me that if there was all this great evidence out there, I should be able to collate it and prepare it in the same way I would for a criminal case.

How naïve I was – I had no idea that the phrase 'beyond all reasonable doubt' would be so problematic.
So, some fifteen years later and not only am I no further forward with this personal project, but in many way I feel I am moving backward. Each year I see more and more easily explainable phenomena portrayed as evidence by well-meaning enthusiasts, but the world of bigfoot research is now stuck in a rut that I don't think it will climb out of anytime soon.
The problem is that too many 'researchers' are frankly, ridiculous – every noise, every moving shape, every vaguely foot-shaped depression in the ground, every blurry photo is in many minds, 'bigfoot'. They often consider themselves to be scientific researchers but wouldn't recognise the scientific method if it came up to them at a party and said "Hello, I'm the scientific method, we sat in the same class at school".
So, you will forgive me if I sound rather negative about the subject, but it has consumed more than a decade of my life without making any progress whatsoever, and yet the subject still fascinates me. Why are there so many witness reports? Where do these apparent footprints come from? Why are these creatures reported in so many different parts of the world? More importantly, where on earth is the evidence and what will it take to prove the existence of these creatures?
So assuming it exists what is bigfoot? Well, if I were a gambling man I'd say it was a great ape, something similar to humans and gorillas, but certainly not as evolved as humans, since they don't queue up at McDonalds and watch X-Factor like we do. Then again……
Up until around 300,000 years ago, a giant ape called gigantopithecus lived in Asia, apparently co-existing with humans. There is a fossil record in the form of two lower jaws, one found in a cave in China, the second in Vietnam and somewhere in the region of one thousand teeth. If it stood on two legs, which is the subject of some debate amongst anthropologists as some of whom state that the shape of the jaw would have made it bipedal, others say it was a gorilla-like knuckle walker, gigantopithecus would have stood somewhere in the region of 3m (10ft) tall. Either way, it was a huge ape, which if nothing else demonstrates that an ape the size of bigfoot is physically possible.
The evidence breaks down into four main areas: Eyewitnesses, footprints and other physical artefacts, vocals, photographic evidence, and we should examine these areas in turn.

EYEWITNESSES

It is fair to say that there have been literally thousands of eyewitness reports over the years. Visit sasquatchdatabase.com or the bfro.net website and you get some idea of the scale of sighting reports. A rough estimate is somewhere between five and six hundred reported sightings each year in North America. Surely they can't all be making things up? One of the aspects I have found so

compelling is that the vast majority of sighting reports are not in any way fantastical, describing supernatural strength or abilities. More often than not, the sighting is an unremarkable "I was driving my car and this creature ran across the road in front of me on two legs – it took just three of four bounds and it was gone". Only very rarely do we see reports of people interacting with these creatures in what we refer to as a 'habituation', and in every case I have looked into there is enough 'woo' from the witness to make me discount the entire story.

And there of course is my problem, whilst eyewitnesses are unreliable, often lie for their own perverse pleasure and are often mistaken, there are so many simple, unremarkable sightings from normal people, police officers, fire-fighters and military personnel, who don't seem to have any trouble differentiating between a bear and a bigfoot, that I can't help thinking there might be something to these reports.

The reports are not a new phenomenon as over the years hundreds of old North American newspaper articles referring to 'wild men' and 'gorillas' have been unearthed from archives, the oldest of which are more than two hundred years old, certainly pre-dating the modern era of bigfoot. If bigfoot was born in the late 1950s, why is there newspaper reports that pre-date this by more than a century? (The Wild Man of Tennesee, 1889)

New York Times pg. 1 Feb 8, 1889

THE WILD MAN OF TENNESSEE.

CHATTANOOGA, Tenn., Feb. 7.—The citizens of Walker County, Ga., a few miles from this city, are very much excited over the existence of a genuine wild man who haunts the mountain region of the county. He is described as being of gigantic stature, covered with a thick growth of hair, and carries in his hand a huge knotted stick. He looks as if he might be the twin brother of Barnum's wild man, and is fierce and untamable. This modern Orson has been seen by several parties. One gentleman, bolder than the rest, encountered the creature in a lonely part of the mountains one day not long since and at a safe distance endeavored to strike up a conversation. A perfect shower of stones greeted his first words, and, thinking discretion the better part of valor, he made tracks from the dangerous neighborhood.

The article above displays many of the same traits that are still reported to this day including rock throwing (and by 'rock', Americans tend to mean 'stones' or 'pebbles' no more than 5-10cm in diameter.
We should be careful with old reports though since it is not possible to ascertain from the printed word whether this is bigfoot or a reclusive human – from a distance, hand-made fur garments might appear to be a "thick growth of hair", but it is interesting that the above report like so many others refer to the creature as being unnaturally big. If you wish to read more about historic reports, I would recommend two books on the subject, Scott McLean's 'Big News Prints' (McLean, 2006) (www.mcclean.org) and Chad Arment's 'The Historical Bigfoot' (Arment, 2006) which you can find at Amazon. Both are excellent books.
I mentioned misidentifications earlier and it is fair to say that many sighting reports come from experienced outdoorsmen – hunters, anglers, forestry workers etc. We would expect these people to recognise a bear or an elk when they see one, and of course bears don't run across roads on their hind legs, but in the dark, would we always be able to tell the difference between a bear on its hind legs and a bigfoot? I'm not sure I would. However, some years ago I spoke to an experienced hunter who had seen one in daylight from a distance of no more than twenty meters. The gentleman in question was clearly still shaken up by the sighting and told me that he had been hunting and fishing for more than thirty years when he had the sighting and that everything he thought he knew about the outdoors came crashing down in an instant.

FOOTPRINTS AND OTHER ARTEFACTS

This of course is where it gets interesting. People do find footprints of these creatures – thousands of them over the years, but it seems to me that in recent years very few good clear footprints have come to light. Every year I see casts and photos of what researchers claim are 'tracks', when in fact they have one isolated depression in the ground that is vaguely foot-shaped. A single print is not a track, and if there is one footprint, there should be others. In my mind, if you can't work out whether it is a left foot or a right foot, you can't call it a footprint with any real certainty.
However, there are some remarkable footprints found, I have a collection of several hydrocal casts which do not display the tell-tale signs of bear prints and by all accounts appear to be bigfoot footprints. Of course, I wasn't there when these casts were made, so I don't know how they came about, but they are interesting.
There are three possibilities for these footprints;
One is that they have been made by bears – when bears walk they often bring the rear foot forward and place it right behind where the front foot is – under certain circumstances this can make have the effect of elongating the footprint, but usually, if the soil is soft enough for a clear print to be left behind, it is soft

enough to see claw marks which are unique to bear prints, nevertheless, we should be careful when evaluating footprints.
The second possibility is that they are hoaxed – presumably by someone wearing wooden feet. I've tried this and can report that it is extraordinarily difficult to get any real distance in your stride since you can't walk normally and find yourself lifting your entire foot straight up, moving it forward and placing it down again a little further forward like someone trying to tiptoe. Besides, some footprints are not only found in the middle of nowhere in a vast wilderness but they sometimes display what are clearly flexible toes that change position between prints. Another difficulty is the depth of footprint – when you wear what are essentially wooden snowshoes, most people would find it very difficult to get any real depth to a wooden foot print.
The third possibility is that a giant ape is leaving footprints behind occasionally. One thing is certain, *something* is leaving these footprints.

VOCALS

It is difficult to discuss noises in a written article so I won't dwell on the subject here. Suffice to say that people regularly report screams in the woods, and whilst many have been recorded, very few have been positively identified as a known animal. Just this last month I was sent a recording from Oklahoma that can only be described as 'chatter', not dissimilar to chimpanzee chatter but much deeper. This particular recording was of real interest since chatter like this has been reported many times over the years, but the only decent recording is one I have always assumed was a hoax. I'll put this new recording aside for the time being in a file to be revisited if another similar recording turns up one day.
This is often the problem with areas of research such as this; there are so many things we don't know that it is all too easy to make assumptions. If we start making assumptions we start to stray from the scientific method and there is no way back to it.
My own experience with sounds is from Northern California where a very interesting and as vet unidentified scream was recorded and is known as the Tahoe Scream. (htt) The recording is very distinctive and comprises of four separate and fairly even spaced apart screams that are unlike anything I have ever heard. Back in September 2004 I spent several nights playing this recording back out across the mountains at high volume with some well-respected researchers – for several hours we achieved nothing except upsetting the coyote population and then suddenly, we heard the same scream in reply – it was feint, but very clearly the same scream. If the recording was a bigfoot, then that is what I heard call back. Of course, the recording could be of something else, but to date, no-one has been able to identify it. Once again, this is the problem – too many unknowns.

PHOTOGRAPHIC EVIDENCE

The best photographic evidence dates back to October 1967 when Roger Patterson and Bob Gimlin filmed fifty-eight seconds of a large, hairy, bipedal ape (or human in a suit) at Bluff Creek in Northern California. I'm sure everyone has seen this film at some point, but sadly most have only seen a poor quality VHS tape version that used to do the rounds of the TV production companies. In the last decade the film has been digitised one frame at a time and is now available to some researchers in high definition and frankly, it looks remarkable.

The film was shot on 16mm Kodachrome II, which was pretty much the best film stock you could buy at the time – but the story of the film itself is fraught with difficulties, claims of hoaxing and rumours that would take an entire book to explain. Many people have claimed the film to be a hoax but to date; no-one has come close to proving that. Patterson died in 1972 maintaining that it was real. Indeed, Patterson made some money out of the film and spent every penny of it on further unsuccessful hunts for bigfoot. I can't help thinking that if he had pulled off an incredible hoax, why wouldn't he do it again?

This film keeps drawing me back and it is very frustrating because whilst the film will never be proven to be a hoax, it won't prove the existence of the creature either. It is one of those 'what if' aspects of bigfoot. If bigfoot does exist, I'm convinced that this is a film of one. If it doesn't exist this is an incredible man-in-a-suit, something Hollywood wasn't capable of doing in 1967, so why didn't Patterson go and make his fortune in special effects?

There are some interesting aspects of the footage that are worth drawing attention to:

The subject of the film has breasts – they are quite visible and seem to me to be the sort of detail that would be fraught with difficulties on a suit – the weight of them would tend to pull the front of the suit down, and you would have to get them just right to bounce around naturally. I can't help thinking that if I were building a bigfoot suit in 1967 and wanted to sell this footage to TV networks and theatres, that I wouldn't run the risk of having conservative America taking issue with the film on account of the breasts. This is 1967 remember, the previous year Mary Ann from 'Gilligan's Island' had been barred from showing her naval on screen, as had Mariette Hartley in an episode of 'Star Trek' and Jeannie from 'I Dream of Jeannie'!

The subject never locks its knees whilst walking the way humans do – its gait is more like that of a cross-country skier. Whilst it wouldn't be difficult for a human to walk like this, it would be unusual. At the Fortean Times UnConvention in 2003, author Kal Korff was there to promote a new book which claimed that the 'man in the suit' was a neighbour of Bob Gimlin's called Bob Heironimus. Korff's explanation as to why Heironimus walked using this odd gait was that he had been in a car accident. Korff obviously hadn't read the

book properly at this stage, if he had, he would have realised that the car accident occurred a few years after the film was shot!

It should be easy to debunk the film, and Korff, Heironimus and the book's author Greg Long gave it a pretty good go, but there were so many inconsistencies with their version of events that they demonstrated themselves and the people around them to be wrong in so many ways. Long interviewed both Heironimus who claimed to have worn the suit and a man called Philip Morris who claims to have made the suit. The two men gave completely and utterly different descriptions of the suit, but Long didn't seem to even notice they were talking about two different suits.

I think we should leave this film alone for the time being. As I said, I could write a book on this one subject, one day I might just do that.

There are other photographs and videos, there is one very interesting pair of photographs from Oklahoma that depicts something very similar in stature to the Patterson-Gimlin film subject for example, but these days photographs are too easy to manipulate using Photoshop that in many ways we have to be very suspicious about all photographs which is a great shame.

So, after years of research I am back where I started – my intention of compiling a book of evidence to present to scientists for consideration has gone by the wayside since I'm not prepared to present shoddy evidence, which means that I'll sit back and see what turns up in the next few years. This is a mystery that people have been chasing for nearly seventy years; it will wait a little longer. Hopefully though we won't have long to wait. Whilst I rage about how poor much of the so-called research is there are some people conducting thoughtful, scientifically minded research such as the Texas Bigfoot Research Conservancy (Texas Bigfoot), who have maintained dozens of camera traps in dense forest for several years now. Their research is methodical and well-planned, if anyone manages to find one of these things I'd put my money on the TBRC.

At the time of writing, there are rumours that a researcher by the name of Adrian Ericsson has obtained clear compelling daylight footage of a bigfoot. I have spoken to people who have seen it who tell me that it is incredible footage, but I'll wait until I have seen it.

Lastly, we are awaiting a paper prepared by DNA researcher Dr. Melba Ketchum, who has analysed a number of DNA samples submitted to her from various researchers. It is currently working its way through the peer review process, and it is nice for once to see some real science in this field, regardless of the eventual outcome.

For me though, I'm less convinced than I used to be, but I still cling to a little hope. I'd like Bigfoot to be real, but part of me wonders if some of the researchers would prefer to continue the mystery. If Bigfoot's existence is ever proven, their days of weekend camping trips with their Bigfoot buddies are over. Perhaps we are better off with the mystery.

Lastly, should you wish to discuss Bigfoot, please feel free to email me at paul@vella.co.uk or find me on facebook, and don't forget to check out The Bigfoot Show podcast which I co-host - facebook.com/thebigfootshow

REFERENCES

Arment, C. (2006). *The Historical Bigfoot*. Coachwhip Publications.

McLean, S. (2006). *Big News Prints*. www.mclean.org.

Texas Bigfoot. (n.d.). Retrieved from http://www.texasbigfoot.com/

The Wild Man of Tennesee. (1889, Feb 8). *New York Times* .

(n.d.). Retrieved from http://www.bfro.net/NEWS/bateman.asp

INFRASOUND
AND IT'S ASSOCIATION WITH PARANORMAL EXPERIENCES

Steve Parsons

INTRODUCTION

Infrasound, is normally defined as audio frequency energy that lies below the range of normal human hearing, typically 20 Hz (*Leventhall, Pelmear & Benton, 2003*), has captured the attention of paranormal investigators. This interest follows research that indicates psycho-physiological effects including anxiety, nausea and impaired sleep as a result of exposure to such audio frequencies (*Moller,1984*) and other studies that have postulated a causal link between infrasound energy and the appearance of apparitions (*e.g. Tandy & Lawrence, 1998*). Ambient Infrasound within the environment is produced by both natural and man-made sources. Natural sources include weather related effects i.e. wind and storms; surf and wave action, volcanic eruptions and upper atmospheric phenomena i.e. the jet stream and meteors. Man-made infrasound is associated with vehicles and aircraft, machinery and the interactions of weather on buildings and other structures.

Quite early on, paranormal investigators had suggested that sound vibrations may be connected to the production of psychic phenomena (*Fodor & Lodge, 1933*). Measuring infrasound is not technically difficult but it involves the use of specialist and expensive equipment. Early methods such as placing bowls of Mercury into a location to detect vibrations were crude and insensitive. For this reason little effective research has, to date, been carried out examining the potential of infrasound as a causal factor at many locations described as being 'haunted'. As a result of Tandy's research, paranormal investigators have taken a keen interest in Infrasound. The lack of information about the levels of ambient infrasound within the everyday environment resulted in Tandy and other investigators basing their conclusions on the limited data available. The majority of research conducted into the physiological and psychological effects of infrasound exposure has been carried out by the United States space programme and also military weapons research. Such experiments used exposure levels (150dB-170dB); much higher than could be expected to be found in homes, industry or from environmental sources. In 1975, Westin noted in his review paper dealing with the effects of infrasound on man (Westin, 1975) that the amounts of natural and man-made infrasound that man is subjected to is larger than is generally realised and that few studies have concerned themselves with the physiological effects of moderate-to-high levels of infrasound exposure. Secrecy surrounding lethal and non lethal acoustic weapons development and

the documented effects of exposure to high levels of infrasound resulted to periodic dramatic claims being made in the media:

The Silent Sound Menaces Drivers – Daily Mirror, 19th October 1969

Brain Tumours 'caused by noise' – The Times, 29th September 1973

The Silent Killer All Around Us – Evening News, 25th May 1974

Partly as a result of these claims, infrasound began to develop a popular mythology and was being blamed for many ailments and misfortunes for which no other explanation was forthcoming. These included brain tumours, cot death and road accidents. In 1973, Lyall Watson published 'A natural history of the supernatural' in which he made a series of incorrect claims including stating "That in an experiment with infrasonic generators, all the windows were broken within a half mile of the test site" Later adding "That two infrasonic generators focussed on a point five miles away produce a resonance that can knock a building down as effectively as a major earthquake". Such claims and the general lack of research into the effects of exposure to naturally occurring infrasound have permitted some individuals to perpetuate and develop the idea that infrasound is the cause of many paranormal experiences.

This report will examine some of the physical properties of low frequency sound; discuss techniques to detect and measure infrasound and consider the perception of infrasound and the psycho-physiological effects of infrasound exposure and links to reports of anomalous & paranormal experiences.

1. The Physics of low frequency sound

Our most common experience of sound in is air, but sound is able to travel through any solid, liquid or gaseous medium. Sound is normally produced by anything that is vibrating and causing the surrounding molecules to vibrate in sympathy with the source.

These vibrations travel in the form of a wave which can be defined as a travelling disturbance consisting of coordinated vibrations that transmit energy with no net movement of matter (Ostdiek & Bord, 2000). Sound waves take the form of alternating compression and rarefaction; this is known as a longitudinal wave. In air, sound waves travelling past a fixed point cause the atmospheric pressure to vary slightly above and below the steady barometric pressure.

1.1 Wavelength, Frequency & Velocity

The distance between any two corresponding points on successive waves is termed the wavelength. Frequency is the number of successive waves that are emitted from the source in one second. Frequency is stated in units of Hertz (Hz) i.e. 100 wavelengths per second are expressed as 100Hz. In air, under

normal conditions, sound waves travel at about 342 metres per second (m/s). In air the velocity of sound varies slightly with the air temperature (Talbot-Smith, 1994). In materials that have a higher molecular density, sound waves will have a higher velocity. For Example:

Water	1480m/s
Glass	5200m/s
Steel	5000 - 5900m/s; depending on the composition of the metal.
Helium Gas	965m/s

Wavelength, velocity and frequency are linked by a simple mathematical formula:

Wavelength = Velocity divided by Frequency.

Using this formula we are able to determine the wavelength for any given frequency i.e. in air, for a frequency of 40Hz and a temperature of 18° C. The wavelength is: 342.043 / 40 = 8.55 metres.

1.2 Units of measurement used for sound

There are several ways of expressing the intensity or power of sound waves. However, it is commonly expressed as sound pressure. In scientific terms this is defined as the force acting on a unit area. Thus sound pressure waves are normally given as Newton's per square metre (N/m^2). More recently, it has become the official practise to refer to the N/m^2 as the Pascal (Pa). The sound pressure variations that are detectable by a typical human ear are immense. For example, the quietest sound that can be detected by a normal human ear has a sound pressure level (SPL) of 0.00002 Pascal (Pa) and the loudest an SPL of around 200 Pa.

In order to simplify the expression of sound pressure levels the decibel (dB) is more commonly used. This is a unit of comparison and thus it must be stated against a reference value to be meaningful. Formally expressed, the number of dB represents a ratio of two powers using the formula dB = 10 log (power ratio). As stated; the human ear at its most sensitive is generally accepted to be able to detect a SPL of 0.00002 Pa referred to as 0dB; this is the reference value against which all comparisons of SPL are expressed.

This standard allows any sound pressure to be quoted as (x) dB above that pressure and is expressed as dB (spl) or more often simply dBS. Thus; a sound 10 times more powerful than the reference SPL is expressed as 10 dBS. A sound 100 times more powerful than the reference is 20 dBS. A sound 1,000 times more powerful than the reference is 30 dBS etc. An SPL of 140dB (200 Pa) which is 100,000,000,000,000 more powerful than the reference will cause rapid ear damage and aural pain

1.3 Sound waves & Structures

Sound waves are absorbed, reflected or diffracted by obstacles in their path. Absorption or reflection of a sound wave reduces the amount of energy it is able to transmit. This will reduce the loudness of subsequent sounds and will also cause an attenuation of the distance that the sound waves can travel. For reflection of the sound waves to occur, the wavelength must be smaller than the dimensions of the reflecting object. For example, if the side of a building is 10m high and 20m long, there will appreciable reflection of sounds having wavelengths of less than 10m. This corresponds to frequencies of around 34Hz. Thus sounds above that frequency will be more easily reflected. If sound waves with a lower frequency and correspondingly longer wavelength encounter the same obstacle they will not be reflected but will instead bend around the obstacle, a process called diffraction. If the wavelength is much greater than the obstacle size then there will be marked bending around the obstacle. At infrasonic frequencies the wavelengths are considerable, and therefore very little of the infrasound wave energy is reflected. Absorption of the infrasound wave may also be significantly lower than audible sounds. Therefore infrasound waves are able to travel greater distances from the source without significant attenuation; in air infrasound may be detectable over tens or even hundreds of kilometres and even further through liquid or solid media (Mihan House, 2005)

Acoustic pressure waves reflecting and refracting from the structure of a building from infrasound sources such as machinery and vehicles surrounding or within the building; and naturally occurring infrasound from wind and weather interacting and impinging upon the structure create regions within the building that have high and low levels of infrasound. Such regions may be highly localised, dependent upon the actual acoustic wave / structural interactions. The dimensions, shape and construction materials of a building together with the frequency and amplitude of the infrasound; are all factors that will affect the local levels of infrasound and must be considered. If the infrasound is produced by weather and other natural sources of infrasound these too must be acknowledged. Local infrasound levels will vary over time due to variations in the ambient infrasound sources; natural or man-made, and the resultant change in their structural interactions.

When measuring infrasound within any location a single measuring point will rarely produce an accurate overall result for that location. When measuring human infrasonic exposure, the measurements should be made as close as possible to the position of the percipient as a difference of just a few feet can create a significant difference of the SPL in the local infrasound levels (Para.Science, 2007).

2. Hearing and the perception of low frequency sound

The human ear has a generally quoted frequency range from about 20Hz to around 20,000Hz. However, it has been demonstrated that acoustic stimuli with frequencies as low as 1Hz can not only be heard, but also can de described in terms of loudness (Yeowart et al, 1967).

The actual mechanisms of infrasound detection are not fully understood but is has been suggested that at very low frequencies detection does not occur through hearing in the normal sense. Rather, detection results from nonlinearities of conduction within the middle and inner ear. This generates harmonic distortion in higher, more easily audible frequency range (von Gierke and Nixon, 1976). Infrasound waves may also be detected through skeletal bones, bones within the ear, resonance within organs and body cavities and tactile senses (Job, 1993).

2.1 Low frequency hearing thresholds

A number of studies have been conducted for the purposes of determining the lowest sound levels which are audible to the average person with normal hearing (Corso, 1958; Lydolf and Moller, 1997; Moller and Andresen, 1984; Watanabe and Moller, 1990). The range of frequencies covered and the methods of exposure are as follows:

Corso.	5Hz – 200Hz	Monaural headphone.
Lydolf & Moller.	20Hz – 1 kHz	Pressure chamber / free field.
Moller & Andresen.	2Hz – 50Hz	Pressure chamber.
Watanabe & Moller.	4Hz – 125Hz	Pressure chamber.

From these studies the low frequency thresholds can be established (figure 1.):

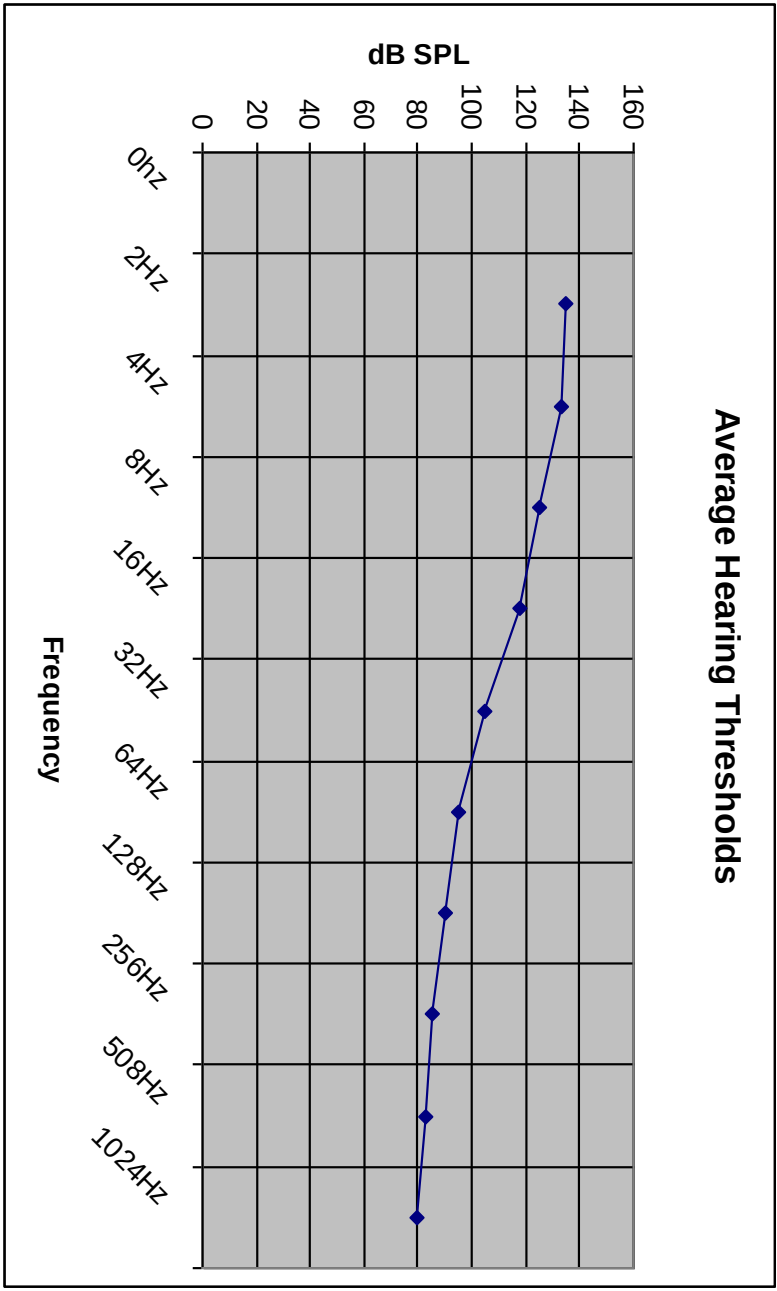


Figure 1. Low frequency Hearing Thresholds.

2.2 Individual hearing thresholds

The threshold levels described are an average over groups of people. An individual's threshold may vary considerably from these values. Frost (1987) compared two subjects over a range of frequencies from 20Hz to 120Hz. At 40Hz one individual was 15dB more sensitive that the second. Yamada (1980) reported female thresholds to be around 3dB more sensitive than male thresholds except at the lowest frequencies, below 16Hz. It was also found that individual differences could be large. In one case, a male subject had a hearing threshold which was 15dB more sensitive than the average.

2.3 Perception of low frequency sound

The function of the auditory system is the perception of objects and events through the sounds they make (Masterton, 1992). The physical dimensions of sound are usually expressed in experiments using perceptual terms, The Amplitude, Frequency and Complexity of the sound vibrations are perceived as Loudness, Pitch and Timbre respectively.

The relationship between the acoustic signals and perception has been tested although the research has concentrated on speech and language i.e. Lisker and Abramson (1970). Studies looking at low frequency and infrasound have mainly been concerned with predicting loudness or annoyance and for the establishment of safe exposure limits (Challis et al 1978: Fields, 2001). The research so far has concentrated on using very high sound pressure levels to establish safe exposure limits e.g. Jerger, Alford and Coats (1966). There is currently no comparable research that has provided data for normal exposures. Data is also not available to indicate the infrasonic sound pressure levels that might normally be expected to be found in the general environment.

In psychophysical terms, the perceived loudness of pure tone at 1000Hz (1 kHz) grows as a power function with sound pressure with an exponent of about 0.6 (Stevens, 1975). Goldstein (1994), showed that for a low frequency tone of 20Hz, the exponent is approximately twice as high, i.e. 1.2. This demonstrated that a doubling in perceived loudness is achieved with only a 4-5dB increase in SPL for a low frequency tone whereas the SPL for a higher frequency tone would need to be increased by 9-10dB to achieve the same perceived doubling in loudness. Pitch discrimination is also affected by low frequency sound. At 25Hz, the ability to discriminate pitch is about three times worse than for sounds at 63Hz (Usher, 1977). The ability to determine from which direction a sound is coming from, known as the Haas Effect is also seriously impaired. Low frequencies can travel great distances without substantial attenuation and can easily penetrate many

buildings and structures. Directionality may also be affected by the way low frequency 'hearing' involves multiple structures in the body rather than just the ears.

2.4 Psychological and Physiological effects of low frequency sound and infrasound.

A number of studies have been conducted to study the psychological and physiological effects of infrasound on individuals i.e. Chen and Hanmin (2004) and Moller (1984). These studies have used a range of pure infrasound tones at high sound pressure levels to examine the effects of infrasound exposure upon subjects.

Individuals subjected to infrasound at high SPL's reported feeling uncomfortable, ear pressure, headaches, tiredness and feeling 'troubled'.

Changes were observed in both blood pressure and heart rate. However, results obtained from these experiments have not been conclusive with different individuals experiencing different responses to the infrasound exposure (Chen & Hanmin, 2004).

In numerous studies that have been published there is little agreement about the biological effects following exposure to infrasound. Effects that have been reported include effects on the inner ear, vertigo and imbalance. Also, intolerable sensations, incapacitation, disorientation, nausea, vomiting and bowel spasm have been recorded. Subjects exposed to infrasound at 5Hz and 10Hz with levels of 100dB-135dB reported feelings of fatigue, apathy and depression, pressure in the ears, a loss of concentration, drowsiness and vibration of the internal organs. Karpova et al. (1970) reported effects on the Central nervous System (CNS), cardiovascular and respiratory systems.

In a study of airline pilots Lidstrom (1978) found that long-term exposure to infrasound of 14Hz-16Hz at levels around 125dB caused decreased alertness, a faster decrease in the electrical resistance of the skin and an alteration in time perception.

Studies carried out using animals have reported adverse effects from exposure to infrasound. Male rats exposed to prolonged infrasound at 8Hz at 125dB showed constriction to all parts of the blood vessels in the conjunctiva of the eye after 5 days (Svidovyl and Kuklina, 1985). Infrasound was suggested to influence a rats pituitary adrenal-cortical system as a stressor at SPL's beginning between 100dB and 120dB at a frequency of 16Hz (Nishimura et al., 1987).

Other researchers reported that infrasound exposure produced sensations of apprehension, visual effects, nausea and dizziness (Stephens, 1969) also, depression, fatigue and headaches (Gavreau, 1968). Gavreau (1968) further

observed that ordinary man-made sources of infrasound including fans and defective air conditioners etc may produce similar effects.

Anecdotally, there are very many people who report adverse physiological and psychological effects which they claim results from exposure to man-made infrasound. In response to a series of articles (anon, 1977) about the possible dangers of low frequency noise The Sunday Mirror received over 700 letters from readers describing a wide range of adverse health and psychological effects they were blamed on low frequency sounds. These include; severe headaches, nausea, palpitations, dizziness and extreme fatigue. Also reported were visual hallucinations, disturbed sleep, nightmares and suicidal thoughts.

3. Measuring low frequency sound and Infrasound

A number of techniques are available to detect and measure low frequency sound and infrasound. At the lowest frequencies i.e. below 1.5Hz, seismometers are normally used for measuring infrasound in the form of structural vibration from sources such as earthquakes (Le Pichon et al, 2002) volcanoes (Garces et al, 1998) and mining explosions (Hegarty et al, 1999). Micro-barometers are preferred for the detection and measurement of infrasound transmitted through the air. These devices are highly accurate and were originally developed for the detection of infrasound generated by atomic bomb tests. They have also been used for the study of meteors, thunderstorms and weather related phenomena mainly in the range 0.1Hz – 5Hz (McKisic, 1997).

For higher infrasound frequencies typically those above 5Hz then microphone based measuring systems are commonly employed such as the *Bruel & Kjaer Type 2209* sound level meter. This meter employs a microphone that is sensitive to 1Hz and can be connected to a Fast Fourier Transform (FFT) analyser such as the *Zonic AND type 3525* to allow spectrum analysis measurements to be made. Many of these systems have been developed to allow environmental noise measurement to be made and the measurements are weighted using electronic filtering in order to replicate as closely as possible normal thresholds of human hearing. This has lead to the development of a series of filters optimised to cover a range of different environmental and acoustic conditions. The most commonly used is the 'A' filter which is designed for general environmental monitoring and the 'C' filter used for lower frequencies. Both of these commonly used filters are based on hand-extrapolations into the lower frequencies and are not based upon empirical low frequency data (Goldstein, 1994).

Using such filters for infrasound measurements may however seriously underestimate the perceived loudness of low frequency sounds by as much as 9dB (Gamberale et al, 1982). Alternative weightings have been developed such as 'D' which was specifically designed for measuring aircraft noise. The best

noise weighting for infrasound remains to be settled but Bullen et al. (1991) found that equal energy units sometimes called Zero or 'Z' weighting has often provided the most effective predictor for community reaction to infrasound. Such environmental monitoring systems are expensive. Additionally, there is not yet a single standard for the measurement of environmental low frequency sound and infrasound, which can result in difficulties when trying to make comparisons between existing studies.

3.1 Acoustic Research Infrasound Detector

However, with the advent of powerful personal computers it is now possible to perform analysis of these low frequency sounds using a laptop computer and suitable software. Microphones that can operate effectively down to as low as 1Hz remain almost prohibitively expensive but it has been possible to adapt existing loudspeaker technology to construct a microphone that will respond accurately at very low frequencies. This concept has been the basis for the author's Infrasound measuring system known as the Acoustic Research Infrasound Detector (ARID). ARID used the principle that a loudspeaker is in effect a microphone operating in reverse. By modifying a pair of large diameter loudspeakers they can be used as large microphones sensitive to frequencies below 1Hz. Signal processing is then carried out using a laptop PC with adapted available FFT spectrum analysis software (Parsons & O'Keeffe, 2008)

Early trials with ARID proved that the concept worked well in practise although the first system was bulky to transport and occasionally excessively prone to structural vibrations being picked up via the stands. The biggest drawback with the ARID system was however a lack of any accepted calibration standard and whilst there was a strong confidence in the resultant data for the purposes of the authors PhD it was felt that an improved system could be developed. Continued work has resulted in a new system although it is still referred to using the same acronym i.e. ARID 2. This new system replaces the earlier 'loudspeaker' microphones with a pair of 1" diameter dual-diaphragm air pressure transducers housed in modified microphone cases together with an improved Analogue to Digital (D/A) converter and modified software. The use of microphone cases means that commercial anti-vibration mounts for the transducers can be used thus reducing structural vibration noise affecting the measurements. Improvements to the D/A converter, fully balanced and shielded cables and the improved software has resulted in lower instrument noise levels and therefore improved data sampling and quality. Data sampling can be obtained continuously or at any user selected interval from 1second to 23h and 59m. The biggest advantage the new system offers is that it has been possible to calibrate the data to current (ANSI [1]) sound measurement standards.

Environmental sound measuring equipment is normally designed to measure the peak sound pressure level (Lpeak) or an equalised value (Leq) over a selected period of time. Sudden (impulse) high acoustic pressure sounds; for

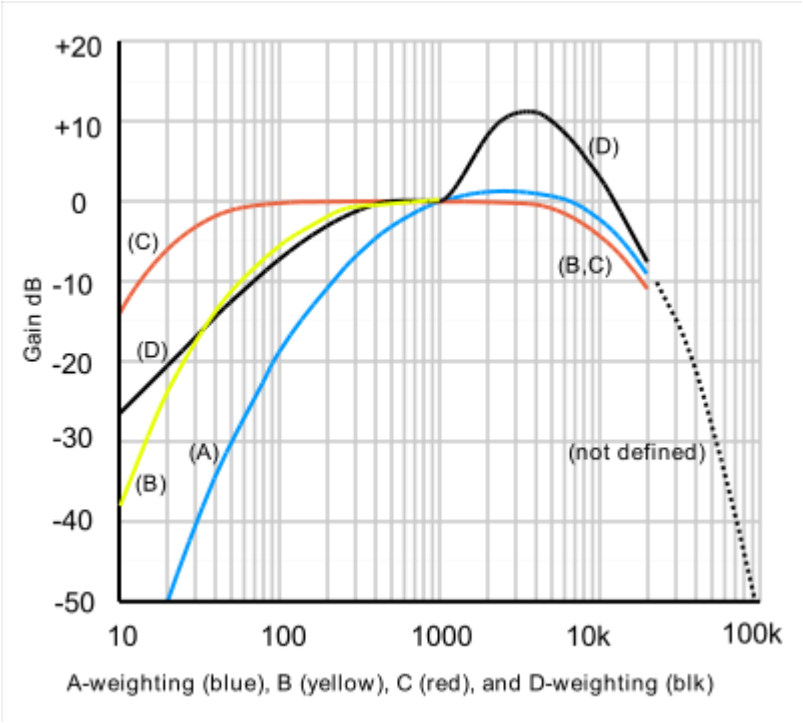
example the sudden closing of a door, footsteps and wind gusts may cause erroneous high infrasound measurements. Measurement errors can also be caused by short duration and transient events such as passing vehicles or the operation of machinery. In order to minimise any measuring errors resulting from such sounds, measurement of low frequency sound should be made over a period of several minutes or more (DIN: 4560, 1997). ARID measurements are obtained over a 15 minute period which gives an Leq result that should remove measurement errors caused by impulse and transient events.

3.2 An infrasound rough guide

Whilst techniques for measuring infrasound frequency and amplitude can be prohibitive in terms of the equipment and cost it is possible to undertake a simple test that will act as a guide to the presence or otherwise of significant levels of infrasound at a location. Tandy (2002) provides construction details for modifying a standard sound level meter by the addition of a DIY low-pass filter network. This required a considerable expertise in electronics and integrated circuit construction techniques but did provide the user with a general indication of the amplitude of sound at frequencies below about 35Hz. There is however a much simpler method for quickly determining if low frequency sound and infrasound is present at significant levels:

The method exploits the filter weighting already built into most sound level meters. Suitable meters can be readily obtained from a number of sources including online retailers for less than £25. The method can even be employed by use of a sound level meter App for the iPhone such as 'SPL' (StudioSixDigital), but with a reduced degree of accuracy. In order to carry out this simple test the sound level meter must have both 'A' and 'C' weighting filters.

Two consecutive measurements of the ambient SPL are taken: The first measurement is made using the 'A' filter, noting the SPL value; a second measurement using the 'C' filter is carried out, again noting the SPL value. If the SPL value of 'C' is greater than 'A' this indicates that there are increased levels of low frequency sound present. The greater the difference between the 'C' value and the 'A' value, the higher the level of low frequency sound at the measurement location. If the SPL value of 'C' is significantly higher than 'A' i.e. 10dBS or more then it is likely that appreciable levels of infrasound are likely to be present. The technique exploits the difference in weighting between the 'A' and 'C' filters in the low frequency sound region (figure 2) Although no direct information about either the frequency or amplitude is provided by this technique it does permit the user to make a judgement about the level of low frequency sound and infrasound. The overall accuracy of this technique can be improved by making a series of consecutive measurements over a period of time and / or taking measurements using the time average (Leq) function that some meters provide.



4. Infrasound and the paranormal

4.1 Historical links

Early investigators of the paranormal and supernatural recognised that vibrations were a component in some reported haunt and poltergeist cases. Harry Price for example included a bowl of mercury in his personal ghost hunting kit for the detection of tremors in a room or passage (Price, 1974a). Price was also aware of the ability of certain notes and sounds to cause a sympathetic vibration in other objects. For example, he observed that in one case a particular pealing of nearby church bells caused the wires of a piano in a haunted house to vibrate in sympathy leading to the residents reporting that ghostly music was at times being played by unseen hands (Price, 1974b).

Earlier researchers of psychical reports also noted that sound vibrations played a mysterious part in the production of psychic phenomena (Fodor & Lodge, 1933). None of the early investigators directly mention infrasound as the concept of low frequency sounds existing below the normal human hearing range did gain general scientific recognition until the 1940's. We now know that

low frequency structural and airborne vibrations are produced by and also result from, infrasonic acoustic energy. In an experiment that was set-up to examine vibrations and jolts associated with poltergeist activity Gauld and Cornell (1979) used a powerful mechanical vibrator attached to a group of abandoned houses that were scheduled for demolition. This created powerful vibrations throughout the structure of the building and could be set to vibrate at frequencies between 45Hz and 120Hz. The aim of the experiments was to test the claim that geophysical forces might be responsible for some aspects of poltergeist activity. The experiment would also have produced large amounts of infrasound within the building as the various structures were vibrated by the powerful machinery.

The investigators did not report any anomalous physiological or psychological experiences during any of these experiments and confined their reporting of results to observed physical effects upon the structure.

The first direct claim of a possible causal link between infrasound exposure and reported anomalous experiences was made by Persinger (1974). He stated that although little public data has been available for comparison with reports of paranormal experiences. Infrasound, however, is an excellent candidate for at least some types of precognitive experiences. Weak infrasound energy from ambient sources could evoke vague responses and lead to reports of feelings of foreboding, depression of impending doom ahead of natural phenomena such as earthquakes or storms (Persinger, 1974). However, any potential link between infrasound and paranormal experiences was not explored for many years, possibly due to the perceived technical difficulties in properly measuring infrasound energy within a haunt location and the lack of data relating to levels of ambient infrasound within the environment.

4.2 The development of a case for infrasound and the paranormal

In recent years paranormal investigators have taken an active interest in infrasound exposure as a possible cause for some of the anomalous experiences reported at haunt locations. Infrasound has increasingly been suggested to be a primary contributing factor in the production of various physiological and psychological effects that are subsequently interpreted as a personal paranormal experience (Fielding and O'Keeffe, 2006). Reported paranormal experiences that have been frequently linked to infrasound exposure include psychological; such as a sense of presence and foreboding: Psycho-physiological, caused by the vibration of body organs and cavities and Physical; the infrasound creating secondary observable effects upon the structures within a location, leading to movement of objects and anomalous sounds. Such claims are rarely upon empirical observations of infrasound but instead draw upon similarities between the witness reports of paranormal experiences and the reported effects of infrasound exposure in the civilian studies and restricted NASA / military research programmes.

Paranormal interest increased followed the publication by Tandy & Lawrence (1998) of their infrasound hypothesis. They suggested a causal role for infrasound in some instances of haunt phenomena and apparitions. The initial suggestion was based upon the observed effects on a metal sword blade and the anecdotal reports of paranormal experiences within the same location. The source of the infrasound was traced by trial and error to a defective fan within the haunted workplace. The actual frequency and amplitude of the infrasound was never directly measured but was estimated from the authors personal experiences, mathematical calculations and the observation of the effects (Tandy & Lawrence, 1998). The authors also noted similarities in psycho-physiological effects reported by workers exposed to low frequency fan noise originally reported by Tempest (1976). A key suggestion of this research was that infrasound in addition to the psychological effects may also be responsible at a specific frequency range (around 18Hz) of causing eyeball vibration leading to visual effects that might be interpreted as apparitional encounters. Tandy later conducted a series of infrasound measurements in a 14th Century cellar beneath a tourist information centre in Coventry (Tandy, 2000).

In this experiment objective measurements of the ambient infrasound were made using contemporary environmental monitoring equipment. He observed that a frequency of 19Hz was present within the location. The results confirmed his earlier hypothesis that infrasound close to previously suggested 18Hz range was responsible for the reporting of anomalous experiences by some visitors to the location.

Tandy's infrasound hypothesis was quickly picked up by the media and the paranormal community and seems to have been the catalyst for the claims now being made for infrasound involvement in paranormal cases. Subsequently, many paranormalists have developed their own theories and explanations of the relationship between infrasound and the paranormal. Most of these are based on a poor understanding of the original work by Tandy and / or a lack of knowledge in making infrasound measurements. Some however are simply bizarre and appear to be the work of a creative rather than a logical mind. On their internet site one paranormal group present the following as a fact; "Infrasound is caused by ghosts and spirits as they use electromagnetic energy to move things or materialise, just as lightning which is moving energy creates thunder which is infrasound, this can be recorded and used to prove that spirits are present." Another team of investigators claim to have recorded many infrasonic EVP's (electronic voice phenomena) using handheld digital dictation recorders. (References withheld). Such ideas often presented as facts and proofs by their exponents have lead to a general and gross misunderstanding of any actual relationship between infrasound and paranormal experiences and accounts.

Following the death of Tandy there had been no effective research into the possible involvement of infrasound in the production of paranormal experiences. However, since 2006, the author has undertaken a series of broadband infrasound measurements at a number of locations around the UK together with a number of experiments to study the link between infrasound exposure and reports of anomalous and paranormal experiences. A pilot study was carried out at a former shipyard on Merseyside during 2006 (Para.Science, 2007). The location had a reputation of being haunted with staff and paranormal investigators reporting physiological and psychological effects that might be associated with infrasound exposure. Results of the pilot study suggested a strong causal link between high ambient levels of infrasound (up to 80dBS) at frequencies between 7Hz and 15Hz and the reports of anomalous experiences in the percipients. A psychic medium also reported changes within the "psychic energies" within the location that closely corresponded to the objectively measured regions of high levels of ambient man-made infrasound. During 2007, the author et al conducted an experiment at The Real Mary Kings Close in Edinburgh as part of their 'Ghost Fest' event. A controlled level of Infrasound was produced using an author designed infrasound generator (ARIA - Acoustic Research Infrasound Array) and ambient levels of infrasound exposure measured as a part of this experiment.

Regular visitors to Mary Kings Close were unknowingly subjected to either only the ambient infrasound that is normally present or the ambient infrasound plus experimenter produced high level (>100dBS) infrasound at a frequency of 18.9Hz.

The subjective anomalous experiences of 439 individuals were surveyed. The results obtained strongly indicated that infrasound exposure was a component in the production of subjective paranormal experiences for around 1/3rd of the total survey. However, the study failed to demonstrate any of the visual disturbances and resulting apparitional experiences that Tandy had suggested would be created by exposure to the frequency range around 18Hz (Para.Science, 2008). The infrasound generator (ARIA) has also been used in two public performances (Silent Sound, 2006 & 2010) in which a frequency of 18.9Hz was produced at an SPL exceeding 90DBS. Unreported anecdotal accounts from participants and audience members did indicate a number of psycho-physiological effects such as feeling ill at ease, anxiousness and physical discomfort were experienced when ARIA was in use but no visual or apparitional experiences were reported.

5. Is infrasound responsible?

Almost without exception infrasound exposure studies to date have been for the purposes of trying to establish if there are any adverse human health or

performance implications in people who are exposed to infrasound in the workplace. These studies have all used pure tone infrasound at high or very high amplitudes or long exposure periods in their experimental design. Ambient infrasound from natural and man-made sources is almost without exception in the form of broadband noise comprising of fundamental notes, harmonics and resonant frequencies.

The use of pure tones in all of the infrasound exposure studies may also result in misleading effects being reported.

The data from the studies that have been carried is indicative of some physiological and psychological effects from prolonged exposure to high amplitude infrasound. These include cardio-vascular and respiratory effects (Karpova et al, 1970) and feelings of fatigue, apathy, depression and loss of concentration. In some instances, the reported effects are similar to subjective psycho-physiological effects reported in spontaneous paranormal cases. These include the feelings of anxiety or dread, nausea, sickness and sudden onset headaches. Initially, this similarity of experience may seem impressive and should not be dismissed but a number of problems remain to be addressed. For example, Kawano et al. (1991) found that long distance truck drivers who were exposed to infrasound at around 115dB showed no statistically significant incidence of fatigue, subdued sensations or cardiovascular changes. Chen & Hanmin (2004) reported that different individuals had different responses to infrasound exposure. It is important to point out that all of the major laboratory based infrasound exposure studies report their results in terms of units of SPL.

Thus the equipment used for measuring the ambient levels of infrasound within the environment may result in the erroneous under-reporting of the actual levels present if the data is expressed in terms of filter weighted dB i.e. A, B, C, or G.

Tandy (2000) reports finding an infrasound standing wave at 19Hz with amplitude of 38dB in the haunted cellar. Unfortunately, he does not specify what weighting filter (if any) was applied to this measurement. Given the type of equipment used i.e. a Bruel & Kjaer type 2209 sound level meter, If one of the standard weighting filters was applied to the data, either the 'C' or more likely the 'A' weighting, its use could lead to a serious underestimate of the infrasound sound pressure levels. Broner (1978) describes a case in a London home where infrasound which was causing annoyance to the wife but not the husband was measured to be only 32dB (A) using 'A' weighting, but the SPL was actually measured at 63dB. In September 2006, immediately before its closure the author was able to undertake a series of infrasound measurements at the haunted cellar in Coventry. Using ARID to replicate the experiment carried out by Tandy the unpublished measurements did not support his claim of finding a 19Hz standing wave within the cellar, although infrasound was found to be present at a broad range of frequencies. The known variability of location

infrasound due to variations in the ambient sources; not knowing the filter weighting that Tandy used for his measurements and the lack of proper calibration for the prototype ARID system made it difficult to make any comparisons between the two infrasound surveys.

Tandy (2000) acknowledges that his measured value of 38dB within the cellar is substantially lower than those previously reported to create effects within individuals but suggests that as the effects are rather less spectacular this may simply reflect the lower amplitudes found. Braithwaite and Townsend (2006) also make the point that there are no published studies that have found any implications for cognition or experience of infrasound as weak as this. In fact, the actual levels of infrasound present may, as already noted, have been substantially higher and therefore much closer to those demonstrated to have produced effects. This difference in measuring and quoting infrasound levels between field and laboratory studies may also provide an explanation for the results of other experiments where low amplitude infrasound has been suggested to have effects (Brown, 1973) (Green, 1968).

Another difficulty in determining infrasound amounts from field measurements is that of the sampling period used. In his experiments within the haunted cellar Tandy (2000) describes a sample time of just 20 seconds being used. Although we are informed in that the measurements were repeated a number of times it is not made clear if the resultant data is an average of one sample period or of a number. A short sampling period i.e. 20 seconds, would not be sufficient to determine if the measured infrasound was always present at the measured values or simply the result of some transient effect for example a passing bus or even one parked nearby for a short time with its motor left running. Weather effects such as wind gusts or some other unknown short duration event might also be the cause of the infrasound during the sampling period. A longer sampling period would permit such transients to be taken in account and would permit a more realistic assessment of the true ambient infrasound levels to be made. The author's own measurements at the haunted cellar found that there were indeed short duration infrasound events caused by passing vehicles. It was also discovered that the presence of people within the cellar contributed significantly to the production of infrasound as they moved and walked about. Tandy had vacated the space prior to his measurements being carried out. This step too, may have not have provided an accurate reflection of the nature of the originally reported incidents, which took the form of personal anomalous experiences to visitors during tours of the historic cellar.

6. Further Research

Susceptibility to psycho-physiological effects of infrasound exposure seems to be linked to both exposure duration and overall sound pressure level (Kitamura

& Yamada, 2002). Prolonged exposure to low infrasound pressure levels has been suggested as a likely cause of adverse psycho-physiological effects (Benton, 1997). Although the limited research does not directly indicate it; it might be fair to assume that short duration exposure to high infrasound pressure levels may cause similar effects. Existing research does indicate that exposure to high levels of low frequency sound at concerts or in some industry explosions does cause aural pain and other physical effects; such effects may be temporary or permanent (Fearn, 1973).

The seminal work by Tandy & Lawrence (1998) and Tandy (2000) remains the only real basis for the assumption of an infrasonic involvement in personal experiences at haunt locations. Inevitably, such primary studies are flawed as often as in this case there is little or no preceding data for the author to make use of when developing the argument.

A key problem lies with the lack of information about levels of ambient infrasound at haunt locations. Such studies that exist have been made either following noise complaints or for the establishment of safe exposure limits and thresholds within high noise environments. This lack of baseline data is a crucial problem for paranormal researchers seeking to test or develop the case for an infrasound involvement and must be urgently addressed if meaningful research is to continue. In 2006, the author successfully applied for grant funding from the Society of Psychical Research to support an extensive series of infrasound measurements at a range of geographically and typologically diverse haunt locations within the U.K. and Eire. The ongoing survey also measures the infrasound a similar or co-located sited control (non-haunt) sites in order to ascertain if there are any significant difference in the ambient infrasound frequencies and amplitudes at haunt locations compared to the control sites. The survey also undertakes measurements of the ambient infrasound at a wide range of locations regardless of any paranormal association or reports in order to establish a set of baseline ambient infrasound data to support future infrasound studies. The need for such baseline data was also highlighted by Braithwaite & Townsend (2006).

From the limited studies conducted to date and the knowledge that infrasound is produced by so many natural and man-made sources it now seems highly likely that infrasound is just one of many factors that may lead to the reporting of anomalous or paranormal experiences by some individuals. A number of other possibilities are also indicated:

i. Infrasound alone does not produce anomalous & paranormal experiences.

ii. The frequency range around 18Hz does not produce the apparitional experiences as suggested by Tandy & Lawrence.

iii. That infrasound presented at a range of frequencies is more likely to produce reports of anomalous & paranormal experiences than single frequency infrasound.

iv. That a rapid variation in the infrasound frequency and / or amplitude i.e. >1Hz per second or 3dB per second is more likely to contribute to the reporting of anomalous & paranormal experiences than infrasound that is constant or is slowly changing.

v. That a small variation in the infrasound frequency and / or amplitude i.e. +/-2Hz or +/- 3dB is more likely to contribute to the reporting of anomalous & paranormal experiences than greater variations.

A series of experiments and studies are already underway or are being planned to test the indicated possibilities. Further developments of both ARID and ARIA are planned which will permit better measurements of the ambient infrasound to be made and to support further studies of infrasound exposure experiences.

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REFERENCES:

Anon. (1977, 26th June). *Hounded by this nagging noise*. The Sunday Mirror.

Anon. (1977, 3rd July). *Hum – that mystery noise that drives sobbing wife out of the house*. The Sunday Mirror.

Braithwaite, J. and Townsend, M. (2006). Good vibrations: The case for a specific effect of infrasound in instances of anomalous experience has yet to be empirically demonstrated. *Journal for the Society for Psychical Research*. 70a. pp211-224.

Broner, N. (1978). The effects of low frequency noise on people. *Journal of sound vibration*. 58. pp483-500.

Brown. (1973). New worries about unheard sound. *New Scientist (8th November)*.

Bullen, R. B. Hede, A. J. and Job, R. F. S. (1991). Community reaction to noise from an artillery range. *Noise control engineering journal*. 37. pp115-128.

Chen, Y. H. Q., and Hanmin, S. (2004). An investigation on the physiological and psychological effects of infrasound on persons. *Journal of low frequency noise vibration and active control*. Vol.23 1. pp71-76.

Corso, J. F. (1958). Absolute thresholds for tones of low frequency. *American journal Psychology*. 71. pp 367-374.

DIN: 4560 (1997). Measurement and Evaluation of Low Frequency Environmental Noise.

Fearn, R. (1973). Pop music and hearing damage.. *Journal of Sound and Vibration, 29. pp 396-397.*

Fielding Y, & O'Keeffe C. (2006). *Ghost Hunters: A guide to investigating the paranormal.* London: Hodder & Stoughton.

Fields, J. M. (2001). An updated catalog of 521 social surveys of resident's reaction to environmental noise. NASA Report, NASA/CR-2001-211257.

Fodor, N. and Lodge O. (1933). Encyclopedia of Psychic Science. London. Arthurs Press Ltd.

Frost, G. P. (1987). An investigation into the microstructure of the auditory threshold and of the loudness function in the near threshold region. *Journal of low frequency noise vibration.* 6. pp34-39.

Gamberale, F., Goldstein, M.,Kjellberg, A., Liszka, L., and Lofstedt, P. (1982). Perceived loudness and annoyance of low frequency noise. Stokholm. Arbete & Halsa.

Garces, M., Hegarty, M. and Schwartz, S. (1998). Magma acoustics and the time-varying melt properties at Arenal volcano, Costa Rica. *Geophysical Research Letters*. Vol. 25. 13. pp2239-2296.

Gaul, A. and Cornell, A. D. (1979). Poltergeists. London. Routledge & Kegan Paul.

Gavreau, V. (1968). Infrasound. *Science Journal.* 4. pp33-37.

Gierke, H. E. von and Nixon, C. W. Effects of intense infrasound on man. *Infrasound and low frequency vibration,* edited by W. Tempest. London. Academic. pp115-150.

Goldstein, M. (1994). Low frequency components in complex noise and their perceived loudness and annoyance. *PhD dissertation.* Dept. of Psychology, Stockholm University. Arbete & Halsa.

Green, J. F. and Dunn, F. (1968). Correlation of naturally occurring infrasonics and selected human behaviour. *The journal of the Acoustical Society of America*. 44. No.5.

Harris, C. S., Sommer, H. C. and Johnson, D. L. (1976). Review of the effects of infrasound on man. *Aviation & Space Environmental Medicine*. 47. pp582-586

Hegarty, M., Kim, W. and Martysevich, P. (1999). Characteristics of infrasound produced by large mining explosions in Kazakstan. *Proceedings of the 21st Annual Seismic Research Symposium: Technologies for monitoring the comprehensive nuclear test-ban treaty*. Las Vegas. USA. 1999.

Job, R. F. S. (1993). Psychological factors of community reaction to noise. *Noise as a public health problem,* edited by M. Vallet. France. INRETS. Vol 3. pp 48-70

Karpova, N.I., Alekseev, S. V., Erohkin, V., Kayskina, E. N., and Reutov, R. P. (1970). Early response of the organism to low frequency acoustic oscillations. *Noise and Vibration bulletin*. 11. pp100-103.

Kitamura, T. & Yamada, S. (2002). Psychological analysis of sufferes of low frequency noise and relation between brain structure and psychological response.
Proceedings 10th International Meeting Low Frequency Noise and Vibration and its control, York, UK. 2002.

Leventhall, G. Pelmear, P. Benton, S. (2003). *A review of published research on low frequency noise and its effects*. London: DEFRA Publications. p7.

Lidstrom, I. M. (1978). The effects of infrasound on humans. *Investigation Report (UMEA)*. 33. pp1-42.

Lisker, L. and Abramson, A. (1970). The voicing dimension: Some experiments in comparative phonetics. *Proceedings of the 6t International congress of Phonetic sciences (1967)*. Prague. Academia.

Lydolf, M. and Moller, H. (1997). New measurements of the threshold of hearing and equal loudness contours at low frequencies. *Proceedings of the*

8thInternational Meeting on low frequency noise and vibration. Gothenburg. 1997. pp 76-84.

Masterton, R. B. (1992). Role of the central auditory system in hearing; The new direction. *Trends in neurosciences.* 15. pp280-285.

McKisic, J. M. (1997). Infrasound and the infrasonic monitoring of atmospheric nuclear explosions. *USAF Technical report, PL-TR-97-2123.* Phillips Labaratory, Hanscom AFB. US Dept of Defense. USA.

Mihan House, S. (2005). Infrasonic wave propagation over near regional and tele-infrasonic distances. Ann Arbour, USA. ProQuest Information & Learning.

Moller, H., (1984). Physiological and Psychological effects of infrasound on humans. *Journal of low frequency noise vibration*. Vol.3, No.1.

Moller, H. (1984). Physiological and psychological effects of infrasound on humans. *Journal of low frequency noise vibration.* Vol. 3. 1.

Moller, H. and Andresen, J. (1984). Loudness of pure tones at low and infrasonic frequencies. *Journal of low frequency noise vibration.* 3. pp78-87.

Nishimura, K., Kudoda, M., and Yoshida, Y. (1987). The pituitary adenocorticol response in rats and human subjects exposed to infrasound. *Journal of low frequency noise vibration.* 6. pp18-28.

Ostdiek, V & Bord, D. (2000). *Inquiry into Physics.* USA. Brooks/Cole.

Parsons, S. & O'Keeffe, C. (2008). Acoustic Research Infrasound Detector. *Journal of the Society for Psychical Research, 72.1, pp51-57.*

Para.Science. (2007). Cammell Laird Shipyard, Birkenhead. http://www.parascience.org.uk/investigations/laird/laird.htm. Accessed 15th March, 2007.

Para.Science. (2008). Mary Kings Ghost Fest 2007 – Preliminary results. http://www.parascience.org.uk/mkgfr.htm. Accessed 1st May 2008.

Persinger, M. A. (1974). The Paranormal: Part II. Mechanisms and Models. New York. MSS Information Corparation.

Pichon, A. L., Guilbert, J., Vega, A., Garces, M., Brachet, N. (2002). Ground coupled air waves and diffracted infrasound from the Arequipa earthquake of June 23, 2001. *Geophysical Research Letters*. Vol. 29. 18. pp331-334.

Price, H. (1974a). Confessions of a Ghost Hunter. Causeway Edition. New York. Causeway Books. p. 31.

Price, H. (1974b). Confessions of a Ghost Hunter. Causeway Edition. New York. Causeway Books. p. 38.

Silent Sound. (2006 & 2010). http://www.silentsound.info/sound_silentsound.html. accessed 1st May, 2010.

Stephens, R. W. B. (1969). Infrasonics. *Ultrasonics*. January. pp30-35.

Stevens, S. S. (1975). Psychophysics: Introduction to its perceptual, neural and social prospects. New York. Willey.

StudioSixDigital. www.studiosixdigital.com www.apple.com/itunes/

Svidovyl, V. I., and Kuklina, O. I. (1985). State of the3 hemolymph circulatory bed of the conjunctiva as affected by infrasound. *Noise and vibration bulletin*. 153-154.

Talbot-Smith, M. (1994). *Audio recording & reproduction, Practical measures for audio enthusiasts*. London. Newnes.

Tandy, V. (2000). Something in the cellar. *Journal for the Society for Psychical Research*. 64. pp129-140.

Tandy, V. (2002). A litmus test for infrasound. *Journal for the Society for Psychical Research. 66. Pp167-174.*

Tandy, V & Lawrence, T.R. (1998). The ghost in the machine. *Journal of the Society for Psychical Research, 62,* pp360-364.

Tempest, W. (1976). Infrasound and Low-Frequency Vibration. London. Academic Press.

Usher, N. (1977). Pitch discrimination at low frequencies. *Acoustics Letters*. 1. 36-37.

Watanabe, T. and Moller, H. (1990) Low frequency hearing thresholds in pressure field and free field. *Journal of low frequency noise vibration*. 9. pp106-115.

Westin, J. B. (1975). Infrasound: A short review of effects on man. *Aviation space environmental medicine,* 46, pp1135-1140.

Yamada, S. (1980). Hearing of low frequency sound and influence on the body. Proceedings of the Conference on low frequency noise and hearing. Aalborg, Denmark. pp95-102.

Yeowart, N.S., Bryan, M., and Tempest, W., (1967). The monaural MAP threshold of hearing at frequencies from 1.5c/s to 100c/s. *Journal of Sound Vibrations,* 6 pp335-342.

POWER TO THE PEOPLE
THE ROLE OF CONSCIOUSNESS IN PARANORMAL RESEARCH

Hugh Pincott

We face several major handicaps in paranormal research:

* Lack of repeatable experiments leading to
* Lack of acceptance by mainstream scientists, indifference and occasional downright hostility.
* On extremely rare occasions, if researchers do witness an ostensible paranormal event, it is usually so bizarre as to beggar belief, however well documented and recorded. And almost certainly each event foments a cacophony of controversy, polarisation and discord, generating far more heat than light.

But these days spectacular psi events and observations are as rare as rocking horse droppings. Why? Is it because of our sterile preoccupation with laboratory work and technical matters: minuscule odds against chance, consequent derision and negative scepticism?

Or, as Shakespeare's Julius Caesar suggested: *The fault, dear Brutus is not in our stars, but within ourselves, that we are underlings*. Are we in this day and age underlings: slaves to a lifestyle and environment that allows little chance for reflection, relaxation and insight?

We are mesmerised by Mammon and materialism, dominated by diaries, organised by Outlook, bullied by Blackberrys. We are totally tantalised by texts and tweets. Our attention span is constantly shortened by slavery to SmartPhones; we demand instant communication and instant results.

Of course this has always been true to some extent. Even Wordsworth in the 1820s observed: *Getting and spending, we lay waste that which is really ours*. Have we lost our way in paranormal research? And what is it that is "really ours"? Perhaps we shall find out shortly.

First, let us consider just a few examples of bizarre past events: Mind Over Matter: spontaneous and experimental.

LEVITATION

D D Hume (Crookes 1871) and later, Colin Evans (Taylor 1975), were each observed by a roomful of witnesses to rise in the air and float around.

MOVING OBJECTS

In 1909 Polish-born Stanislawa Tomczyk (Fodor 1934) and in 1930s' Russia Nina (or Nelya) Kulagina (Vasiliev 1963) allegedly moved objects at will by so-called 'mind power'.

POLTERGEISTS

Perhaps one of the most famous - or infamous - cases of recent times was the Enfield Poltergeist (Playfair 1980), which encompassed the whole range of breathtaking textbook events. In one photograph a flying brick is about to hit the photographer; heavy furniture was thrown across the room and a fireplace ripped out - rather beyond the physical strength of a slim 13-year old girl. Indeed Janet - alleged to be the epicentre of the events - was recorded on motion film levitating and flying through the air.

In their attempts to explain such spontaneous events, some scientists carried out highly-controlled experiments.

DYNAMOMETER TABLES

Kenneth Batcheldor (Exeter 1964-1966) and Colin Brookes-Smith (Daventry Group 1971-1972) both witnessed levitations during group seances, and decided to measure and record the effects. Separately, they created dynamometer tables. (Batcheldor 1966, Brookes-Smith 1970, 1973, 1975).

The tables were constructed using strain-gauges to record mechanical forces in every strut and panel, and there were switches to detect complete lift-off and a device to measure the height of any levitation. In addition there were touch-sensors beneath the tabletop to detect any normal human contact. All instruments were connected to a multi-channel data-tape recorder, so that effects could be compared and correlated.

Indeed during these sessions certain paranormal conductance phenomena were observed by chance, suggesting that the notion of 'ectoplasm' so derided for decades may not have been all that far-fetched. Maurice Townsend once attended a Batcheldor sitting and although nothing dramatic was witnessed on that occasion, a contemporary video indicated what appeared to be an extra appendage retreating into the body of one sitter.

METAL-BENDING

Professor John Hasted (1974-1977) of Birkbeck College, London was quick to investigate widely-reported events in the wake of Uri Geller's 1973 broadcasts. Rather than employ the traditional cutlery, Hasted's young subjects used more scientifically acceptable devices containing strain gauges connected to recording apparatus.

He also encouraged gifted youngsters to "play" with paperclips inside a glass sphere: within minutes, tightly-twisted "scrunches" appeared inside the sphere. In addition, under careful observation, one subject caused metal strips to fold together without touching.

John Hasted concluded that a "surface of action" emanated from the subjects' bodies - a bit like a revolving radar beam - again lending support to the 'ectoplasmic' model. (Hasted 1976, 1977, 1981).

PSYCHOPICTOGRAPHY

Ted Serios (1964-1967) was investigated by Dr Jule Eisenbud in Chicago (Eisenbud 1968). Serios could mentally implant images on unexposed film with surprisingly reproducible results. The favourite device for Eisenbud's experiments was a Polaroid-Land camera. Often pictures pre-selected from a book would be reproduced - albeit often crudely - on the film.

THE SCOLE GROUP

Between 1995 and 1998 a sitter group in the little Norfolk village of Scole experienced a wide range of physical paranormal effects. They included:

* Object movements
* Apports
* Materialisations and ectoplasm

* Psychopictography revealing messages, poetry and even highly technical matters from purported communicators.

Senior members of the Society for Psychical Research were present at a large number of sittings and gradually increased the sophistication of controls. Arthur Ellison, Professor of Electrical Engineering at City University, London, invited the supposed communicator to advise and comment on a highly technical matter. The answer provided on film came from the famous inventor Edison and his signature was identical to one reproduced from his archives in America. (Keen, Ellison & Fontana 1999).

Were all the eminent scientists who investigated these phenomena duped or deluded? They were skilled researchers and observers. Assuming no fraud or collusion under the tightest of controls, one has to ask "what is happening?" I **think** we may have an answer.

We hear a lot these days about the similarity between psi phenomena and quantum mechanics: particle entanglement, bilocation, time travelling backwards, and so on. It is therefore perhaps relevant to recall the words of one of quantum mechanics' proponents, Sir James Jeans, who opined that *the Universe begins to look more like a "great thought" than a great machine* (Jeans 1930). If so, perhaps I could rename it 'universal consciousness', (a concept perhaps related to Jung's 'collective unconscious').

Let us look for a moment at some ideas that are deeply unfashionable today: magic, superminds and psychics. Dirty words in many a parapsychologist's lexicon.

MAGIC

Most mainstream scientists would gasp in horror at the very word. Irrational mumbo-jumbo from primitive peoples or superstitious half-wits! Yet the great psychologist and philosopher Dr John Beloff of Edinburgh University shocked many fellow members of the SPR during a 1970s lecture when he suggested that magic may well be the most plausible explanation for many of the events just described.

Magic may be defined dispassionately as:

* altering the laws of chance or normal distribution of events
* increasing the probablility of a positive or desired outcome
* causing coincidences to happen.

If the idea of a 'universal consciousness' is worth anything, then the so-called immutable Laws of Nature are a direct result of it, for example the Law of Gravity, Archimedes Principle, the Normal Distribution of chance events, and so on. Unchangable and irrevocable; the foundation on which modern science is based; applicable through all time and space for ever and ever, Amen.

But just suppose that by acting together mentally, we might be able to levitate an object - in contradiction to the Law of Gravity. Our harnessed consciousness would be stronger in this locality than the universal one and would be simply overriding the latter here. Just as a magnet countermands a compass needle. Just as a local short-wave radio blots out the BBC World Service which normally broadcasts over country and continent. Is this 'magic' by any other name?

SUPERMINDS

It is common experience that any effort can be enhanced and magnified by harnessing and pulling in the same direction. This applies from horses to lasers, so why not to minds or consciousnesses? If only we could train ourselves to ignore the myriad distractions of modern life: tear ourselves from the tweets; separate from the SmartPhone, and focus ourselves into a state of super-concentration. Meld and weld ourselves into a group mind and witness magic first hand.

Actually we can, and have done so - by judicious use of hypnosis. Such marvels and apparent miracles have been experienced for centuries, but we in ASSAP have had our minor share in recent years too. As many know, one of our most dramatic research themes in the 1980s for the then Blackheath Group was alleged previous lives using regressive hypnosis. Much has been written about this elsewhere (Pincott 1998, 1999), but one of the side effects was fascinating.

We were a close-knit, cohesive bunch of people, which probably resulted from meeting once or twice a week for nearly three years. Without realising it at the time, we had probably developed our own group mind, possibly tapping into a 'universal consciousness' or Jung's idea of a 'collective unconscious'. The following anecdote - one of several - demonstrates this.

Clive Seymour volunteered to be a percipient, and had proudly given me a new set of Zener Cards to be used for the tests. A normal Zener pack contains 5 cards each of cross, circle, square, star and wavy lines. Clive's pack included a recent development where individual symbols had distinctive colours, with the aim of aiding perception. I thanked Clive, reminding him to report immediately the first

image that came to him, and then he was hypnotised by another operator. Meanwhile I put the pack of cards in my pocket where they remained for the duration of the tests.

Julie had elected to be the agent as she had previously demonstrated a good rapport with Clive who was now lying on a low bed at the other end of the large darkened room, and separated from Julie by several people. Taking care to avoid any clues or cues in Clive's direction, I took an object from my pocket, handed it to Julie and told Clive to report the first image that came into his mind.

After some seconds he seemed slightly perplexed and said, "Hugh, I know this is ridiculous, but the only thing I can see is one of your little blue model Mercedes cars". He was actually entirely correct, as this is precisely what I had given Julie, but I just made sympathetic noises and invited him to have another try.

Once more, he failed to see any of the card symbols, but reported a green-handled screwdriver. Spot on again. Exhorting him to relax a little more deeply in the hope of being more successful, I handed Julie the third article - my wrist-watch. Still apologising for his lack of card perception, Clive described an expanding chain bracelet. On debriefing, Clive's reaction was one of elation - his precise words are unprintable in a scientific journal!

PSYCHICS

In our experiment, we had perhaps unwittingly trained ourselves by hypnosis to be psychics. And we do know that hypnosis is the key to unlock many of the doors to the unconscious mind - or, dare I suggest, the universal consciousness - with all the consequences that entails.

Today, if we are very lucky, we might encounter some psychics and sensitives who are sympathetic to helping research. Traditionally, scientists working with sensitives have unfortunately generated an 'us' and 'them' attitude; the investigators and the investigated, and ne'er the twain shall meet. Rather more fruitful, I suggest, is teamwork, where we are actually training ourselves to be psychic: inviting sensitives into our team, and using selective hypnotic techniques might help to 'kick start' group mind formation. And if two ASSAP teams can each create a 'supermind', think what might be possible in terms of boosted communication and action at a distance.

CONCLUSION

We should:

* Recognise and enhance the role of consciousness in paranormal research

* Involve sensitives in our experiments as equal partners

* Realise that being both scientific **and** sympathetic is likely to achieve the positive results that have eluded us for so long.

In this way we might take a few faltering footsteps to answering those fascinating, challenging and eternal questions: 'What is humankind?' 'What is its nature?' 'What is its potential?' and possibly even 'What is its destiny?'

REFERENCES

Batcheldor, Kenneth J. *Journal SPR*, Sep 1966, Vol 43 No 729, pp 339-356

Brookes-Smith, Colin & Hunt. D W, *Journal of the SPR*, Jun 1970, Vol 44 No 744,

Brookes-Smith, Colin. *Journal SPR*, Jun 1973 Vol 47 No 756, pp 69-89

Brookes-Smith, Colin. *Journal SPR*, Jun 1975 Vol 48 No 764, pp 73-86

Crookes, Sir William. *Quarterly Journal of Science,* London 1871

Eisenbud, Jule. *The World of Ted Serios*, Jonathan Cape, London 1968

Fodor, Nandor. *An Encyclopaedia of Psychic Science*, 1934

Hasted, John B. *Journal of the SPR,* Vol 48 No 770 Dec 1976 pp 365-383

Hasted, John B. *Journal of the SPR,* Vol 49 No 773 Sep 1977 pp 583-607

Hasted, John B. *The Metal Benders,* Routledge & Kegan Paul, London 1981

Jeans, Sir James Hopwood. *The Mysterious Universe*, Cambridge University Press 1930, p 137. (Reissued 2009 ISBN 978 110800566 1)

Keen, Montague, Ellison, Arthur; Fontana, David. *Proceedings of the SPR* Nov 1999, Vol 58, Part 220

Pincott, Hugh. A Life in the Day of Cerdic the Saxon (Part 1), *Anomaly*, May 1998, No 22 pp 18-33

Pincott, Hugh. A Life in the Day of Cerdic the Saxon (Part 2), *Anomaly*, Nov 1998, No 23, pp 1-17

Playfair, Guy Lyon. *This House is Haunted*. Souvenir Press, London 1980

Taylor, John. *Superminds,* Macmillan London, 1975, p 23

Vasiliev, L L. *Experiments in Mental Suggestion*. Institute for the Study of Mental Images, Church Crookham, England, 1963

SEEING RELATIONSHIPS WHERE NONE EXIST:
A SCEPTICAL ACCOUNT OF SPONTANEOUS ESP AND A REVIEW OF EVIDENCE FOR PARANORMAL BELIEVERS MISPERCEPTION OF COINCIDENCE

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Under conditions of uncertainty, people tend to make systematic and predictable errors in their judgements of probability. A number of studies suggest this is *especially* true of those who believe in the existence of paranormal phenomena, particularly extrasensory perception. The first half of this article outlines how a general misunderstanding of probability can explain why so many people report spontaneous experiences of extrasensory perception (ESP). The second half then reviews empirical evidence for the claim that paranormal believers are more prone to biases in probabilistic reasoning, with particular emphasis placed on believers' propensity for misjudging co-occurring or 'conjunctive' events. Theoretical implications are also discussed.

Belief in the paranormal is widespread, pervasive and at present shows no sign of diminishing (e.g., Moore, 2005) with many people claiming to have had a spontaneous psi-related experience[1] in one form or another (Dossey, 2009; Rhine-Feather & Schmicker, 2005; Targ, Schlitz & Irwin, 2000). Yet after 80 years of experimental parapsychology the quality and veracity of scientific evidence for ESP and PK remains hotly debated with sceptics arguing it is at best weak and at worst non-existent (e.g. Hines, 2003; Wiseman, 2011; for pro-paranormal counter arguments see Carter, 2007; Radin, 2009). In the absence of robust empirical support for ESP and other allegedly supernatural phenomena, an increasing number of psychologists are examining why so many people believe in the paranormal.

Sceptics generally view all paranormal claims as the misattribution of supernatural causation to normal, non-paranormal events (*paranormal attribution hypothesis:* Wiseman & Watt, 2006). One early suggestion was that paranormal believers tended to engage in paranormal misattributions because they suffer from various cognitive 'deficits' such as lower intelligence, lower (scientific) education, poorer critical thinking skills and/or poorer memories for

paranormal claims (e.g. Wiseman & Morris, 1995; for reviews see French, 1992a; French & Wilson, 2007). Whilst evidence for these cognitive 'deficits' is somewhat mixed (Irwin & Watt, 2007; Irwin, 1993; 2009) another claim is that paranormal believers - particularly those who endorse ESP - have a generalised tendency to 'look beyond' coincidence in search of causal, usually supernatural, explanations for what are essentially coincidental events; process subsequently termed the 'chance baseline shift' (Blackmore & Troscianko, 1985; p. 459). Indeed, some writers have even suggested ESP ought to stand for "Effect of Subjective Probability" (Brugger & Taylor, 2003; p. 221) or "Error Some Place" (see Honorton, 1975). The implication here is that paranormal believers are *especially* susceptible to errors in probabilistic reasoning. Consider the following testimony:

I was standing on London Bridge [railway] station waiting for a train. It was around 9:30pm and I'd just returned from a hospital visit. Whilst I was waiting, I noticed one of those motorised, single-driver luggage carts being driven along the platform towards me. At this point it was something like 30-40 feet from where I was standing. I remember the platform being pretty quiet save for a few late-night commuters and that the cart was empty [of luggage]. Then, the strangest thought just 'popped into my head'; I suddenly wondered how often these luggage carts fell onto the railway tracks. At this point the cart was still travelling in a straight line some 10-15 feet from the platform edge with the driver in full control and concentrating on his job. Then, about 10 feet from where I was standing, and for no obvious reason, the cart suddenly veered to the right [towards the platform edge]. Nobody was standing nearby so it wasn't as if the driver needed to swerve to avoid hitting someone. Nor was the cart over-loaded with bags [as it was empty] so I'm assuming the driver just stopped concentrating. Whatever the reason, this cart continued veering to the right until it eventually toppled over the platform edge and onto the railway tracks. This all happened just a few feet from me. Fortunately the driver jumped to safety first and, with no train approaching, no-one was hurt. I saw everything as clear as day and I remember it as if it happened only yesterday.

The above description is typical of many ostensibly psi-related experiences (e.g., Dossey, 2009; Rhine-Feather & Schmicker, 2005; Targ, Schlitz & Irwin 2000). But was this apparent premonition of a luggage cart accident *really* paranormal? Proponents of the paranormal hypothesis might claim the experient - who was in fact me - had precognitive awareness of the impending and potentially tragic accident. Others might suggest I was in direct mind-to-mind contact with the driver who through telepathic communication 'informed' me he was about to drive his cart overboard (for the sake of simplicity I shall

ignore what possible motivations he might have for doing this!). Or perhaps the accident was caused by my ability to influence the driver and/or the cart's mechanics through PK? Perhaps my psychokinetic powers were to blame? Or perhaps, as many sceptics would argue, my apparent premonition was merely a coincidence.

Coincidences occur when two or more causally unrelated events are perceived to be, in some way, connected (Pletcher, 1982). Yet despite this definition, many people report having 'remarkable coincidences experiences' (RCEs) which for them are both personally significant and meaningful (Henry, 1993; Thalbourne, 2006). In fact RCEs are far more common than one initially expect. In a survey of over 1000 people Henry (1993) found almost all (92%) had experienced at least one 'spontaneous association' such as suddenly thinking about someone just before he/she unexpectedly telephoned. Furthermore, two-thirds of all respondents were at least "uncertain" as to whether these spontaneous associations were due to chance with many citing intuition, psi and/or Divine intervention as their preferred explanation (see also Coleman, Neitman & Celebi, 2009). These claims are reminiscent of Jung's (1973) theory of synchronicity in which the principle of 'acausal connectedness' was different from, but equal in status to, the notion of cause-and-effect (see Braude, 1983). With this in mind it is of little surprise that paranormal believers report more RCEs than non-believers (e.g., Bressan, 2002).

THE PSYCHOLOGY OF COINCIDENCE PERCEPTIONS

Since the 1970s, a mass of psychological research has repeatedly shown that people are poor at estimating the likelihood of uncertain events. This is because, when faced with imperfect information, people rely on cognitive heuristics (rules of thumb) to simplify the decision making process. Heuristics allow judges to make quick and easy estimations which are usually close enough approximations of reality (i.e. objective outcome probabilities) to justify their use. However, heuristics can also lead to predictable biases in judgement (Gilovich, Griffin, & Kahneman, 2002; Kahneman, Slovic & Tversky, 1982; Watt 1990-91) which for some writers lie at the heart all irrational decision making (Sutherland, 1992). Matthews and Blackmore (1995), for instance, claim that people gauge the likelihood of coincidences using an essentially linear 'intuitive scaling rule' which becomes increasingly unreliable the more outrageous a coincidence appears to be and where, in extreme cases, the scaling rule becomes non-linear.

According to Diaconis and Mosteller (1989) the apparent remarkableness of RCEs can be explained by people's use of four heuristical processes. The first is their failure to recognise normal but hidden causes. The implication here is that people attribute paranormal explanation to *seemingly* remarkable coincidences

simply because the real (non-paranormal) cause is not immediately obvious. In the aforementioned luggage cart incident for example, my sense of an impending accident may have arisen because I was unconsciously aware of cart's change of direction towards the platform edge. This may have, in turn, have reflected my unconscious awareness of other causal factors such as a sudden increase in commuter numbers, a mechanical failure in the cart and/or the driver's waning concentration; all hidden but nonetheless non-paranormal mechanisms by which to explain my apparent premonition.

The second reason RCEs seem so remarkable is that people tend to accept near misses as evidence of predictive 'hits' (Diaconis & Mosteller, 1989). This argument is best illustrated by lottery play. Imagine a hypothetical player selects 10, 12, 14, 16 18 and 20 as his/her chosen numbers in a single given play. If the six winning numbers turn out to be 11, 13, 15, 17, 19 and 21 our player may feel he/she just missed out on a jackpot win; the six winning numbers were, after all, numerically adjacent to his/her own six number selection. But this is flawed reasoning. Whilst it is true the two sets of six numbers were numerically adjacent (10 precedes 11, 12, precedes 13 and so on) none of the player's selection actually matched any of the six winning numbers and in this sense were just as close to - or rather far from - winning the jackpot as any other set of six non-matching numbers (e.g. 44, 45, 46, 47, 48 and 49). In terms of lottery play numerical closeness has no relation to the closeness of success (Rogers, 1998; Rogers & Webley, 2001).

Similar logic can be applied to RCEs including my luggage cart prediction. Whilst I clearly recall wondering how often these carts fall onto railway lines, it seems plausible I would have interpreted any other type of cart accident, such as it colliding with a second cart, a station wall or an innocent bystander as evidence of my predictive accuracy. Predictive accuracy might also be assumed if the accident involved some other piece of railway apparatus such as a non-motorised luggage trolley, fork lift truck or people carrier. Or what if a station guard or member of the public simply fell, or even jumped, onto the railway lines; would that count as a 'hit' too? By accepting near misses as hits one is effectively re-defining the original premonition so that it fits the observed data[2]. One might then reasonably ask at what point does a near miss stop being close enough? In sum, it is possible my prediction of a luggage cart accident was close enough to what transpired for me to retrospectively interpret this as a predictive hit when it fact it wasn't. Furthermore, as lines 5-6 of my testimony shows, I merely "wondered how often luggage carts fell off onto the railway tracks" rather than explicitly predicting this outcome. In this sense even my original testimony has been re-defined as a near enough fit of a typical precognition script.

The third reason RCEs seem to be remarkable is due to peoples' general ignorance of the *Law of Truly Large Numbers* (LTLN). The LTLN is a statistical principle which states that given a large enough sample *any* outcome, no matter

how unlikely, will happen at some point in time (Diaconis & Mosteller, 1989). A good illustration of the LTLN can again be found in lottery play. In the main UK National Lottery (Lotto) game, players must correctly match six numbers out of a pool of 49 to win the jackpot prize. The objective odds of doing this are 1 in 13,983,816 or just less than 1-in-14 million (Rogers, 1998). Assuming all possible six-number combinations are drawn only once[3] it would take one player playing one game a week almost 270,000 years to be guaranteed a jackpot win. Yet despite these incredibly small odds in most weeks a few, and sometimes several, players do win the UK lottery jackpot. The reason for this is simply that enough people play the lottery each week (i.e. the sample is large enough) to overcome its exceedingly low success probabilities. For example, with 28 million players each selecting a different six-number combination, the mean number of jackpot winners *expected by chance* would be two (28 million divided by 14 million).

Ignorance of the LTLN can explain all manner of RCEs including the infamous '9/11 coincidences' (Carroll, 2003; see Appendix). Let's apply this heuristical bias to my luggage cart prediction. First, the total number of luggage cart journeys made at London Bridge railway station is most likely much higher than one might intuit. For example, if just twenty carts each make only twenty trips in any one day, this is still 400 daily cart journeys at this one station alone. Multiple that by the 2,525 railway stations currently in service (Office of Rail Regulation, 2011) and one arrives at 1,010,000 daily cart journeys in the UK; a huge number of potential cart accidents just waiting to happen. Of course, most people will be unaware of these due to a lack of reporting. But had I heard or read about a luggage cart accident at any one of these other UK stations, I would no doubt have seen this as confirmation of my earlier prediction. The same might also apply to a reported luggage cart accident happening anywhere else in the world. The problem here is that by not stating a specific time and place my original prediction is ambiguous enough to apply to almost any cart-related incident worldwide providing it is within a reasonable time frame (although just what constitutes a 'reasonable' time is also open to interpretation). Because predictions are often retrospectively matched to a specific outcome *once the outcome is known* (cf. Hines, 2003) claimed prediction hits are, metaphorically speaking, akin to firing an arrow, drawing a target around the spot where it lands and *then* claiming to have hit the bulls-eye!

Another application of the LTLN is that over my lifetime I am likely to make all manner of predictions, not just for crashing luggage carts. Many of these I will not recall either because they failed to materialise or again because I am unaware of their occurrence. In contrast, I am likely to remember any event that I predict and which subsequently comes true simply because this match seems so unusual (salient). In short, I will develop a biased recollection for predictive hits at the expense of prediction misses. This will heighten any misperception I might have that my predictions are somehow uniquely accurate. This

judgemental bias, termed *illusory correlation,* is the basis of many superstitious beliefs including those relating to alleged cases of ESP (Vyse, 1997).

The final reason many coincidences seem so remarkable is that people tend to be very poor intuitive statisticians who, by definition, are prone to underestimating the likelihood of events occurring by chance alone (Diaconis & Mosteller, 1989). As noted above a misunderstanding of chance forms the basis of many cognitive biases including the misattribution of paranormal causation (Wiseman & Watt, 2006). With respect to my luggage cart example this means not full appreciating the statistical fact that if I make enough predictions of railway luggage carts falling over platform edges a cart will, one day by pure chance, just happen to do exactly that.

In sum, there are numerous ways in which RCEs, and by extension psi-related experiences, may be little more than a statistical artefact plus the result of errors in probabilistic reasoning. Proneness to such errors may be exacerbated by a number of other judgemental biases including a tendency to view one's own RCEs as being more important and/or surprising that those had by others (*egocentric biases*: Falk, 1989); to focus on dramatic over dull events (*availability biases*: Henry, 2005; Houran & Lange, 1998); to ignore alternative possibilities (*selection fallacy*; Falk 1981-82) and emphasise belief-confirming over belief-disconfirming evidence (*confirmation biases*: Henry, 2005; Jones & Russell, 1980); to be motivated by a need to avoid cognitive inconsistencies (*dissonance theory*; Festinger, 1957; see Plous, 1993); and more broadly, by the tendency for peoples' current perceptions and experiences to be shaped by their pre-existing beliefs (*top-down processing*: e.g., French, 1992a; French, Herrmann, Hales & Northam, 1997; *subjective validations*: Marks, 2002). As such, the possibility that others might not deem my luggage cart anecdote remarkable at all, or that this particular incident was only salient to me because it involved a railway luggage cart, rather than a car should not be discounted. These judgemental biases are consistent with the notion that eyewitness testimony - particularly for ostensibly paranormal events - is far from perfect often and at least to some extent reconstructed (French, 2003; Wiseman, Smith & Wiseman, 1995). It is therefore possible my earlier luggage cart testimony is inaccurate for some other reason.

As mentioned briefly at the start of this paper, there is reasonable evidence to suggest paranormal believers are *especially* prone to biases in probabilistic reasoning. The remaining section overviews the current empirical evidence for and against this claim.

PARANORMAL BELIEF AND BIASES IN PROBABILISTIC REASONING

Blackmore and Troscianko (1985) were the first to examine whether paranormal believers were especially prone to errors in probabilistic reasoning.

In one study they had teenage participants answer a battery of questions concerning the generation of random strings (e.g., list 20 numbers as if randomly drawn from a hat) plus judgments of randomness (e.g., indicate whether various random boy/girl mixes were biased), coin tossing (i.e. indicate whether the proportion of heads from a sequence of coin tosses was biased) and sampling outcomes (e.g. indicate which colour is more likely to be drawn from a given number of red and blue items) including the infamous 'birthday paradox' (i.e. how many people are needed before there is a 50:50 chance two of them share the same birthday excluding year? See e.g. Matthews & Blackmore, 1995). Each question was followed by three or four response options only one of which was the correct answer. For example, one of the sampling questions stated:

A hat contains 10 red and 10 blue Smarties. I pull out 10 and 8 of them are red. Am I more likely to get a red or blue [Smartie] next time? Possible answers given were 'red', 'blue', or 'either equally likely'.

Here, with 8 blue smarties and just 2 red smarties left in the hat the correct answer is 'blue'. Participants also completed items assessing their belief in ESP. whilst no group differences were found in the random string generation or randomness judging questions, ESP believers made more errors on the coin tossing questions than non-believers. In a follow-up study with undergraduate students, ESP believers made more sampling errors. As already stated Blackmore & Troscianko (1985) claimed belief in ESP is associated with a tendency to 'look beyond' coincidence in search of supernatural explanations.

In a development of Blackmore and Troscianko's work, Bressan (2002) gave participants the same random string, randomness, coin tossing and sampling judgement questions plus additional items assessing sensitivity to variations in sample size. The latter included the classic 'maternity ward problem' (Kahneman & Tversky, 1972) as shown below:

A certain town is served by two hospitals. In the larger hospital about 45 babies are born each day, and in the smaller hospital about 15 babies are born each day. As you know, about 50% of all babies are boys. The exact percentage of baby boys, however, varies from day to day. Sometimes it may be higher than 50%, sometimes lower. For a period of 1 year, each hospital recorded the days on which more than 60% of the babies were born boys. Which hospital do you think recorded more such days?

Response options for this particular problem were 'the larger hospital', 'the smaller hospital' or 'the probability is the same'. General statistical theory states that more extreme deviations from the norm - which here is reflected in a male birth rate of 50% - are more likely to be found within smaller samples. Thus, the correct answer here is the 'smaller hospital' (Kahneman & Tversky, 1972; p. 44). Contrary to expectations, Bressan found belief in the paranormal was unrelated to errors on the sampling and sampling variation items implying believers are

just as insensitive to sample size differentials as their sceptical counterparts. Believers did, however, make more errors in the coin toss and randomness perception tasks suggesting they are prone to misperceiving patterns in randomness rather than to misunderstanding chance *per se*. This claim is discussed in more detail below.

In similar research, Blagrove, French and Jones (2006) found individuals with a more pronounced belief in precognition made more errors on a lottery task (i.e. indicate how someone else picking your lottery ticket would influence your chances of winning) although not on a dice throwing task (i.e. whether throwing 10 sixes is more likely to occur by throwing dice in sequence or all at once). However, both types of error were associated with a greater number of reported dream precognitions (albeit amongst non-students only). Additional analyses revealed these results are best understood in terms of a believers' greater misunderstanding of probability rather than a more pronounced *illusion of control* over lottery outcomes (cf. Langer, 1975).

Other studies support the probability (chance) misunderstanding hypothesis. Tobacyk and Wilkinson (1991) found believers have a preference for games of chance (such as lotteries and roulette) and that, compared to non-believers, are more prone to developing illusory correlations between statistically unrelated events. Recently, a number of researchers have examined whether paranormal believers are especially prone to overestimating the likelihood of co-occurring ('conjunctive') events relative to singular ('component') events; that is, whether believers are especially prone to the 'conjunction fallacy' (Tversky & Kahneman, 1982). To illustrate this fallacy, consider the following hypothetical scenario:

Two football teams (Team A and Team B) are playing in a local derby. Which outcome is most likely? (a) Team A scores first; (b) Team A scores first and wins; (b) Team A scores first and loses or (d) Team A scores first and the game is drawn.

The correct answer here is (a) 'Team A score first'. To understand why one needs to acknowledge that if Team A fails to score first (option a) then it is both logically and statistically impossible for that team to score first *and* then either win, lose or draw the game (options b, c and d respectively). In other words, option A subsumes options B, C and D. Anyone who fails to answer (a) in this example has succumbed to the conjunction fallacy.

A host of studies suggest most people do indeed succumb to the conjunction fallacy with Tversky and Kahneman (1982) claiming this is because people tend to assume the most stereotypical or 'representative' outcome is also the most likely. More recent findings suggest the conjunction fallacy might depend on how surprising either of the two singular component events are perceived to be (Fisk, 2004). Either way, when Dagnall, Parker and Munley (2007) gave the above football scenario to undergraduate psychology students they found

paranormal believers made just as many conjunction errors as non-believers.

Rogers, Davis and Fisk (2009) have since criticised this work on various methodological grounds most noticeably the fact that a football match has little direct relevance to paranormal claims and that undergraduate psychology students should (hopefully) have some knowledge of basic probability theory. To overcome these limitations Rogers et al. (2009) created 16 hypothetical vignettes with eight depicting an ostensibly paranormal event (e.g. an apparent precognition) and eight describing a clearly non-paranormal event (e.g., food poisoning following a restaurant meal). In one paranormal scenario, for instance, the following information was given:

Billy has a long lost friend who he hasn't seen in years. They were good friends in school but drifted apart when they went away to different colleges. Billy comes home from work one evening and sits down to eat his dinner.

Members of the UK general public were then asked to estimate three likelihoods namely that (a) Billy thinks about his long lost friend; (b) Billy's long lost friend unexpectedly telephones him; or (c) Billy thinks about his long lost friend *and* Billy's long lost friend unexpectedly telephones him (italics added here). Similarly, one non-paranormal scenario read:

Robert goes to a seafood restaurant for dinner with his friends. They have not eaten there before, but they don't have much time and are hungry so they decide to try it. The restaurant is an unclean, grubby, rundown place which generally gets few customers. It sells food at cheap prices.

with participants asked to estimate the likelihood that (a) the crab is off; (b) Robert is ill the next day; and (c) the crab is off *and* Robert is ill the next day (again, italics added here). All ratings ranged from 0-100% with a conjunction error was made whenever the co-occurring or conjunctive event (option c) was deemed more likely than one or both of the singular component events (options a and/or b). As expected, paranormal believers tended to make more conjunction errors than non-believers. Furthermore, this was true for both paranormal and non-paranormal event types suggesting believers' heightened susceptibility to the conjunction fallacy is generic rather than domain specific (cf. Wierzbicki, 1985).

In follow-up research Rogers, Fisk and Wiltshire (2010) again presented paranormal or non-paranormal versions of each scenario which this time were identical in content save for one aspect; the apparent source of information. For example, one paranormal vignette depicted the following:

Alan is a 49 year old accountant who comes from a large but distant family. One day his uncle - whom Alan has not spoken to in over 10 years - is suddenly taken

ill with severe chest pains and shortness of breath. Alan's uncle is rushed to hospital but soon afterwards dies aged 87 years. A week later Alan consults a medium about a possible inheritance.

With the non-paranormal equivalent identical except that Alan is described as consulting a lawyer rather than a medium. All participants, regardless of event type, were asked to estimate the likelihood (again from 0-100%) that (a) Alan is told his uncle died of heart failure; that (b) Alan is told he will inherit his uncle's entire £1 million estate or that (c) Alan is told his uncle died of heart failure and Alan is told he will inherit his uncle's entire £1 million estate (italics added here). Again, believers were more prone to conjunction biases confirming the earlier 2009 study. Rogers and colleagues (2010) then tested a number of possible explanations for these trends. First given their *a priori* acceptance of ESP it was reasoned that believers might be less surprised by, or may even expect, occurrence of the second component (e.g. Alan receiving a £1 million inheritance) given that first (i.e. Alan being told how his uncle had died) had already happened (cf. Fisk; 2004; Shackle, 1969), particularly if information appeared to come from a paranormal source. This combination of subjectively likely and subjectively unlikely events should lead to ESP believers making more conjunction errors (cf. Fisk, 2004). Second, Rogers et al., (2010) also reasoned that because believers tend to misperceive a causal relationship between statistically unrelated events (Tobacyk & Wilkinson, 1991) they might also (mis) perceive the two component events to be more strongly related to the conjunctive term than non-believers and that again, more conjunction errors should be made. Finally experimental manipulations in the time gap between constituents (e.g., the second event occurring immediately verses some weeks after the first) was used to explore whether variations in the temporal relationship between component events would impact on conjunction biases (cf. Rogers et al., 2009)[4]. No support was found for any of these three hypotheses. In short, the reason for paranormal believers' heightened susceptibility to the conjunction fallacy remains, as yet, unknown. Current work is assessing the importance of the component-conjunction relationship further (Rogers, Fisk & Lowrie, 2011) as well as exploring the extent to which belief-confirming versus belief-disconfirming conjunctions impact on this susceptibility (Rogers, Lowrie & Fisk 2011).

The above findings offer at least reasonable support for Wiseman and Watt's (2006) paranormal attribution hypothesis when considered from the perspective of probabilistic reasoning biases. However, a number of studies have failed to support this view. As noted earlier, paranormal believers have been found to make just as many errors on sampling, sampling variation and dice throwing perception tasks as non-believers (Blagrove, et al., 2006; Bressan, 2002). Dagnall et al (2007) also found believers performed just as poorly on questions involving the use of both base rate statistics (i.e. in a party of 70 male psychologists plus 30 male engineers, and given the following description of

Dick, what is the probability he is an engineer?) and expected value information (e.g. with £10 to spend would you choose to buy a lottery ticket with 10/1 chance of winning £90, a lottery ticket with 10,000/1 chance of winning £1 million or keep the £10). More recent work suggesting paranormal belief is also unrelated to errors in Bayesian reasoning (Rogers & Fisk, 2011). In a similar vein, Blackmore (1997) surveyed over 6,000 UK newspaper readers and found believers were equally prone to underestimating the probability of common events such as breaking an arm or having a scar on one's left knee. Likewise, French (1992b) found believers were just as likely to base judgments on the most common response options ('population stereotypes'). Roberts and Seager (1999) found paranormal belief was unrelated to probabilistic reasoning ability but, in contrast, was negatively associated with poor conditional (syllogistic) reasoning[5] regardless of whether questions had paranormal and non-paranormal content. Finally, other studies have found believers' propensity for probabilistic reasoning biases may be confounded by their general cognitive and/or academic ability (e.g., Musch & Ehrenberg, 2002; Stuart-Hamilton, Nayak & Priest, 2006). In sum, it appears evidence for believers' proneness to probabilistic reasoning biases may be less robust than was first thought.

PARANORMAL BELIEF AND THE MISPERCEPTION OF RANDOMNESS

A number of researchers now claim believers' relative weakness in probabilistic reasoning stems not from their general misunderstanding of chance but rather from a more specific misperception of (patterns in) randomness (Bressan, 2002; Dagnall, et al., 2007). When asked to predict random sequences of, say, coin tosses or dice throws most people will generate fewer repetitions (e.g. consecutive heads or consecutive sixes) than objective statistics would expect (Falk & Konold, 1997). But paranormal believers, it seems, do so to a far greater extent. For example, when asked to generate a random string of twenty numbers ESP believers and non-believers generated, on average, 1.6 and 2.3 repetitions respectively. Whilst both figures were significantly lower than the four repetition expected by chance, the number of repetitions produced by believers was significantly lower than the number produced by their sceptical counterparts (Blackmore & Troscianko, 1985). The implication here is that ESP believers are *especially* poor at distinguishing random from non-random strings. This study has since been replicated (Bressan, 2002) with similar conclusions drawn from randomness perception studies utilising various coin tossing (Bressan, 2002; Dagnall et al., 2006) and dice throwing (Bressan, 2002; Brugger Landis & Regard, 1990) tasks, including studies with customised (non-numbered) dice whereby believers generating fewer-than-chance repetitions for both conceptually related (e.g. carrot-rabbit) and conceptually identical (e.g. carrot-carrot) outcomes (Brugger, Regard, Landis, Krebs & Niederberger, 1991). Finally, in two further studies Brugger et

al. (1991) found believers were especially prone to misperceiving semantic relatedness between randomly-paired drawings as well as within random dot patterns (see also Brugger & Taylor, 2003).

In sum, it seems belief in the paranormal might be associated with having a different internal representation of what constitutes a random (rather than chance) event, with believers requiring less subjective evidence of relatedness before they falsely identify meaningful patterns in what is essentially random noise. This lowered 'threshold of causal attribution' as Bressan (2002; p. 29) calls it will itself be influenced by the salience or 'observability' of potential connections (Bressan, 2002; Brugger & Taylor, 2003). Overall, this 'misperception of randomness' (MoR) hypothesis appears to offer the most robust explanation for why paranormal believers report more frequent RCEs and why these are more often than not attributed paranormal causality (Henry, 1993; Thalbourne, 2006). The robustness of the MoR hypothesis is further enhanced by evidence that paranormal belief is also associated with a misperception of ambiguous visual stimuli (Blackmore & Moore, 1994)[6] and a greater intolerance of ambiguity (Houran, 1998; Houran & Lange, 1997; Houran & Williams, 1998).

SUMMARY AND GENERAL CONCLUSIONS

The first part of this paper argued that anecdotal accounts of remarkable coincidence experiences - and by implication of spontaneous psi-related phenomena - can be explained in terms of peoples' failure to recognise normal but hidden causes, to accept near misses as predictive hits, to be ignorant of the law of truly large numbers and to be very poor intuitive statisticians. It was further argued that errors of judgement resulting from these heuristical processes might be worsened by a host of other biases ultimately derived from belief-driven selective attention or memory reconstruction. The natural conclusion, then, is that RCEs and spontaneous psi are best explained as the product of statistical artefact and peoples' flawed probabilistic reasoning rather than anything supernatural. By extension, anecdotal accounts are of little value in establishing the validity of psi other than as a starting point for hypothesis generation and formal experimentation, although they do of course afford (anomalistic) psychologists some insight into why belief in the paranormal is so pervasive.

The second half of this paper reviewed the empirical literature linking paranormal belief to errors of probabilistic reasoning. Whilst several studies have found paranormal believers are especially prone to underestimating the likelihood of chance outcomes, others have failed to support this view thereby weakening Blackmore and Troscianko's (1985) chance baseline shift hypothesis. Nevertheless, (more) robust evidence exists for two specific types of probabilistic reasoning bias. The first is believers' heightened tendency to misperceive patterns in randomness. The second is their heightened tendency to

overestimate the likelihood of co-occurring or conjunctive events. At first glance this seems to suggest paranormal belief is associated with different *types* of probabilistic reasoning bias. However, both trends are consistent with the view that belief in the paranormal (especially ESP) is the result of having a lowered 'threshold of causal attribution' (Bressan, 2002) whereby objectively unrelated events are more easily misperceived s being related and thus more easily misattributed some sort of paranormal cause to explain this relatedness (cf. Wiseman & Watt, 2006). Whether greater public education in statistical concepts such as randomness would be successful in reducing the prevalence and robustness of paranormal belief remains to be seen although I am less than expectant given the robustness and intuitive appeal of such beliefs.

NOTES

1. The term *psi* (pronounced "sigh") is used by parapsychologists to denote the unknown paranormal element underlying both extrasensory perception (ESP) and psychokinesis (PK). ESP is formally defined as the alleged ability to acquire information directly through paranormal means; that is without influence from either the five recognised human senses or logical inference and is said to comprise *telepathy* (direct mind-to-mind communication via paranormal means), *clairvoyance* (awareness of distant objects or events via paranormal means) and *precognition* (awareness of the future via paranormal means). Similarly, PK is defined as the alleged ability to directly influence living and non-living structures within the physical environment - people, animals, plants and inanimate objects - through paranormal means; that is, without influence of the recognised physical energies or mechanisms) and is more commonly known as 'mind-over-matter' (see Irwin & Watt, 2007).
2. The use of such re-definitions or 'multiple outs' is common amongst many self-proclaimed psychics (Hines, 2003).
3. This assumption does not actually hold true and used here merely for illustrative purposes only. This is because, statistically speaking, the result of one lottery game has no influence on the result of any other ("lottery balls have no memory") so there is no reason why the same six number combination cannot be drawn twice in quick succession. The common misperception that successive games are somehow related is termed the *gambler's fallacy* (Rogers, 1998).
4. The above 'inheritance' example from Rogers et al., (2010) is clearly included delay of one week as thus was a temporally disjointed event.
5. Syllogistic reasoning is a form of deductive inference based on identifying the correct conclusion from two previously stated premises (Collins English Dictionary, 1998). For example, given the first premise "All birds can fly" and the second "Penguins cannot fly" it would be logical to conclude that "Penguins are not birds". Here the first premise is clearly wrong. For further discussion see Manktelow (1999).

6. And thus is of particular relevance to apparitional experiences and alleged UFO sightings (see e.g., Hines, 2003; Irwin & Watt, 2007)

REFERENCES

Blackmore, S. J. (1997). Probability misjudgement and belief in the paranormal: A newspaper survey. *British Journal of Psychology, 88,* 683-689.

Blackmore, S., & Moore, R. (1994). Seeing things: Visual Recognition and belief in the paranormal. *European Journal of Parapsychology, 10, 91-103*.

Blackmore, S. J. & Troscianko, T. (1985). Belief in the paranormal: Probability judgements, illusory control and the chance baseline shift. *British Journal of Psychology, 76*, 459-468.

Blagrove, M., French, C. C. & Jones, G. (2006). Probabilistic reasoning, affirmative bias and belief in precognitive dreams. *Applied Cognitive Psychology, 20,* 65-83. DOI: 10.1002/acp.1165.

Braud, W. (1983). Toward the quantitative assessment of meaningful coincidences. *Parapsychology Review, 14(4), July-August 1983*, 5-10.

Bressan, P. (2002). The connection between random sequences, everyday coincidences and belief in the paranormal. *Applied Cognitive Psychology, 16,* 17-34. DOI: 10.1002/acp.754.

Brugger, P., Landis, T. & Regard, M. (1990). A Sheep-Goat effect in repetition avoidance: Extra sensory perception as an effect if subjective probability? *British Journal of Psychology, 81*, 455-468.

Brugger, P. Regard, M., Landis, T., Krebs, D. & Niederberger, J. (1991). Coincidences: Who can say how "meaningful" they are? In E. Williams-Cook & D. L. Delanoy (Eds.) *Research in Parapsychology:* Abstracts and Papers from the 34th Annual Convention of the Parapsychological Association (pp.94-98). London: Scarecrow Press.

Brugger, P, & Taylor, K. I. (2003). ESP: Extrasensory perception of effect of subjective probability. *Journal of Consciousness Studies, 10(6-7)*, 221-246.

Carroll, R. D. (2003). *The skeptic's dictionary: A collection of strange beliefs, amusing deceptions and dangerous delusions*. Hoboken, NJ: Wiley & Sons.

Carter, C. (2007). *Parapsychology and the skeptics: A scientific argument for the existence of ESP*. Pittsburgh, PA. Paja Books.

Coleman, S, Beitman, B. D. & Celebi, E. (2009). Weird coincidences commonly occur. *Psychiatric Annals, 39(5), May 2009,* 265-270.

Collins English Dictionary: Millennium/4th Edition (1998). London: HarperCollins

Dagnall, N., Parker, A., & Munley, G. (2007). Paranormal belief and reasoning. *Personality & Individual Differences, 43,* 1406-1415. DOI: 10.1016/j.paid.2007.04.017

Diaconis, P. & Mosteller, F. (1989). Methods for studying coincidences. *Journal of the American Statistical Association*, *84(408), 853-861.*

Dossey, L. (2009). *The power of premonitions: How knowing the future can shape our lives*. London: Hay House.

Downie, W. (2011). The September 11 cube. *Paranormal Magazine*, 62, 47-50

Falk, R (1981-82). On coincidences. *Skeptical inquirer, 6(2), 18-31.*

Falk, R (1989). Judgement of coincidences: Mine versus yours. *American Journal of Psychology, 102*, 477-493.

Falk, R. & Konold, C. (1997), Making sense of randomness: Implicit encoding as a basis for judgement. *Psychological Review, 104(2),* 301-318. doi:10.1037/0033-295X.104.2.301.

Festinger, L. (1957). *A theory of cognitive dissonance*. Evanston, IL: Row. Peterson

Fisk, J. E. (2004). Conjunction fallacy. In R. F. Pohl (Ed.). *Cognitive illusions: A handbook on fallacies and biases in thinking, judgement and memory* (pp. 23-42). Hove: Psychology Press.

French, C. C. (1992a). Factors underlying belief in the paranormal: Do sheep and goats think differently. *The Psychologist, 5, July 1992,* 295-299.

French, C.C. (1992b). Population stereotypes and belief in the paranormal: Is there a relationship? *Australian Psychologist, 27(1)*, 57-58.

French, C. C. (2003). Fantastic memories: The relevance of research into eyewitness testimony and false memories for reports of anomalous experiences. *Journal of Consciousness Studies*, 10(6-7), 153-174.

French. C.C., Herrmann, D., Hales, S. & Northam, C. (1997) Psi in the eye of the beholder: Believers-goat differences in evaluating evidence of the paranormal. Unpublished manuscript, Department of Psychology, Goldsmiths College, University of London.

French, C. C. & Wilson, K. (2007). Cognitive factors underlying paranormal beliefs and experiences. In S. Della Sala (Ed.) *Tall tales: Popular myths about the mind and brain* (pp. 3-22). Oxford: Oxford University Press.

Gilovich, T., Griffin, D. & Kahneman, D. (2002). *Heuristics and biases: The psychology of intuitive judgement*. Cambridge: Cambridge University Press.

Henry, J. (1993). Coincidence experience survey. *Journal of the Society for Psychical Research, 59(831),* 97-108.

Henry, J. (2005). Coincidence. In J. Henry (Ed.). *Parapsychology: Research on exceptional experiences* (pp. 169-174). London: Routledge.

Hines, T. (2003). *Pseudoscience and the paranormal* (2nd ed.). Amherst, NY: Prometheus Books

Honorton, C. (1975). Error some place. *Journal of Communication*, 25(1), 103-116. doi:10.1111/j.1460-2466.1975.tb00560.x

Houran, J. (1998). Preliminary study of tolerance of ambiguity of individuals reporting paranormal experiences. *Psychological Reports, 82(1),* 193-187.

Houran, J., & Lange, R. (1997). Tolerance of ambiguity and fear of the paranormal in self-identified percipients of haunting/RSPK phenomena. *Journal of the Society for Psychical Research*, 62(848), 36-40

Houran, J. & Lange, R. (1998). Modelling precognitive dreams as meaningful coincidences. *Psychological Reports, 83,* 1411-1414.

Houran, J., & Williams, C. (1998). Relation of tolerance of ambiguity to global and specific paranormal experience. *Psychological Reports*, 83(3, Pt 1), 807-818. doi:10.2466/PR0.83.7.807-818

Irwin, H.J. (1993). Belief in the paranormal: A review of the empirical evidence. *Journal of American Society for Psychical Research, 87(1)*, 1-39.

Irwin, H.J. (2009). *The psychology of paranormal belief*: A researcher's handbook. Hatfield: University of Hertfordshire Press

Irwin, H.J. & Watt, C. A. (2007). *An introduction to parapsychology (5th edition)*. Jefferson, NC: McFarland.

Jones, W. H. & Russell, D. (1980). The selective processing of belief disconfirming information. *European Journal of Social Psychology,* 10(3), 309-312.

Jung, C. (1973). Synchronicity: An acausal connecting principle. Princetown, NJ: Princetown/Bollingen.

Kahneman, D. & Tversky, A. (1972). Subjective probability: A judgment of

representativeness. *Cognitive Psychology, 3,* 430-454. DOI: 10.1016/0010-0285(72)90016-3. Reprinted in D. Kahneman, P. Slovic, & A. Tversky (1982). *Judgement under uncertainty: Heuristics and biases* (pp. 32-47). Cambridge: Cambridge University Press.

Kahneman, D. & Tversky, A. (1982). Judgments of and by representativeness. In D.

Kahneman, P. Slovic, & A. Tversky (Eds.). *Judgement under uncertainty: Heuristics and biases* (pp. 84-98). Cambridge: Cambridge University Press.

Kahneman, D. Slovic, P. & Tversky, A. (1982). *Judgement under uncertainty: Heuristics and biases*. Cambridge: Cambridge University Press.

Langer, E. J. (1975). The illusion of control. *Journal of Personality & Social Psychology, 31,* 311-328. DOI: 10.1037/0022-3514.32.2.311.

Manktelow, K. (1999). *Reasoning and thinking*. Hove: Psychology Press.

Marks, D. (2002). *The psychology of the psychic (2nd edition).* Buffalo, NY: Prometheus.

Martin, B. (1998). Coincidences: Remarkable or random? *Skeptical Inquirer, 22(5), September/October 1998,* 23-28.

Matthews, R. & Blackmore, S. J. (1995). Why are coincidences so impressive? *Perceptual & Motor Skills,* 80(3, Pt. 2), 1121-1122.

Milton, J. & Wiseman, R. (1997). *Guidelines for extrasensory perception*

research. Hatfield, UK: University of Hertfordshire Press.

Moore, D. W. (2005). Three in Four Americans Believe in Paranormal: Little change from similar results in 2001 Gallup Poll. Online at http://www.gallup.com/poll/16915/three-four-americans-believe-paranormal.aspx. [Accessed 07 Sep 2011]

Musch, J. & Ehrenberg, K. (2002). Probability misjudgement, cognitive ability and belief in the paranormal. *British Journal of Psychology, 93*, 169-177. DOI: 10.1348/000712602162517.

Office of Rail Regulation (2011). Station usage: Latest station usage reports and

data. Online at http://www.rail-reg.gov.uk/server/show/nav.1529.

[Accessed 16/09/2011].

Pletcher, G. K. (1982). Coincidence and explanation. In P. Grim (Ed.). *Philosophy of science and the occult* (p. 169-177). Albany, NY: State University of New York Press.

Plous, S. (1993). *The psychology of judgement and decision making*. New York: McGraw-Hill.

Radin, D. (2009). *The noetic universe: The scientific evidence for psychic phenomena*. London: Corgi.

Rhine-Feather, S. & Schmicker, M. (2005). *The gift: ESP, the extraordinary experiences of ordinary people*. London: Rider.

Roberts, M, J. & Seager, P. B. (1999). Predicting belief in paranormal phenomena: A comparison of conditional and probabilistic reasoning. *Applied Cognitive Psychology, 13(5),* 443-450.

Rogers, P & Webley, P. (2001). 'It could be us! Cognitive and social psychological factors in UK National Lottery play. *Applied Psychology: An International Review, 50(1),* 181-199. DOI. 10.1111/1464-0597.00053.

Rogers, P. (1998). The cognitive psychology of lottery gambling: A theoretical review. *Journal of Gambling Studies, 14(2),* 111-134. DOI: 10.1023/A:1023042708217.

Rogers, P. Davis, T. & Fisk, J. (2009). Paranormal belief and susceptibility to the conjunction fallacy. *Applied Cognitive Psychology, 23(4)*, 524-542. DOI:10.1002/acp.1472

Rogers, P., & Fisk, J. (2011). Paranormal belief and Bayesian probabilistic reasoning. Manuscript in preparation.

Rogers, P., Fisk, J. E. & Lowrie, E. L. (2011). The role of constituent relatedness in paranormal believers' susceptability to the conjunction fallacy. Unpublished data; manuscript in preparation.

Rogers, P. Fisk, J. & Wiltshire, D. (2010). Paranormal Belief and the Conjunction Fallacy: Controlling for temporal relatedness and potential surprise differentials in component events. *Applied Cognitive Psychology, 24*, 1-20. DOI: 10.1002/acp.1732.

Rogers, P., Lowrie, E. L. & Fisk, J. E. (2011). Paranormal belief and the conjunction fallacy: Differences across pro-paranormal verses ant-paranormal conjunctive events. Unpublished data; manuscript in preparation.

Rogers, P. & Webley, P. (2001). 'It could be us!' Cognitive and social psychological factors in UK National Lottery play. *Applied Psychology: An International Review,* 50(1), 181-199.

September 11 attacks. Online at http://en.wikipedia.org/wiki/September_11_attacks#Casualties [Accessed 15/09/2011]

Shackle, G. L. S. (1969). *Decision, order and time in human affairs*. Cambridge: Cambridge University Press.

Stuart-Hamilton, I., Nayak, L., & Priest, L. (2006). Intelligence, belief in the paranormal, knowledge of probability and aging. *Educational Gerontology*, 32(3), 173-184. doi:10.1080/03601270500476847.

Sutherland, N. S. (1992). *Irrationality: The enemy within*: London: Penguin.

Targ, E., Schlitz, M. & Irwin, H. J. (2000). Psi related experiences. In E. Cardeña, S. J. Lynn & S. Krippner (Eds.). *Varieties of anomalous experience: Examining the scientific evidence* (pp. 219-252). APA: Washington, DC.

Thalbourne, M.A. (2006). A brief treatise on coincidence. Unpublished manuscript. Online at http://parrochia.wifeo.com/documents/coincidence.pdf. [Accessed 06/12/2010].

Tobacyk, J. J. & Wilkinson, L. V. (1991). Paranormal beliefs and preference for games of chance. *Psychological Reports, 68,* 1088-1090. DOI: 10.2466/PR0.68.4.1088-1090.

Tversky, A. & Kahneman, D. (1982). Judgements of and by representativeness. In D. Kahneman, P. Slovic & A. Tversky (1982) *Judgement under uncertainty: Heuristics and biases* (pp. 84-98). Cambridge: Cambridge University Press.

Tversky, A. & Kahneman, D. (1983). Extensional versus intuitive reasoning: The conjunction fallacy in probability judgement. *Psychological Review, 91*, 293-315. DOI: 10.1037/0033-295X.90.4.293.

US Census Bureau (2011). World POPClock Projection. Online at http://www.census.gov/population/popclockworld.html.[Accessed 16/09/2011].

Vyse, S. A. (1997). *Believing in magic: The psychology of superstition*. Oxford: Oxford University Press.

Watt, C. A. (1990-91). Psychology and coincidences. *European Journal of Parapsychology, 8,* 66-84.

Wierzbicki, M (1985). Reasoning errors and belief in the paranormal. *Journal of Social Psychology, 125*, 489-494.

Wiseman, R. (2011). *Paranormality: Why we see what isn't there. London*: MacMillan.

Wiseman, R. & Morris, R. L. (1995). Recalling pseudo-psychic demonstrations. *British Journal of Psychology, 86,* 113-125.

Wiseman, R., Smith, M. D. & Wiseman, J. (1995). Eyewitness testimony and the paranormal. *Skeptical Inquirer, 19(6), November/December 1995*, 29-32

Wiseman, R. & Watt, C. (2006). Belief in psychic ability and the misattribution hypothesis: A qualitative review. *British Journal of Psychology, 97,* 323-338. DOI: 10.1348/000712605X72523.

HEADS & TALES
THE STRANGE CASE OF THE HEXHAM HEADS

David Taylor

Sometime in 1971 or 1972 (Screeton, 2011) at Rede Avenue, Hexham in Northumberland, young Colin Robson made what at first looked like an unremarkable discovery in his family's back garden. While dutifully weeding the flowerbed, he unearthed what appeared to be a small round stone with a cone-like protrusion. Clearing the dirt from the surface he was excited to discover a roughly carved human head and conical neck, slightly larger than a golf ball. Watching from an upstairs window was his brother Leslie who soon joined Colin as he explored the flowerbed. It wasn't long before Leslie discovered a second head. Various versions claim the heads were either on the surface, or buried two and a half or four feet deep.

The first head had a skull-like face, which everyone who saw it believed was masculine, and for this reason it was dubbed the 'boy'. It was greenish-grey in colour and glistened with crystals of quartz. On top of the head appeared to be a vague indication of hair carved in stripes running from the front to the back of the head. The other head was felt to be female and had slight traces of a yellow and red pigment in the hair. This head apparently had a more sinister feel about it and so was nicknamed the 'hag'.

The heads were taken indoors and not surprisingly became a talking point with the family. Things, however, were about to get even stranger.

The heads would be found spontaneously turned around, objects would break for no apparent reason and the bed of one of the Robson daughters, Judith, was showered in glass. But if the Robson family thought they had it bad, this was nothing compared to what was in store for their next door neighbours - the Dodds. Ellen Dodd had gone into one of the children's bedrooms to check on her youngest daughter, Marie who had been complaining of earache. Ellen now takes up the story:

"I had gone into the children's bedroom to sleep with one of them, who was ill. My 10 year old son Brian kept telling me he felt something touching him. I told him not to be silly. Then I saw this shape. It came towards me and I definitely felt it touch me on the legs. Then, on all fours, it moved out of the room". (Screeton P. , 1980)

Mrs. Dodd later described the creature as "half human, half sheep-like", with the body of a man and the head of a sheep! When she went downstairs she

disconcertingly found that the front door was wide open! Terrified by this experience the Dodd family were eventually rehoused. As for the Robsons, their house was exorcised and all now seemed quiet in Rede Avenue. But it was not over yet.

At about the same time, the existence of the heads came to the attention of the distinguished Celtic scholar, Dr. Anne Ross. The heads came into her possession for her to carry out analysis to determine their age and she concluded that they were Celtic in origin (Ross, 1973).

Once again, strange and unnerving things began to happen around the heads. Soon after taking charge of them, she recalled what happened one night:

"I woke up and felt extremely frightened. In fact, panic-stricken and terribly, terribly cold. There was a sort of dreadful atmosphere of icy coldness all around me. Something made me look towards the door, and as I looked, I saw this thing. It was about 6ft high, slightly stooping, and it was black against the white door. It was half animal and half man. The upper part I would have said was wolf and the lower part was human. It was covered with a kind of black, very dark fur. Something made me run after it - a thing I wouldn't normally have done, but I felt compelled to run after it. I could hear it going down the stairs. Then it disappeared toward the back of the house. When I got to the bottom of the stairs I was terrified." (Ross, 1973)

On waking her husband and searching the whole house, nothing untoward could be found.

Dr. Ross and her husband made a point of not telling their children about this experience. So when a few weeks later they both returned from London they were surprised to find their teenage daughter in a state of shock. She had returned home from school and opened the front door. She was startled to see a 'black thing' which she described as a werewolf, jump over the banister and head towards the back of the house. She too felt compelled to follow it, and as it disappeared into the music room she was suddenly gripped by a wave of terror. When her parents returned she was still shaking with fear.

Their son Richard also saw the creature. When I spoke to him in March 2011 the sighting was still vivid in his mind, even though he was now a middle-aged man. Like his parents and sister he described a tall figure with the upper part of a wolf. It was standing in his bedroom doorway and it leapt over the banister as he let out a scream. (Screeton P. , 2011)

A strange atmosphere filled the house while the Hexham heads were in residence. Sightings of the creature continued too, not as some peripheral visual

sighting, but as a full on experience. One thing was certain, the heads had to go! A curious detail confirmed to me by Richard was that the Hexham heads appeared to have 'activated' the other carved Celtic heads that Dr. Ross kept in the house. These had to go too. Even as late as the 1990s, nearly 20 years after the family's werewolf experiences, Dr. Ross refused to have any Celtic heads in the house! Stories of anomalous experiences associated with carved stone heads are well documented (Clarke, 1996) and form an important part of the folklore record.

Just as the Hexham heads case seemed all cut and dried, a new and interesting twist was about to happen. Following publicity generated by the heads, Desmond Craigie came forward and claimed that the heads were not of Celtic origin because he had made them! Mr. Craigie had lived in the Robson house for 30 years. One day his daughter Nancy had asked him what he did at work, He worked with artificial cast stone, so to help explain to her he made some dolls heads out of stone. The Hexham heads; he claimed, were the ones he had made for his daughter. Dr. Ross was unconvinced and so Mr. Craigie offered other heads he had made for comparative analysis. Stone is a difficult substance to date, and the tests came back inconclusive.

By the late 1970s the heads were kept in the office of Dr. Ross at Southampton University. A cleaner who was responsible for this office was spooked one night by the heads, and on arriving home she and her family were likewise plagued by a terrifying werewolf experience (Smith, 2009).

In his book 'The Secret Language of Stone' (Robins, 1988), Don Robins relates how he went to view the heads at Southampton University and was amazed when he was offered them by Dr. Ross. Despite his scientific background as an inorganic chemist, Robins was unnerved and a little nervous about accepting the heads, especially as he had a long journey home and didn't want to tempt fate! However, despite his car not starting, he finally got home safely. While in his possession he experienced no werewolf sightings although he did feel a strange atmosphere around the heads. Robins goes on to speculate how the experiences with the heads are proof for what has popularly become known as the 'Stone Tape' theory for hauntings. Although Robins' theories are a brave attempt at trying to make this theory scientifically respectable, my own ongoing research suggests a more occult historical context for this theory (Taylor).

Shortly after taking possession of them, he passed them to Frank Hyde, an astrologer, for him to carry out tests. Unfortunately Mr. Hyde was involved in a serious car accident shortly after this and the heads were subsequently lost. (Robins, 1980)

And so the mystery remains. The heads, two of the most mysterious objects in fortean history are, for the moment anyway, lost.

As for the werewolf, this shape shifter has a long and complex history (Douglas, 1992) (O'Donnell, 1912) and one that yet may unearth a few surprises of its own (White, 1991). Reports of lycanthropes are still a modern phenomena (Redfern, 2008).

HOW YOU CAN HELP

Author and researcher Paul Screeton is currently writing a new book on the Hexham Heads. If you have any information about the heads or information to share about experiences related to them, then please contact me on: david.taylor@parasearch.org.uk or 07505 323443

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REFERENCES

Clarke, D. &. (1996). *Twilight of the Celtic Gods.* Blandford.

Douglas, A. (1992). *The Beast Within: A History of the werewolf.* Chapmans.

O'Donnell, E. (1912). *Werewolves.* Methuen: London.

Redfern, N. (2008). *There's Something in the Woods.* Anomalist Books.

Robins, D. (1980). The Hexham Heads . *Alpha magazine, No. 8* .

Robins, D. (1988). *The Secret Language of Stone.* Rider.

Ross, A. (1973). Folklore, Myths and Legends of Britain. *Readers Digets* .

Ross, A. (1973). Some New Thoughts on Old Heads. *Archaeologia Aelina, The Society of Antiquaries of Newcastle upon Tyne, 5th series, vol.1* .

Screeton, P. (2011) 1. Ongoing research is unearthing complex and at times conflicting data about the exact date the heads were unearthed.

Screeton, P. (2011) 2. Personal Communication

Screeton, P. (1980). *Tales of the Hexham Heads*. Outlaw Press.

Smith, S. (2009). *Hampshire & The New Forest Stories of the Supernatural*. Countryside Books.

Taylor, D. *When Old Stones Speak : The historical origins of the Stone Tape Theory*. unpublished.

White, D. (1991). *Myths of the Dog-Man*. University of Chicago Press.

THE EFFECT OF PARANORMAL BELIEF ON RESPONSE BIAS IN AN AUDITORY ELECTRONIC VOICE PHENOMENON TASK

Ann Winsper

INTRODUCTION

Electronic Voice Phenomena

Electronic Voice Phenomena, or EVP, is a phenomenon that was first fully described in the 1950's (Irwin, 1999), and describes the apparent presence of anomalous voices appearing on magnetic tape recordings (Barušs, 2001). The phenomenon was described in detail by Raudive, and as well as technical details of how to obtain these voices, he describes how the voices obtained on tape by this method apparently belong to deceased persons (Raudive, 1971). One of the methods that Raudive describes for recording these voices is to detune a radio so that only white noise can be heard, and place a recording microphone close to the radio. Questions can then be asked of the deceased whilst a continuous recording is made, then the tape can be played back and any responses noted. Raudive (1971) describes how the voices that can be obtained on tape are different from ordinary human voices in the following ways: very rapid speech, alternating between languages within a sentence; the speech has a distinctive rhythm, sentences are shortened; and grammar is not applied. Interestingly, Grings (1942) describes how in Shakow's experiments with the 'verbal summator' (a technique whereby random vowel patterns, when played to participants, can be interpreted as words), schizophrenic patients produced a larger number of non-English responses. Raudive himself admits that there is some room for interpretation of sounds on these tapes, however he states that it takes "..at least three months for the ear to adjust itself.." when attempting to distinguish words, and his technique involves listening to each tape many times until the apparent voices can be distinguished (Raudive, 1971).

These techniques have drawn criticism, as during investigation the techniques appear to be flawed. Keil (1980) describes how Raudive would instruct a listener as to what they should be hearing on the tape, then he would play the tape repeatedly. If the listener then agreed with Raudive's interpretation, the result was classed as verification of Raudive's results. If the listener did not agree with Raudive's interpretation, the listener was classed as "being unable to hear" (Keil, 1980). The role of the suggestion involved in this method could be quite significant – Young *et al* (1987) showed that participants with a

predisposition to hallucinate were more likely to report hearing sounds that had been suggested to them than control participants.

Smith (1972) analysed the findings described in Raudive's book, and whilst he failed to reach any firm conclusions, he does describe a hypothesis he calls "audible tealeaves". He describes this as background noise on the tapes that may occasionally form into sounds that can then be interpreted by listeners as recognisable voices, particularly if the listener has been prompted beforehand.

Barušs (2001) attempted to replicate EVP, but his results were negative, although the results described by Raudive are also discussed by Barušs in terms of anomalous influence by the researchers, or the researchers themselves being influenced by "discarnate entities". This approach is based mainly on attempting to explain the phenomenon in apparently paranormal terms, as Barušs seems unwilling to totally dismiss the possibility that the phenomena are scientifically explainable, preferring instead to propose alternative explanations such as anomalous influences by persons present.

Further research has utilised differing methods of electronic media, such as video, telephone and computer mediated communications, so the phenomenon is more generally known today as Instrumental Transcommunication Phenomena, or ITC (Barušs, 2007). However, whilst current research into the phenomenon accepts that results obtained using tape recording methods have proven largely unsuccessful (Barušs, 2007), there have been no recent studies to ascertain how accurate participants are at distinguishing voices from noise.

Most research currently tends to accept that the phenomenon exists, and seeks to find proof that the anomalous voices do show proof of an afterlife – Fontana (2004) describes how the Galileo Ferraris Electrotechnical Institute have shown there is virtually no presence of the fundamental frequencies produced by human vocal cords in EVP tape analysis. However, Fontana assumes this as proof that the apparent voices have no normal explanation rather than looking at the possibility that this might be because the sounds are not in fact voices, they are just being interpreted as such by the listener.

Researchers such as Cardoso and Bacci have attempted to produce replicable experimental conditions, with apparently successful results (Laszlo, 2008). However, there has been a recent revival of interest in the method, and an internet search will reveal that the technique is being used by paranormal investigators during ghost hunts. Most of these groups report the presence of anomalous voices on their recordings, however these experiments are not being carried out under scientific conditions, and additionally where groups

post their results online, most of the apparent anomalies appear not to be recognisable voices at all.

Paranormal Belief

A high level of paranormal belief can affect how people interpret events, with a higher level of belief predicting a higher level of misperception of events (Irwin, 1993). Experiments utilising signal detection theory have shown that whilst perceptual sensitivity is similar in both believers and non-believers, response bias significantly differs between the two groups (Gianotti et al, 2001). Because of this, it might be assumed that believers may be more prone to misperceiving voices within random noise, particularly if prompted by being told the noise may contain anomalous voices or sounds.

Signal Detection Theory

When investigating the effects that decision bias may be having on participants, signal detection theory methods are frequently used (for example Tsakanikos & Reed, 2005).
Signal Detection Theory (SDT) measures are used within psychology when a task involves discriminating between two different types of stimuli (Stanislaw & Todorov, 1999). The theory can be utilised in auditory detection tasks where participants are presented with a series of sound clips, half of which are termed noise trials and half of which are termed signal trials (where a signal is present within the noise). The participant must decide whether each is a noise or signal trial. In addition to sensitivity (how accurate the participant is at discriminating noise and signal trials), each participant will also base their response according to their own decision bias (in ambiguous situations, many factors can affect the participant's response). According to SDT theory participants will respond yes to the signal presented trial when the decision variable used reaches a criterion value.
The decision to use SDT in this study was based on its ability to separate response bias and sensitivity. This would then allow comparison of response biases to ascertain if the independent variable affects the response.

In this study, the decision criterion that the participants adopt is hypothesised to depend on their level of paranormal belief, also whether they have been told that the task is an EVP task or not. It is hypothesised that participants with high paranormal belief who are in the EVP condition will have a lower decision criterion – they are more likely to report a signal, even when one is not present. It is also hypothesised that low belief participants in the EVP condition will have a higher decision criterion – they will be less likely to respond yes, even when a signal is present.

METHOD

Participants

Twenty four undergraduate students took part in the study (6 males and 18 females). They ranged in age from 18 to 37 years (M = 20.57, SD = 5.053). Criteria for selection were that participants were over 18 years of age, and had no known hearing impairments. Participants were recruited using a Psychology Research Participants system.

Apparatus and Materials

Sound files for the study were generated to create a noise condition and a signal condition. To create the noise condition, approximately 16 seconds of white noise was generated. To create the signal condition, two sound files were created, one of a male voice saying "india", the second the same male voice saying "delta". These sound files were overlaid onto white noise such that the "India" clip was ambiguous, whereas the "Delta" clip was non-ambiguous and should have been discernable to participants.
Each trial consisted of four white noise sound clips, four "India" clips, and two "Delta" clips played in a randomised manner.

Design

The study was a between participant quantitative experiment, utilising an auditory signal detection task. Independent variables were the effect of either being informed that the task is investigating EVP or not; and the effect of a signal being present within the sound clips or not. Participants also completed questionnaires that measured belief in the paranormal and also provided brief demographic details. The dependent variable was the participant's response to the signal/noise trials.

Procedure

Half the participants were told that the study was looking at EVP, the other half were told it was a listening task utilising white noise, with the selection process being odd-numbered participants were told the task was a listening task, and even-numbered participants told the study was looking at EVP.

The participants were informed that the listening task would consist of listening to 10 sound clips, each one repeated three times. They were given a six point response sheet on which to indicate how confident they were that the clip was either white noise or containing a signal. If they thought the clip contained a signal, they were asked to briefly describe what the signal

appeared to be. Participants were played the sound clips through stereo headphones, using Winamp 5.56 (2009) software. The volume had been set to play at the same level for each participant, the volume having been previously set to be within HSE limits. The same computer was used to play sound clips to each participant to ensure each participant heard exactly the same clips at exactly the same volume, through the same soundcard.
Following the listening task, participants were asked to complete the Australian Sheep Goat Scale (ASGS) questionnaire.

The 10 item version of the ASGS was chosen. This has been used in various studies comparing the psychological differences between believers and non-believers in anomalous phenomena.
Scoring for the ASGS consists of apportioning two points for the response "true", one point for the response "uncertain" and no points for the response "false". The points are then summed to give an overall score, with 20 points being the highest possible (indicating high believer) and zero points being the lowest (indicating non-believer).(Thalbourne & Haraldsson, 1980).

RESULTS

Participants were divided into high and low paranormal believers by a median split on the ASGS scales scores (median = 8, range = 1-19), taking scores of 9 and above to be believers, and scores of 8 and below to be non-believers.

Participants were required to fill in a rating scale for their responses, but for analysis these were treated as simple Yes/No responses.

For each participant, the following scores were calculated:
Number of hits (responding that there was a signal when a signal was present);
Number of false alarms (responding that there was a signal when no signal was present).

Only the noise condition and the india condition were used in the calculations, the delta condition being present mainly as a check to ensure that participants could hear a signal when presented at slightly louder (+1dB) than Just Noticeable Difference level.

The mean hit rate score was higher for the believers (.68750) than for the non-believers (.39844). An independent t-test was carried out to compare mean hit rates between believers and non-believers. This showed that there was a significant difference in the mean scores between believer (M=0.688, SD=0.231) and non-believer (M=0.398, SD=0.229) conditions; t(22)=2.90,

p=.008. This suggests that believers have significantly higher hit rates than non-believers.
There was no significant difference in mean false alarm rate score between believers and non-believers (believers M = .28125, SD = .229, non-believers M = .29688, SD = .1930).

To identify whether the difference in hit rate was due to differences in detection or differences in bias, according to signal detection theory, d-prime (d') and criterion (c) scores were calculated to measure perceptual ability and response bias.

The mean d' (sensitivity) value was higher for believers than non-believers. An independent t-test showed no significant difference in the scores for believers (M=1.17, SD=1.28) and non-believers (M=0.300, SD=0.88) conditions; t(22)=1.95, p=.06. This suggests that the believers had a slightly greater sensitivity to discriminating the difference between signal and noise conditions, but it was not a significant difference.

The mean criterion score for believers and non-believers showed that the believers adopted a more liberal criterion than non-believers. An independent t-test showed that the difference was significant between the believer (M=.0768, SD=0.241) and non-believer (M=0.45, SD=.449) conditions; t(22)=-2.65, p=.015. This suggests that there is a significant difference in response bias between the two groups, with the believers showing a significantly more liberal criterion than the believers. However, the c scores for both groups were positive, indicating that both groups were displaying an overall conservative response bias.

Statistical analysis of results between all conditions

Analyses were then carried out to assess any significant differences when splitting participants into believer and EVP condition groups, giving four groups of participants:
believer, EVP condition; non-believer, EVP condition; believer, non-EVP condition; non-believer, non-EVP condition.

Mean hit rate was highest for believers and lower for non-believers, with the highest mean hit rate being in the believer/EVP condition and lowest in the non-believer/non-EVP condition.

Non-believers in the non-EVP condition appeared to be particularly bad at differentiating between signal and noise, indicated by the unusual mean d' score of -.2891. Individual participant values were zero or negative numbers, indicating that they had no ability to distinguish between signal and noise.

The mean c score was highest for the non-believers in the non-EVP condition, indicating that they were displaying the most conservative response bias during the task. All other groups also displayed a positive c value, indicating a conservative response, therefore no groups displayed a liberal response bias. The mean c scores were lowest in believers in the EVP condition. Both believers and non-believers showed more liberal criteria when in the EVP condition.

The mean d' scores were analysed using a factorial analysis of variance, with two between-participant factors (believers/non-believers and EVP/non-EVP)

There was a significant main interaction effect for EVP/non-EVP, $F(1,20) = 4.341$, $p < .05$, indicating that the group who were told the task was an EVP task had a greater sensitivity (M = 0.9852, SD = 0.777) than the group who were not told (M = 0.1917, SD = 1.23).

There was also a significant main effect for belief/non-belief, $F(1,20) = 6.137$, $p<.05$ as indicated in the prior t-test.
The EVP x belief interaction was not significant, $F(1, 20) = 0.087$, $p = .771$.

The mean c scores were analysed using a factorial analysis of variance, with two between-participant factors (believers/non-believers and EVP/non-EVP). The mean c score for believers was higher in the non-EVP condition (M = 0.1229, SD = 0.257) than the EVP condition (M = 0, SD = 0.2379), and also the non-believers displayed a higher mean c score in the non-EVP condition (M = 0.5412, SD = 0.542) compared with non-believers in the EVP condition (M = 0.3791, SD = 0.380) suggesting that both believers and non-believers were adopting a more liberal criterion when in the EVP condition.

There was a significant main effect for belief/non-belief, $F(1,20) = 4.902$, $p<.05$, however there were no significant effects for EVP or for EVP x belief interaction.

DISCUSSION

In this study it was hypothesised that all participants would display a similar sensitivity to responding to signal trials, but that level of paranormal belief, and priming participants that the experiment was an EVP task would affect the response criterion of participants. It was hypothesised that the main effects would be that high believers who were primed would display the most liberal response bias, and low believers who were primed would display the most conservative response bias, but this was not reflected in the results.

The mean hit rate score was significantly higher for believers than non-believers. This suggests that believers were more accurate at identifying signals than non-believers. The false alarm rate was not significantly different between the two groups. This might mean that, rather than believers being more prone to falsely report signals, they are actually more accurate and any difference effect is due to non-believers being less accurate. However the hit rate does not take into account response bias, so this result might be due to the participant sample tested showing a difference in sensitivity.

To investigate this, signal detection methods were used to try and identify any differences in sensitivity and bias.

The mean d' value for believers was higher than the value for non-believers, but not significantly so, the initial results showing that the believer group had a greater sensitivity for discriminating the difference between signal and noise conditions than the non-believers was not shown to be significant. The non-believer, non-EVP group displayed unusual d' scores, which suggested that all the participants within this group were unable to distinguish between signal and noise. This may have been a statistical anomaly, with all the participants in this group having possible hearing problems, something that could only be overcome by individually subjecting each participant to a hearing test prior to taking part in the experiment.

As response bias has been shown to be significantly different between believers and non-believers, it was expected that this trend would be replicated in this experiment. The results showed that there was a significant effect of belief on response bias, with the most liberal criterion being shown by the believers in the EVP group. However, even this group of participants only displayed a mean criterion of zero, no participants displayed a true liberal mean criterion value. The most conservative mean criterion value was shown by the non-believers in the non-EVP condition. So although the hypothesis has been partially proven by displaying a difference between believers and non-believers, the results do not display liberal criteria being used by any participants, and the most conservative criteria were not shown by the believers in the EVP condition. Both believers and non-believers appeared to loosen their criteria under the EVP condition.

There may have been an effect in the way the two groups were divided, as believers and non-believers were separated by a simple median split of the scores. It may prove more useful to separate participants into three groups: high believers, low believers and a middle group that did not tend to the extremes. However with the relatively low number of participants (N = 24) this may be too artificial a manipulation, and initial *post hoc* tests supported this, as the results were very similar to the median split results.

Factorial analysis of variance showed that being told the experiment was an EVP task had a significant effect on the sensitivity of the participants, but there was no interaction effect with belief. This suggests that being told that the experiment involved a possibly paranormal phenomenon seemed to increase the accuracy of response in participants, whether they were believers or not. This could be interpreted as participants not being concerned about accuracy in the standard test condition, but applying greater concentration when the possibility of the task being paranormal was introduced.

There was also a significant main effect of belief, with the believers having greater sensitivity than non-believers.

However it had been expected that the greatest effect would be on the response bias, with believers in the EVP condition showing a more liberal criterion than non-believers in the EVP condition. In fact, although a factorial analysis of variance showed that believers showed a more liberal criterion than non-believers, no participant group displayed true liberal criteria, the only differences were in the magnitude of the conservative criteria. There was no significant effect on the criterion response for either the EVP condition or the EVP x belief interaction, despite the significant effect of belief on the criterion response.

This was at odds with the expected findings so leaves some questions to be answered.

The experiment could be repeated but instead of a chance sample, participants could be specifically selected to be paranormal believers or non-believers, as it appears that strength of belief and prior experience of the paranormal is an additional factor that affects the participant's responses. Significant responses in the expected direction may only be obtained when participants are active believers or non-believers, and may be even stronger if believers in paranormal EVP are selected as the believer participants. The lack of significant effects in the current study may be due to the sample population not being polarised enough to show an effect.

The demographic that anecdotally appears to be reporting EVP effects is paranormal investigators, who obtain recordings in allegedly haunted buildings. The suggestion effect in the experiment may need to be less subtle than simply explaining to participants the concept of EVP and telling them that there may be EVP present on the recording – if the belief condition participants are selected to be EVP believers and told that the clips contain EVP voices recorded in an allegedly haunted building, the combination of belief and suggestion may be strong enough to produce an effect.

Believers in this study showed a higher mean hit rate than non-believers – this could just be an artifact of the population chosen, as believers were not selected for their high belief, but it may also point to a more unusual conclusion. Musch & Ehrenberg (2002) showed that paranormal beliefs may be correlated with lowered cognitive ability, however the results of this study may suggest that moderate believers possess greater cognitive skills than non-believers. Rather than paranormal belief being a trait regarded as incompatible with scientific cognition, it may be that only extremes of belief have this extreme trait, and milder belief is actually an advantage.

Further experiments to investigate the parameters in this study with a group of participants with more polarised beliefs may show that it is in fact strong believers who show the hypothesised results. If a group of strong non-believers can be tested it might show that it is the personality correlates of strong belief in either direction that is important, whether believer or non-believer.

REFERENCES

Barušs, I. (2001). Failure to replicate electronic voice phenomenon. *Journal of Scientific Exploration, 15* (3), 355-367.

Barušs, I. (2007). An experimental test of instrumental transcommunication. *Journal of Scientific Exploration, 21* (1), 89-98.

Fontana, D. (2004). Survival Research: Opposition and future developments. *Journal of the Society for Psychical Research, 68*, 193-209.

Gianotti, L.R.R., Mohr, C., Pizzagalli, D., Lehmann, D. & Brugger, P. (2001). Associative processing and paranormal belief. *Psychiatry and Clinical Neurosciences, 55,* 595-603.

Grings, W.W. (1942). The verbal summator technique and abnormal mental states. *Journal of Abnormal and Social Psychology, 37,* 529-545.

Irwin, H.J. (1993). Belief in the Paranormal: A Review of the Empirical Literature. *Journal of the American Society for Psychical Research, 87* (1), 1-40.

Irwin, H.J. (1999). *An introduction to parapsychology* (3rd ed.). Jefferson, North Carolina: McFarland and Company.

Keil, J. (1980). The voice on tape phenomena: Limitations and possibilities. *European Journal of Parapsychology, 3,* 287-296.

Laszlo, E. (2008). An unexplored domain on nonlocality:; toward a scientific explanation of instrumental transcommunication. *Explore. The Journal of Science and Healing, 4* (5), 321-327.

Musch, J. & Ehrenberg, K. (2002). Probability misjudgment, cognitive ability, and belief in the paranormal. *British Journal of Psychology, 93*, 169-177.

Raudive, K. (1971). *Breakthrough: An Amazing Experiment in Electronic Communication with the Dead.* Gerrards Cross, Bucks: Colin Smythe Ltd.

Smith, E.L. (1972). The Raudive voices – objective or subjective? A discussion. *Journal of the Society for Psychical Research, 46* (754), 192-200.

Stanislaw, H. & Todorov, N. (1999). Calculation of signal detection theory measures. *Behavior Research Methods, Instruments, & Computers, 31* (1), 137-149.

Thalbourne, M.A. & Haraldsson, E. (1980). Personality characteristics of sheep and goats. *Personality and Individual Differences, 1*, 180-185.

Tsakanikos, E. & Reed, P. (2005). Seeing words that are not there: Detection biases in schizotypy. *British Journal of Clinical Psychology, 44,* 295-299.

Winamp (Version 5.56) [Software]. 2009. Available from http://blog.winamp.com/

Young, H.F., Bentall, R.P., Slade, P.D. & Dewey, M.E. (1987). The role of brief instructions and suggestibility in the elicitation of auditory and visual hallucinations in normal and psychiatric subjects. *Journal of Nervous and Mental Disorders, 175* (1), 41-48.

BLACK DOG APPARITIONS:
PRELIMINARY ANALYSIS OF A CASE COLLECTION

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Apparitions of 'Black Dogs' are well known in folklore and have been reported for centuries. However, they are not just ancient folklore because they are still being reported to this day, often by people who claim to be previously unaware of such folklore. Black Dog apparitions differ from normal dogs in terms of their size, their eyes and their behaviour.

I collected 52 first-hand reports of Black Dog encounters between 2000 and 2008. Most of the witnesses had visited my Black Dog website and had decided to share their own experiences with me via e-mail.

As part of a preliminary qualitative thematic analysis, I read the case reports numerous times to gain familiarity with the data and then coded them for common themes that emerged from the reports. These initial codings were then grouped together and organised into overarching themes. Five main themes (and numerous sub-themes) were identified: the location and environmental conditions relating to the encounter, the circumstances of the encounter, characteristics of the witnesses, the dog's appearance, the dog's behaviour. This article will summarise some of the main findings.

THE LOCATION AND ENVIRONMENTAL CONDITIONS

Most of the cases collected came from the USA (31); others came from the UK (11), Canada (2), Eire (1), Belgium (1), Netherlands (1), Sweden (1), Australia (1), unknown (3). The Black Dogs were mostly encountered outdoors at night. Very few reports mentioned the weather conditions but it is interesting to note that a couple of cases were reported to have occurred before or after a thunderstorm.

THE CIRCUMSTANCES OF THE ENCOUNTER

Many witnesses were relaxed and stationary but others were quite active and moving around at the time of their encounter. A number of witnesses mentioned that a family member was ill at the time and was later found to have died at around the same time or else they fell ill or died soon afterwards.

In one notable case the witness reported that they were undergoing an OBE at the time of their Black Dog encounter.

CHARACTERISTICS OF THE WITNESSES

The estimated age of the witnesses at the time of their encounters ranged from 4-57 years. Many of the witnesses had no prior knowledge of Black Dogs. Most people reported a single encounter with a Black Dog; a few people had seen it two or three times and a small number of people had seen it many times. Some witnesses were alone but in other collective cases the dog was seen by more than one person simultaneously. The reaction of witnesses to an encounter with a Black Dog varied, ranging from the negative through indifference to the positive, depending partly upon where it was encountered and what the dog did. Witnesses provided a variety of normal, paranormal and supernatural interpretations and explanations for their experiences. Some had had other anomalous experiences too.

THE DOG'S APPEARANCE

Many of the witnesses seemed convinced that it was no ordinary dog. This seemed to be borne out of the unusually large size, the features and the behaviour of the dog and that, in many cases, it seemed to vanish into thin air or gradually fade away. The dogs' eyes were often reported to be glowing or shimmering or glinting; sometimes the eyes were reported to be large, like balls or saucers. In a few cases the dog was reported to be headless. In one case the dog was described as having a human face; in another case the dog apparently had no facial features at all. Many witnesses heard sounds characteristic of a dog but a number of witnesses were surprised to find that the dog seemed to make no sound at all.

THE DOG'S BEHAVIOUR

Many witnesses felt that the dog had a sense of purpose and described how it moved in a determined and focused manner, often at great speed, and in a direct straight line. In some cases, the dog remained stationary, standing, sitting or lying down, but in most cases it walked or ran across in front of, towards or alongside the witnesses. There were two noteworthy cases where the dog appeared to fly through the air. In rare cases, the dog 'shape-shifted' into another form or communicated, seemingly via telepathy; in one case it is reported to have literally spoken to the witness. The Black Dog was generally considered to have negative intentions, though in a few cases the witnesses felt protected by it. In some cases the dog seems to have been aware of the witnesses but in other cases the witnesses reported that it never looked in their

direction or didn't seem to be aware of them. It was extremely rare for any of the witnesses to claim that the dog left any physical trace of its visit.

CONCLUSION

This research has confirmed some of the reported features of Black Dog apparitions using first-hand accounts but there is a need for further investigation into the circumstances of these experiences and potential environmental influences, as well as the more detailed characteristics of those having the experiences, if we are to reach an integrated understanding and explanation(s) for this phenomenon. A good theory of apparitions needs to explain as many types of apparition as possible. Black dog apparitions provide an unusual and interesting challenge to some current theories and explanations for apparitions. The next stage of the project will attempt to quantify the identified themes and to perform a cluster analysis to see if any unique groupings of the content become apparent. This might suggest, for example, that there are distinct types of Black Dog experiences that occur in particular circumstances.

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SOME FURTHER READING

Bayless, R. (1970). *Animal ghosts*. New York: University Books.

Bord, J. & Bord, C. (1985). *Alien animals*. London: Panther Books.

Brown, T. (1958). The Black Dog. *Folklore*, *69*, 175-192.

Brown, T. (1978). The Black Dog in English folklore. In J. R. Porter, & W. M. S. Russell (Eds.), *Animals in Folklore* (pp. 45-58). Totowa, NJ: Rowman & Littlefield.

Brown, T. (1982). *Devon ghosts*. Norwich: Jarrold & Sons Ltd.

Bunn, I. (1976). Black Dogs and water. *Fortean Times*, *17*, 12-13.

Burchell, S. (2007). *Phantom Black Dogs in Latin America*. Wymeswold, England: Heart of Albion Press.

Chambers, R. (Ed.) (1879). Spectre dogs. In, *The book of days (Vol. 2)* (pp. 433-436). Philadelphia, PA: J. P. Lippincott & Co.

Dale-Green, P. (1966). *Dog*. London: Rupert Hart-Davis.

Eberhart, G. M. (2002). *Mysterious creatures: A guide to cryptozoology, Volume 1 A-M*. Oxford ABC-CLIO.

Huff, C. (2002). Cave canem. *Anomaly: Journal of the Association for the Scientific Study of Anomalous Phenomena*, *30*, 2-19. Available at http://www.assap.ac.uk/memberarea/newsite/anomaly/Anomaly30.pdf

Jones, S. (2006). Reviewing the Black Dog witch project. *Fortean Times*, *209*, 53.

MacGregor, A. A. (1955). *The ghost book: Strange hauntings in Britain*. London: Robert Hale.

MacKenzie, A. (1971). *Apparitions and ghosts: A modern study*. London: Barker.

McEwan, G. J. (1986). *Mystery animals of Britain and Ireland*. London: Robert Hale.

Miles, C. (1908). Experiments in thought transference. *Journal of the Society for Psychical Research*, 13, 243-262.

Miller, K. (1984). The Black Dog and other canine apparitions in Lincolnshire. In N. Field, & A. White (Eds.), *A prospect of Lincolnshire* (pp. 130-137). Lincoln: Field & White.

O'Donnell, E. (1913). *Animal ghosts or animal hauntings and the hereafter*. London: William Rider & Son.

Reeve, C. (1988). *A straunge & terrible wunder*. Bungay, Suffolk: Morrow & Co..

Rudkin, E. H. (1938). The Black Dog. *Folklore*, *XLIX*, 111-131.

Sherwood, S. J. (2000a). Black Dogs and English men. *Exceptional Human Experience*, *16*, 226-230.

Sherwood, S. J. (2000b). Black Dog apparitions. *Journal of the American Society for Psychical Research*, *94*, 151-164.

Sherwood, S. J. (2004). The Black Dog of Uplyme. *The Paranormal Review*, *32*, 3-4.

Sherwood, S. J. (2005). A psychological approach to apparitions of Black Dogs. In B. Trubshaw (Ed.), *Explore phantom Black Dogs* (pp. 21-35). Wymeswold, UK: Heart of Albion Press.

Sherwood, S. J. (2010). Apparitions of Black Dogs. In M. D. Smith (Ed.), *Anomalous experiences: Essays from parapsychological and psychological perspectives* (pp. 120-135). Jefferson, NC: McFarland.

Sherwood, S. J. & Cousins, W. E. (2008). The Black Dog of Whitby and Kettleness. *Anomaly: The Journal of Research into the Paranormal*, 42, 2-9.

Trubshaw, B. (2005). *Explore phantom Black Dogs*. Wymeswold, UK: Heart of Albion Press.

Waldron, D. & Reeve, C. (2010). *Shock! The Black Dog of Bungay*. Hidden Publishing.

RAND, UFOS, SUPERSTITION AND PSYCHOLOGICAL WARFARE

Mark Pilkington

On 8 March 1950 the Korean War was three months away, and Cold War tensions were reaching levels of serious discomfort for the first time.

In the previous few months, the Soviets had detonated their first atom bomb, China and the USSR had signed a pact of allegiance and Los Alamos physicist Klaus Fuchs had confessed to passing atom bomb secrets to the Soviets.

At the same time American interest in flying saucers was reaching one of its early peaks thanks to sensational articles by US Navy men Major Donald Keyhoe and Commander Robert McLaughlin, published earlier that year in the hugely popular **True** Magazine (True Magazine, January, 1950).

On that day, in a crammed lecture hall at the University of Denver, Silas Newton, proprietor of the Newton Oil Company, gave an anonymous presentation in which he described several crashed flying saucers in the possession of the Air Force, and their diminutive humanoid occupants, in some detail. (FBI)

How Newton (whose identity was later revealed in the Denver Post) ended up getting a speaking slot at the university remains unclear, but what is known is that he was in cahoots with, or was perhaps himself being conned by, one Leo Gebauer, who had already drawn the FBI's attention during the war for calling on President Roosevelt to be assassinated and replaced with that 'swell guy' Adolf Hitler. Gebauer was now selling 'doodlebugs', black boxes for prospecting gold, minerals, gas and other precious metals. These, he claimed, were based on technology from the USAF's crashed ET craft, and Newton was acting as his front man. (The Flying Saucers and the Mysterious Litle Men)

Later that year, Newton and Gebauer's tale would become the basis for one of the era's best-selling UFO books, Behind The Flying Saucers by Variety magazine gossip columnist Frank Scully, seeding belief in crashed saucer tales in thousands of minds, a good thirty years before anyone took interest in the Roswell account, which had crashed and burned overnight in July 1947.

What's even more unusual is that, after Newton's presentation, the audience, composed largely of science and engineering students, were quizzed as to how convincing they felt his lecture had been – apparently 60 percent believed him to be telling the truth – and some of them were then interviewed by Air Force Intelligence officers. So what was going on?

With the benefit of hindsight it all sounds rather like a textbook market research exercise – but if that was the case, what were the Air Force men doing there, and who might they have been conducting the research for?

'What types of superstitious appeals will be best adapted to the various audiences to be propagandised? A study of local superstitions as reflected in popular folk lore might be profitable in providing answers to these questions.'

When they weren't designing rocket ships or calculating how long it would take to cook the world with nuclear warheads, the US Air Force-connected RAND (Research and Development) Corporation kept themselves busy working out how best to scare the hell out of 'peasants, old people and... ignorant workers', particularly in the Soviet Union. That anyway, was the aim of a fascinating paper, The Exploitation of Superstitions for Purposes of Psychological Warfare, published on 14 April 1950 (US Air Force Project RAND)

'It seems likely that superstitions flourish in an atmosphere of tension and insecurity', writes the paper's author, Jean Hungerford, and given the growing Cold War angst her timing couldn't have been more perfect.

The paper contains useful suggestions for making mileage of regional superstitions and folklore, including gods and devils, phantoms, astrologers, magic, good luck charms, chain letters and more but, curiously, no mention is made in of America's enthusiasm for flying saucers, which was then ratcheting up to dizzy new heights, one sighting at a time. In fact **everyone** was talking about flying saucers, especially the US Air Force, who had just secretly published their Project Grudge report, which strongly recommended that its pilots, and press, began to downplay saucer sightings before they got out of hand.

Could the omission of such a hot topic have been an oversight on the part of the author? It seems improbable, but maybe flying saucers were outside her remit, as the paper mostly deals with cases from the two World Wars. Then again, perhaps the saucers – reports of which were actually being

clandestinely examined for the Air Force by RAND (Top Secret 1949 Document) as Hungerford was preparing her paper, were still too much of a political hot potato for Hungerford to tuck into. Either way, the lack of even a brief mention of the subject seems rather odd.

Silas Newton's University of Denver talk, and the ensuing questioning of attendees, took place just six weeks before the paper was published, and sound like exactly the sort of information gathering operation that Hungerford recommends. One does have to wonder then if it wasn't an attempt to gauge how successful Newton was at spinning his crashed saucer yarn, and whether it might gain wings. It did, of course, via Frank Scully's book and the story of the UFO crash at Aztec is still being retold over and over again, six decades later. (April 2011)

Hungerford's discussion of the use, or abuse, of superstitions in psychological warfare (or Psychological Operations, PSYOPS, recently re-named Military Information Support and Operations, MISO), is critical to understanding the role that PSYOPS played in the development of the UFO mythology, and recognising the phenomenon's potential operational value to the military and intelligence agencies.

The paper discusses PSYOPS missions that successfully exploited local superstitions; for example in the 1920s on Afghanistan's Northwest Frontier, the British planted loudspeakers in planes warning tribal peoples that God was angry with them for breaking the peace with India, while in World War II the Germans projected imagery (though it doesn't say what) onto 'drifting clouds'. Hungerford goes into some detail on the use of chain letters to clog up enemy communications networks (a pre-digital form of denial-of-service attack), and the use of bogus fortune-tellers and false astrological data to dampen morale amongst both civilians and their leaders, a technique used extensively by both Allied and Axis powers during WWII.

Hungerford also references the activities of Captain Neville Maskelyne, the wartime illusionist most famous for his inflatable tanks and making the port of Alexandria 'invisible' to German bombers. In his 1949 book Magic Top Secret, Maskelyne gleefully describes other devilish antics that he and his team got up to:

> ‘Our men…were able to use illusions of an amusing nature in the Italian mountains, especially when operating in small groups as advance patrols scouting out the way for our general moves forward. In one area, in particular, they used a device which was little more than a gigantic scarecrow,

> about twelve feet high, and able to stagger forward under its own power and emit frightful flashes and bangs. This thing scared several Italian Sicilian villages appearing in the dawn thumping its deafening way down their streets with great electric blue sparks jumping from it; and the inhabitants, who were mostly illiterate peasants, simply took to their heels for the next village, swearing that the Devil was marching ahead of the invading English. Like all tales spread among uneducated folk (and helped, no doubt, by our agents), this story assumed almost unimaginable proportions.'

Famed cold warrior Air Force Colonel Edward Lansdale, a former advertising executive turned intelligence operative, may well have read the RAND paper before being deployed in the Philippines to quash the Communist uprising there in the early 1950s. As well as broadcasting the 'Voice of God' from a plane (as the British had done in Afghanistan), his team exploited local superstitions about a vampire-like demon called the Aswang, a ploy that successfully drove the Commie guerrillas from their jungle stronghold.

Hungerford advises PSYOPS operatives to research the superstitions prevalent amongst their intended targets to learn how best to scare the crap out of them:

> 'What superstitions are peculiar to Eastern Europeans, to Russians, to the various nationalities of the Soviet Union? What superstitions are prevalent amongst peasants, among combat troops or airmen, among civilians? What evidence is there that given members of the enemy elite are addicted to certain types of superstitions? What evidence is there that some types of superstitions lose their credibility after enjoying a brief vogue?'

It's hard not to draw parallels between questions like these and the flying saucer craze that the USAF so optimistically thought it had put a cap on. Over the next coupe of years the saucer problem would flare up again in spectacular style, reaching a climax with the July 1952 Washington DC 'overflights' that, I have suggested elsewhere, could have been a staged operation. (Piklington, 2010), (Weapons of Mass deception)

Air Force attitudes towards UFOs changed dramatically between 1949's Grudge report – which advised a strict lock down on media and internal military reports – and the famous *LIFE* magazine article of April 1952, in

which the Air Force told America's most popular magazine that UFOs could not 'be explained by present science as natural phenomena — but solely as artificial devices, created and operated by a high intelligence.' Could Hungerford's paper have played a role in changing the USAF's mind about how best to deal with those unstoppable flying saucers?

By the time that the CIA got involved with the UFO problem in 1952, they focused almost exclusively on the psychological warfare implications of the phenomenon. Surprisingly, given that UFOs were by now a top level concern for both the CIA and the Air Force, the CIA's own 1953 summary of the UFO situation (REPORT OF SCIENTIFIC ADVISORY PANEL ON UNIDENTIFIED FLYING OBJECTS CONVENED BY OFFICE OF SCIENTIFIC INTELLIGENCE, CIA , January 14 - 18, 1953) makes no mention of Hungerford's paper. Had her RAND report just not been read by the right people, or was it one of the secrets that the canny Air Force was keeping from the Agency for reasons of their own?

Whether the Air Force and the CIA were aware of it at the time or not, flying saucers proved to be the answer to two of Hungerford's key concerns: they provided a superstitious framework that could be deployed to potent effect anywhere in the world and one that, 60 years later shows no signs of losing its credibility, despite the occasional dip in its profile. From a PSYOPS tactician's perspective UFOs were a gift from the gods and one that has never stopped giving.

However, before we crack open the PSYOPS champagne (or MISO soup?) we should remember that UFOs come bundled with their own unique set of problems. As I show in ***Mirage Men***, the potential for 'blowback' from what we might call 'lore operations' gets stronger the more deeply and successfully the seeds of superstition are planted. And UFOs are in ***deep***. Hungerford is fully aware of the issue:

> 'It should be pointed out that democratic as well as totalitarian elites may be susceptible to superstition. Various American generals and admirals are noted for their stock of superstitious notions...'

and ends her paper on a prescient note of caution:

> 'What may be the boomerang effects of attempts to exploit popular folklore?'

As the media is once again deluged with reports of UFO encounters from US military whistleblowers and intelligence insiders, some of them no doubt sincere, we would do well to consider this last question rather carefully.

AUTHOR BIO

Mark Pilkington is a writer and publisher with a particular interest in the fringes of knowledge, culture and belief.
He was written two books, *Mirage Men* (2010) *and Far Out: 101 Strange Tales from Science's Outer Edge* (2007), the latter collecting articles written for the Guardian newspaper. His writing has been published in numerous magazines and anthologies, including *The Anomalist, Celeste, FHM, Fortean Times, Frieze, Sight and Sound, The Wire, the Time Out Book of London Walks Vol.2* and *London Noir*. Mark also runs Strange Attractor Press and edits its acclaimed anthologies, Strange Attractor Journal.
www.strangeattractor.co.uk
www.miragemen.wordpress.com

(n.d.). Retrieved from FBI: http://vault.fbi.gov/hottel_guy/

(n.d.). Retrieved from The Flying Saucers and the Mysterious Litle Men: http://www.physics.smu.edu/pseudo/Hoaxes/Scully/Cahn2.pdf

(1950). *True Magazine* .

(April 2011). *Daily Mail* .

Guy Hottel. (n.d.). Retrieved from FBI Vault: http://vault.fbi.gov/hottel_guy/

Piklington, M. (2010). *Mirage Men* .

(January 14 - 18, 1953). *REPORT OF SCIENTIFIC ADVISORY PANEL ON UNIDENTIFIED FLYING OBJECTS CONVENED BY OFFICE OF SCIENTIFIC INTELLIGENCE, CIA* . (available at www.cufon.org/cufon/robert.htm).

Top Secret 1949 Document. (n.d.). Retrieved from Centre for UFO Studies: http://www.cufos.org/IUR_article1.html

US Air Force Project RAND. (n.d.). Retrieved from Rand: http://www.rand.org/pubs/research_memoranda/2008/RM365.pdf

Weapons of Mass deception. (n.d.). Retrieved from Fortean Times: http://www.forteantimes.com/features/fbi/4027/weapons_of_mass_deception.html

BOOK REVIEWS

Wonders in the Sky by Chris Aubeck & Jacques Vallée. Published by Tarcher Penguin. 2010. 508pp. ISBN: 978-1-58542-820-5
Reviewed by David Taylor

An excellent and well-researched compendium of weird historical reports of aerial phenomena. Authors Vallée and Aubeck have compiled an analysis of sighting reports throughout most of human history and have done a magnificent job!

Vallée will be known to everyone reading this review, most notably for such classic UFO books as 'Anatomy of a Phenomena', 'Passport to Magonia' and 'Messengers of Deception'. However, in mainstream science, Vallée is notable for co-developing the first computerized mapping of Mars for NASA and for his work at SRI International in creating ARPANET, a precursor to the modern Internet.

What this book does is put transient aerial phenomena in a proper historical context. So for example, in the seventeenth century, we have reports of sky battles and in the medieval period we have encounters with fairies and the Blessed Virgin Mary who descend from luminous objects. This book is a delight to read, for both the 'paranormal' investigator and the historian, as it gives insight into the social beliefs of the periods when these experiences were reported.

The approach of both Vallée and Aubeck leads to an intelligent analysis of the sightings and their impact on human culture and beliefs, which is enlightening. For those who believe that UFOs have no place in the realm of psychical research - this book will show you how very wrong you are. UFOs are central to a whole tradition of transformative psychic experience throughout the ages. Highly recommended.

Sacred Geography by Paul Devereux. Published by Gaia Books, 2010. 160pp. ISBN: 978-1-856-75322-7
Reviewed by David Taylor

Since ancient times humans have honoured places of power in the landscape to gain healing, wisdom and access the world of spirit.

In his latest book, expert author Paul Devereux draws on the evidence from the disciplines of sacred geometry, archaeology, archaeoastronomy and

archaeoacoustics to map out the hidden meaning in ancient sites and landforms. Through this thoroughly researched and comprehensive key to the ancient patterns of sacred sites and landscapes around the world, you will discover how our ancestors were intimately connected with the land in mind, body and spirit.

Some of the topics in the book cover - power places, magnetic and other natural forces at sacred sites; understanding shamanic landscapes - the meaning of the Nazca lines and other giant ground markings; the new science of archaeoaccoustics - echo and 'ringing' stones found at prehistoric sites; hallucinogens and entopic phenomena – all mean that Paul has produced an extremely well researched and illustrated book.

As you would expect from Paul, who is founding Editor of the academic journal 'Time & Mind', this book features the latest scientific and archaeological research. This new book allows you to see the landscape through the eyes of our ancestors and reconnect with the natural world once more.

For over 20 years Paul has been at the cutting edge of research into alternative archaeology and sacred place, so he is very well placed to write this beautifully illustrated book. Highly recommended.

Haunted Skies: The Encyclopaedia of British UFOs – 1940 - 1959 Volume One
By John Hanson & Dawn Holloway. ISBN 978-1-905723-46-1 CFZ Press. £14.99

Haunted Skies: The Encyclopaedia of British UFOs – 1960 – 1965 Volume Two By John Hanson & Dawn Holloway. ISBN 978-1-905723-47-8 CFZ Press. £14.99
Reviewed by David Taylor

John and Dawn have taken on a daunting project. In thirteen volumes they plan to chronicle British UFO sightings from 1940 to the present day.

These first two volumes cover the periods 1940 – 1965. As you would expect, the usual, well known reports are covered, but what makes these books such gems are the wealth of unpublished reports that shine a light on the effects of social history on how UFOs were perceived. I would have liked to have seen more social analysis, placing these reports into a fuller historical context.

The books are well illustrated with some interesting and rare historical material. The odd typo creeps in to the text, but nothing to distract your attention from the narrative.
The authors are to be congratulated on undertaking such a mammoth task and doing it so well. From Volume One by favourite report was the first one from 1940 – a rare example of a possible UFO landing in rural Warwickshire followed by a very strange abduction like experience while the witness was still at work! Volume Two fails to disappoint either, and it was nice to see some previously unseen photographs from such classic cases as the Charlton Crater from 1963.

It was also nice to see some names from the past – Denis Plunkett, Margaret Fry, Norman Oliver, Tony Pace, Gordon Creighton, Omar Fowler and Ian Myrzglod – real blasts from the past!

The only gripe with these two volumes in fact has nothing at all to do with the authors. Anyone leafing through the pages of both volumes cannot fail to see the huge amount of effort that has gone into producing these books. It is a shame then that CFZ Books don't seem focused on promoting them. Despite frequent requests for a review copy of Volume 2 (so they could be brought to the attention of ASSAP members), I eventually had to purchase a copy direct from the authors on top of a cold and windy Cradle Hill in Warminster whilst on a 'reunion' skywatch in August 2011. Apart from having the pleasure of meeting John and Dawn again after many years, at least I got my book signed!

A worthwhile addition to any serious researchers bookshelf!

Summoning the Spirits: Possession and Invocation in Contemporary Religion by Andrew Dawson (ed). Published by I.B. Tauris & Co. 2011. ISBN. 978 1 84885 162 7.230pp. £16.99
Reviewed by David Taylor

This new academic volume is an anthropological and sociological examination of spirit possession in contemporary religious practices. Various academics have contributed chapters from their own anthropological studies, and there are chapters with titles such as: 'Local Spirits/Multicultural Rituals: The Dynamics of Place and Identity in Vietnamese-American Spirit Possession Rituals' and 'The Ontology of Good and Evil: Spirit Possession in Contemporary Witchcraft and Paganism'. Each chapter is a fascinating examination of how belief in spirit possession is still alive and well in some current religious practices, although if you read this expecting something from 'The Exorcist' you will be disappointed. I would have liked to have seen less about ethnic religious practices (as interesting and important as studies

of these are) and more about 'alternative' western belief systems, including Spiritualism and the UFO contactee movement as Skultans did in the 1970's (Skultans, 1974). Even the chapter on witchcraft and paganism concerns these belief systems as practiced by pagans in Australia, so hardly in their natural setting!

Today when most of us think about being possessed by a discarnate intelligence we probably either conjures up images of the séance room (ala 'Night of the Demon') or a scene from 'The Exorcist'. Although these two examples are very different, they share common, stereotypical characteristics. Apart from a Spiritualist the next best person to have 'hands on' experience of spirit possession experiences is the anthropologist. For the anthropologist shamanic trance is probably the most well known form of possession they will encounter either at first hand or in the academic literature, and there is much debate about how influential shamanism has been on shaping our understanding of trance and possession.

Possession by spirits has long been a contentious issue in anthropology. For Eliade there is a clear distinction between ritual possession and shamanism, though he acknowledged that possession does sometimes occur. For Eliade the situation is clear-cut. The shaman controls the spirits, not the other way round. (Eliade, 1964)

Before Eliade, ethnographers had observed that Siberian shamans becoming possessed. Debate about possession in shamanism began in earnest when Hans Findeisen (Findeisen, 1957) declared that possession by spirits is a main characteristic of shamanic ecstasy. He equates shamans with Western spiritualist mediums. This argument was countered by Paulson who observed that when a shaman becomes possessed he still retains his personality, he is still the master, not the slave and neither is he a passive instrument of the spirits which is usually the case in Spiritualism.

In his classic study of possession and trance, Ioan M Lewis argues that total possession by spirits is an element of shamanic practices, but he goes on to consider these in light of psychiatric and psychoanalytical interpretations. In her study of shamanism and ecstatic states, Siikala observes what she calls "the shaman's identification with a spirit role" (Siikala, 1982). Here she is well aware that for the most part shamanic ecstasy (and possession) does not involve any change in consciousness on the part of the subject and that what goes on during these states is often little more than play acting. Examples of this occur time and again in the historical literature.

My experience of trance and possession are, I like most I imagine, fairly limited. I have witnessed at first hand mediums and psychic UFO contactees

going into voluntary and involuntary trance. I was involved in investigating an usual case of possession/cursing quite a few years ago for ASSAP, but such cases must be considered the exception not the norm.

A worthwhile academic tome, although perhaps not for the general reader.

REFERENCES:

Chandola, S, 2007, *Entranced by the Goddess: Folklore in north Indian religion*, Heart of Albion Press

Eliade, M, 1964, *Shamanism: Archaic Techniques of Ecstasy*, Princeton, New Jersey

Findeisen, H, 1957, *Schamanentum*, Stuttgart

Lewis, I.M, 1971, *Ecstatic Religion: A Study of Shamanism and Spirit Possession*, Pelican

Siikala, Anna-Leena, 1982, *The Siberian shaman's technique of ecstasy'* Nils G. Holm (ed), Religious Ecstasy, Stockholm

Skultans, V, 1974, *Intimacy & Ritual: A study of Spiritualism, Mediums and Groups*, RKP

BEER AND SPIRITS, Taylor, D & Homer, A. Amberley, 2010. £12.99. ISBN 978-1-84868-266-5.
Reviewed by Lionel Fanthorpe

Both authors are distinguished members of ASSAP, of which I have the honour to be President, and they are widely recognised experts in the field of investigating the paranormal objectively and scientifically. Their investigations into reports of hauntings in inns and taverns are very well worth reading. There are many exciting, interesting and meticulously reported accounts of psychic entities in *Beer and Spirits*, including the 500 year old 'Greyhound and Punchbowl' at Bilston, where two reliable witnesses described the sinister black-robed figure that walked past them into the kitchen – and vanished. Another of the many intriguing entries refers to the 'Old Stag's Head' at Penn, where dogs are very reluctant to enter the cellars, and the ghost of a long-dead clergyman's wife is said to turn off the beer taps to cut down her husband's drinking!

CORRESPONDENCE

STATISTICAL PARANORMAL CONTROL

When I look at the paranormal field I see so many claiming to be scientific. I then look deeper and find they don't use any scientific processes. One of the principle rules of the scientific community is the function of peer review. Scientists publish their work. Peers attempt to prove, disprove, duplicate, etc. In the paranormal field we see teams post claimed evidence, peers tell them what it is and they are then accused of attacking them. Wouldn't it be great if we work together, gather statistics and share them? Who uses statistics? It would be easier to say who doesn't use it. It is used every day in business, government, health care, education, just about anything we can think of. So why don't we use it in our field?

It is hard to argue with accurate data collection. Example, in my own data collection I have found 80% of people claiming to be haunted have been treated for or diagnosed with a neurological issue either current or at one point in their lives consistent with attention deficit disorder, anxiety, depression, bi-polar, schizophrenia. Now is this easy to find out? No it requires getting to know your client, explaining to them how important correct information is.

Why do we not see more people using statistics to show patterns or give directions? We read about basements, hallways, stairways and closets reported as the most claims but is it? With statistics we would start showing a pattern. What good would a pattern do? It would allow us to concentrate on the high percentage areas. Keeping data would allow us to see patterns of what months or does the weather effect claims. We so often see people say winter is coming it is our busiest time. If we have data we would know. Statistics show women claim to experience paranormal more than men. What could we see in photography? Could we eliminate all the long exposure pictures we see? Or at least know that wrong camera settings account for many claims. With statistics we could see if windows or mirrors account for many of these claims. With statistics we could show what cameras capture foreign material and which ones don't. We could see if UV is better then IR or if it just makes more unknown pictures from not understanding it. Is using a thermal imaging camera worth the cost? Are many that do use it use it wrong? Are using it in gray scale or color? What video cameras are you using? How do you rate them. With statistics we could see what equipment is liked or disliked.

What about people doing these investigations, wouldn't it be great to see what backgrounds are doing these investigations? What classes they took, are they studying to further their skills? How many took a psychology or abnormal psychology course. Is there any professional videographer or audio specialists? How many people have people who studied photography? Do we have building inspectors or electricians on teams. With statistics we could see what team strong pints or weak points are. Aren't we all after the truth? Don't we want to be able to assure a client they are safe in their homes? Let's look at paranormal claims, with data we can look at when people experience these claims. Is it at night, could it be Parasomnia related? If most claims are when people are in bed or napping would it narrow our search down? How many of these reports are sleep paralysis? Isn't it time we start working together to try and discover the answers to some of these questions? If data shows most claims are at certain times wouldn't it make more sense to investigate during these times? If we use statistics we could see what equipment we use that is actually a waste of time.

Who doesn't want to use statistics? Well I hate to say it but I have been told things like our team isn't good with things like statistics, we aren't even good with math. We could never figure this out. Or we don't have time to keep statistics or ask all these questions. Or I don't see them using it on television. I see it is to much extra work to collect all that data. We can get some data as we run our interviews of our client, does it take much time to put a check in a box? What if we have a central data base and one team finds their data is way off from everyone else's, a red flag would go up and we could see if they are doing something different, in the right direction or if they are doing things wrong.

So wouldn't we all benefit with collecting data and sharing it? Wouldn't it be great if asked questions about paranormal we could show charts or patterns to substantiate our findings? We wouldn't be a joke if we have data to show what we look at or what we find (or don't find) With statistics we could show age groups, ethnic backgrounds, single or two parent homes.

Collecting data could tell us if construction does increase people's claims of experiencing paranormal. If moving to a new or different home creates increased claims. We could then see if we should see if stress is involved. With statistics we can start out with some agreed upon collection criteria and add or remove as data drives us in that direction. If we actually use this data we would have more credibility. I think the use of statistics would help those who are believers or non believers see how serious some of us are. How many of us are looking for answers to all the questions people are asking. Could

statistics bring us closer together? Have us share findings to prove or disprove claims? Isn't it time we quit saying we are scientific and start proving we are?

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WITCHCRAFT

Michael Gage, writing on Sleep Paralysis [November 2010, page 33] says that "even something as obvious as a broken leg..." might in some circumstances be attributed to witchcraft.
I am sure this was true in these islands [the UK] in the past, as it is true in parts of Africa now. As a medical doctor in Malawi in the 1960s I was aware of differing systems of belief and the potentials for conflict and co-operation between those holding them. Many patients expected there to be an explanation for any misfortune, including illness or accident. If I explained that a person suffering from pneumonia had an infection for which I was giving an antibiotic, the person might accept that but say "But why me, why now?". A traditional medical practitioner might seek an answer in social disharmony, society including the recently dead. Perhaps the patient had failed properly to honour a grandparent at his funeral and should now hold a party, with meat and drink, in honour of the deceased, to remedy the situation. In such a case I felt that my modern medicine and the traditional remedy could be used together. However, explanations were not always so benign or supposed causes so easily remedied. Sometimes a living person might be blamed for illness, accident or other misfortune to others, by deliberate or unconscious performance of witchcraft. This could have very unpleasant consequences for those 'diagnosed' as witches.

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ANOMALY: GUIDANCE NOTES & HOUSE STYLE

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URL http://www.parapsych.org/mission_statement.html Date accessed: 04 September 2006.
Thalbourne, M. A. (2005) 'The Pros and Cons of Being a Parapsychologist'. *Society for Psychical Research: Paranormal Review*, 36, 21-22
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