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Editorial:

It is ironic, that at a time when initiatives like MADS are finally providing concrete evidence for environmental factors in certain haunting experiences, many researchers are clearly thinking more in terms of spirits! That's if the many new web sites are to be believed. There are many claims for ghosts on the web right now but no evidence to back them up. It is the duty of ASSAP, among others, to provide solid information based on credible scientific evidence. Without it, our subject will drown in a sea of speculation.

A Haunted Bed

by Maurice Townsend

You have probably read a lot here recently about how magnetic fields can induce hallucinations. These results have mostly come from laboratory experiments. Now we can present some early results from research using the MADS system to find such fields at a haunted location.

Laboratory experiments, notably by Michael Persinger, have demonstrated that certain low-frequency complex magnetic fields can cause susceptible individuals to hallucinate (see *Anomaly* 35, p2). It has been suggested that such fields, if found 'in the wild', could be responsible for some reports of hauntings.

Unfortunately, detecting such fields is difficult in a natural setting without specialised equipment that is not widely available. Though paranormal researchers have been using EMF meters on investigations, these are not suitable for detecting the fields (see *Anomaly* 34, p22). Therefore there has been little evidence to test the theory from field research until now. To fill this gap, ASSAP member Dr Jason Braithwaite designed MADS (Magnetic Anomaly Detection System) specifically to record relevant magnetic fields to see if they occur in allegedly haunted locations. ASSAP helped fund this relatively expensive equipment.

The Fields

Laboratory experiments have demonstrated a particular kind of low-frequency magnetic field that is capable of inducing hallucinations. Jason calls them EIFs - Experience-Inducing Fields. Broadly speaking, they are defined in the table below.

Factor	Magnitude
Magnetic field frequency	0.1 to 30 Hz
Magnetic field amplitude (flux density)	100 to 5000 nT
Time varying 'complexity'	1ms to 100s+ period
Brain susceptibility	Some 20 - 30% of the population
Length of exposure to EIFs	Over 20 minutes

There may be effects from fields outside these parameters, but the best results have been obtained within these limits. The magnetic field 'strength' (flux density) is very weak. For comparison, the geomagnetic field is typically around 50,000 nT. One of the most important considerations is field complexity. This means that the field is generally not simply a continuous sine wave, like the mains supply in a house, but it varies over time. This complexity may be the key to understanding how the fields interact with human brains. Some estimates suggest that only 20 - 30% of the population are susceptible to these EIFs.

While there are few natural sources of EIFs (eg. tectonic movement in magnetic strata), there are, perhaps surprisingly, many possible artificial sources. These include anything that vibrates a highly magnetically permeable object (eg. objects made out of iron or steel) as well as various electrical devices. Another important source of EIFs is human movement through complex static magnetic fields. Such motion subjects the brain to continually changing magnetic fields (see *Anomaly* 35, p2).

Magnetic fields are commonly stronger in buildings than electric fields. Though electrical devices usually produce both electric and magnetic fields, the electric component does not usually penetrate as far as magnetic fields. This is because such fields are absorbed by any electrical conductor that happens to be in the area. Such conductors are quite common in a domestic situation. Also, electric fields are unlikely to be able to penetrate the human skull to influence the brain / perceptions of observers. Magnetic fields, on the other hand, are usually only absorbed or distorted by ferrous materials. In addition, there is the pervasive geomagnetic field which is found everywhere on the Earth's surface, including inside buildings. Anything that causes a disturbance to such environmental magnetic fields could, potentially, cause an EIF.

MADS

MADS has been specifically designed to detect EIFs (see *Anomaly* 34, p22). It consists of two fluxgate magnetic sensors (fig. 1) which can measure fields down to 0.5nT over the low frequency range 0 - 125 Hz. The sensors are triaxial, allowing the overall field to be summed

instantly, whichever direction they are pointing in. They record the static magnetic field (0 Hz) at the same time as the varying field. The sensors are attached to laptop computers that record all readings in real time. The data produced by the sensors can later be



Figure 1: MADS fluxgate sensor

analysed using various software packages to look for such things as individual frequency contributions (using fast Fourier transforms). ASSAP helped to realise MADS by purchasing two laptop computers forming part of the package. There is a formal description of MADS currently awaiting publication (Braithwaite, in press).

Muncaster

Muncaster Castle in Cumbria (fig. 2) is the site where MADS is being deployed for the initial research. The haunting at the castle has been continuously investigated by Jason for well over a decade.

There have been many anomalous experiences reported at Muncaster Castle. There are three things that make it a particularly useful test bed for MADS. Firstly, the experiences have been reported consistently by independent witnesses who had no prior knowledge of any hauntings. Secondly, in one location, the Tapestry



Room (TR), there have been a number of quite specific experiences reported by people occupying the bed. The most impressive experience reported is the sound of a crying child,

Figure 2 Muncaster Castle

sometimes heard for as long as half an hour, from the TR bed. It is therefore possible to tie the experience to a specific, small locality - the TR bed itself. Other phenomena recorded at Muncaster include a feeling of presence, apparitions and the sound of footsteps.

The third reason why Muncaster is a good test bed for MADS is that there is no obvious source of EIFs present. It would be easy to guess that EIFs might be responsible for anomalous reports in a building full of electrical equipment or adjacent to industrial premises. Muncaster, by contrast, has little electrical equipment beyond that found in an ordinary house. In addition, since the rooms are on a large scale compared with a typical house, one would expect a low concentration of magnetic fields from electrical wiring in the walls and under floors.

The case for Muncaster being haunted is thus very strong. This cannot be said about many 'classic' hauntings whose reputations may well hang on little more than rumour, mis-observation and publicity (see *Anomaly* 36, p8). Due to the direct efforts of Jason's research, the phenomena at Muncaster are now becoming well known (though some aspects are being withheld). Tourists often stay overnight on organised 'ghost sits' in the TR hoping to experience something, though it is now possible to join Jason on a limited series of serious investigations he runs every year that are also open to the public. Though experiences recorded in such circumstances might be discounted as due to suggestion, the original reports predate any publicity about the hauntings.

The TR is laid out as a bedroom. There is a four-poster bed, several wooden items of furniture around the walls and a clear area in the middle. Visitors to the castle are free to go into it during the day. There are, as you might imagine, tapestries on the walls, some large pictures and an imposing fireplace. There is very little electrical

equipment in the room - two bedside lamps by the bed and a couple of table lamps on furniture around the walls. There are several very similar rooms (in terms of size, illumination, decoration, etc.) nearby which are NOT known to be haunted.

First MADS Experiment

On 31 March 2004, just after the completion of the successful Muncaster Conference, Jason and Ian Topham put MADS through its paces for the first time in the TR. They spent two nights taking magnetic measurements there. These resulted in a paper (Braithwaite, 2004), the first study ever published of time-linked synchronised magnetic measurements at a haunted location. A follow-up paper is due to appear in the *Journal of Parapsychology* (Braithwaite, Perez-Aquino & Townsend, in press) in the autumn.

The initial experiment was designed to compare magnetic readings between the TR bed pillow and a baseline point in the middle of the room. Sampling was restricted to the 0-15 Hz frequency range. The pillow area of the TR bed was chosen because that is where a witness's brain would have been located if they were in bed and experiencing strange phenomena. The middle of the TR was chosen as a baseline position because it shared many parameters, such as illumination, temperature, 'haunted reputation', that have been implicated in producing anomalous reports. The main difference was that the middle of the room had NOT produced any such reports. In fact, just about the only thing that was significantly different between the two positions was the magnetic field.

Readings were made simultaneously at the two sampling points so that they could be directly compared later. Such time-linked readings eliminate the possibility that field differences are due to changes over time rather than position. This is an important feature



Figure 3 MADS in use at Muncaster

of MADS, often neglected in previous studies designed to test environmental variables at haunted locations.

The results showed a significantly higher magnetic field variation (amplitude) in the bed area over the

frequency range sampled. The biggest variations were seen in the x-axis (horizontal). The bed sensor amplitude ranged up to 385 nT (55 nT SD - standard deviation) while the baseline showed 220 nT (30 nT SD). The readings from the bed sensor also showed greater variance, which is a crude measure of complexity. Thus the experiment supported the idea that the 'active' bed area is associated with higher amplitude and more complex magnetic fields (in the 0-15 Hz frequency range) than the baseline point.

The experiment was repeated on the subsequent night and produced similar results.

Second MADS Experiment

More experiments took place on 26 and 27 October 2004, with Jason and Maurice Townsend the researchers present. It, too, produced a paper (Braithwaite & Townsend, 2005). The main difference from the previous experiments was that the full MADS frequency range

(0-125 Hz) was sampled. This included the important 50 Hz region, which is the frequency of mains power in the UK.

MADS was again set up in a time-linked manner to compare the TR bed pillow and the baseline in the centre of the room. In addition, various locations around the bed were sampled. As well as flux density (amplitude), frequency contributions were examined on this occasion, and also static fields. This was the first published study ever to formally compare AC and DC fields together with time-linked sensors and the first to isolate both components and report / evaluate them separately.

Once again the field variability was found to be higher at the TR bed than at the baseline. This time, however, through frequency analysis it was possible to see what was actually happening with the magnetic fields. The picture that emerged was that the biggest contributor to the varying magnetic fields on this occasion was from a 50 Hz component. This clearly originated in the mains supply. A plain 50 Hz sine wave magnetic field does not qualify as an EIF as it is too high a frequency and has no complexity. However, this was

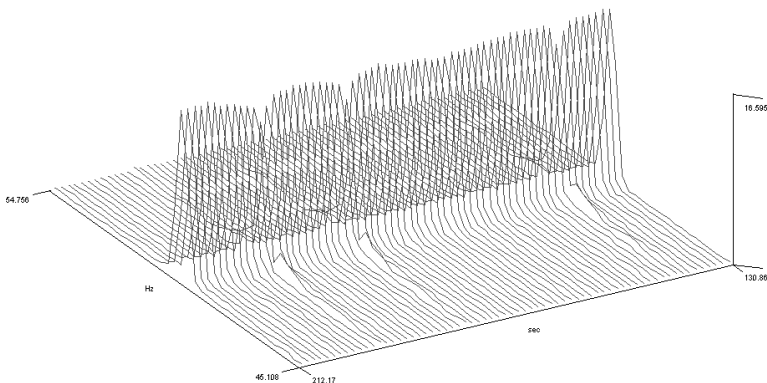


Figure 4: The 50Hz wave showing 'negative pulses' as notches in the 'ridge'

not a plain wave. The overall 50 Hz component varied all the time, presumably as electrical appliances were switched on and off or as their load varied.

There was one particularly interesting, more or less regular, variation to the 50 Hz wave. It was a drop in the overall 50 Hz wave that occurred at intervals that were multiples of 8 seconds. The 'drop' in wave amplitude reached 40 nT. Effectively, the variations amounted to a series of 'negative pulses' of up to 40 nT 'depth' at frequencies up to 0.125 Hz (fig. 4). This nearly qualifies as an EIF. It is possible that on other nights there may be occasions when it does become a genuine EIF. The pulses were stronger in the bed area than at the baseline. They were not seen at all when readings were taken again on the second night.

It was extremely interesting to find such 'pulses' in the overall 50 Hz wave. Though the 50 Hz sine waves are not known to induce hallucinations in themselves, variations or pulses within them, at a lower frequency, might. The brain would not 'see' the plain 50 Hz wave but it would 'see' variations in it. This is important because such variations could potentially occur in many situations where an electrical supply is present. It is thought that in the case of Muncaster the field 'drops' may, in fact, be caused by an electrical device operating in a different phase of the three-phase mains supply installed there. Such three-phase supplies are common in public and commercial premises.

Of course, electrical supplies cannot explain any ghosts seen away from power supplies or before they were installed. This is what made another observation so interesting. The static magnetic fields were measured, among other places, at the pillow centre and foot of the bed. It was noted that there was a huge difference in the static field values between these two points. The magnetic gradient



Figure 5 Jason examines the magnetic iron mesh support to the TR bed

between the centre of the bed and the pillow area was found to be at least 70 nT/mm. So, if someone was sleeping in the bed and their head regularly moved by just a millimetre or two, they could be subject to changes over 100 nT, possibly constituting an EIF. If someone was having a disturbed night this could easily happen! This is irrespective of any varying fields that might be present as well. It would also predate electrification.

The bed in the Tapestry Room is, it turns out, highly magnetic! Investigation revealed an iron mesh supporting the mattress (fig. 5). Other beds in the castle, which are not associated with anomalous experiences, were checked but were found not to be magnetic. It certainly appears possible that this magnetic bed may be responsible for some anomalous experiences reported by people

using it. It is not known how old the bed is, but it is certainly old. Could other similarly designed beds have given people ghostly night-time experiences in the days of candle-lit bedrooms?

Did EIFs produce the haunting?

The results presented here represent only the earliest use of MADS at Muncaster. There is much more work to do at Muncaster, particularly a magnetic survey. For instance, the influence of geology on the local geomagnetic field looks like an interesting area to investigate. Also, factors other than magnetic fields which might cause anomalous reports are being examined. MADS will also be used at other haunted locations in future.

However, we can already see that there are fields looking like EIFs in the TR which are stronger around the bed. The bed is also very unusual as it is magnetic. The fact that it is the centre of the most striking experiences at Muncaster is unlikely to be a coincidence. These initial results already suggest that the magnetic hallucination theory is well worth pursuing.

As for the MADS system, that has proved itself already. The huge number of readings it can produce are excellent for applying statistical methods. The time-linked method of taking readings makes it possible to be sure that differences are due to position, rather than time. By having two sensors it is also possible to get some idea of the extent of any magnetic disturbance detected. There will be further development of the system, mostly involving new software. However, the basic principles have already proved a winner. There really do seem to be EIFs out there, waiting to be found. Many of these anomalies would have been completely missed by the more usual approach of using cheap commercial EMF meters.

References

Braithwaite, J. J. (2004). Magnetic variances associated with 'haunt-type' experiences: A comparison using time-synchronised baseline measurements. *European Journal of Parapsychology*, 19, 3-29.

Braithwaite, J. J., & Townsend, M. (2005). Sleeping with the entity: A magnetic investigation of an English castle's reputedly haunted bedroom. *European Journal of Parapsychology*, 20.1, 65-78.

Braithwaite, J. J. (in press). Using digital magnetometry to quantify anomalous magnetic fields associated with spontaneous strange experiences: The magnetic anomaly detection system (MADS). *Journal of Parapsychology*.

Braithwaite, J. J., Perez-Aquino, K., & Townsend, M. (in press). In search of magnetic anomalies associated with haunt-type experiences: Pulses and patterns in dual time-synchronized measurements. *Journal of Parapsychology*.

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Three Bags Full, Sir!

By Hugh Pincott

Laboratory experiments to test psi are based on statistics. Only if, over a number of runs, a participant apparently produces a final score that differs significantly from chance is the action of psi inferred. In this study, Hugh Pincott examines whether the stock market, which experience suggests should be random over a short period of time, could also be influenced in some way by those participating in it.

Abstract

Gains or losses for 2571 company shares quoted on the London Stock Exchange were calculated after one year and the results expressed as a 'bagger ratio' (if a price doubled, its bagger ratio is 2, if it trebled, 3 ...). These ratios were grouped into discrete intervals and a distribution curve plotted. The results were astoundingly different from chance expectation, 20 % of them lying in fat tails outside the core Gaussian model. The observed probability of these anomalous extreme financial events ties in well with odds against chance for scores in Zener card and Random Event Generator tests, prompting speculation that emotion might be a key factor in operation of both financial markets and psi tests. An experiment is suggested to test this hypothesis, and the implication of its success could have serious consequences for the traditional calculation of results in parapsychology.

Hard rock

Chance is immutable and immovable and the rock-set universal laws of mathematics govern, if not suffocate, our everyday life and prospects. Longfellow reminds us all too poetically of the Second Law of Thermodynamics:

Art is long and time is fleeting
And our hearts, though stout and brave
Still like muffled drums are beating
Funeral marches to the grave.

Yet hope springs infernal in the human breast, with anecdotal - and indeed occasional experimental - evidence suggesting we can sometimes beat the odds stacked against us. But can we change what seems to be preordained destiny? Can we, by conscious effort, demonstrably advance ourselves in this life and improve our prospects for eternity?

Many traditional scientific psi tests from J B Rhine onwards suggest that some individuals can score markedly above chance in Zener card guessing tests (attempting to predict which of five symbols a card contains). For example, star subjects have obtained very high scores, in some instances with a probability of 1022 against chance expectation (Rhine, 1934, Irwin, 2004 pp 61-65). Experimental procedures have been refined greatly over the years, with 'random event generators' (REG) taking the place of shuffled card packs. Usually REGs are based upon entirely unpredictable happenings like emissions from a radioactive source.

And still reports are published suggesting certain people can either predict or influence which of four lamps will light at a particular instant, with odds again exceedingly high against chance expectation. A trillion (10^9) to one is not uncommon but, unlike the card-guessing experiments, there appear to be no star performers. The ability to influence an REG is relatively small, but consistent, across individual trials and individual subjects (Irwin, 2004, pp 107-110; Roy, 1998; Fontana, 1998). (Note: for simplicity 'prediction' will be equated with 'influence' in this paper. Either the target is

interfered with or time is twisted. Whichever way the result might occur, poor old chance gets bashed!)

Some recent research also suggests that elements of emotion linked with subjects or the targets they are trying to perceive can influence the success rate in psi experiments (Lumsden-Cook, 2005).

So unless we choose to ignore entirely the thousands of well-controlled experiments, and thousands of well-documented reports, we are forced to ask whether the workings of the universe might indeed occasionally be twisted and the odds against chance manipulated to obtain desired results. Some recent research by the author in an entirely (until now) unrelated field suggests such interference with normal probabilities is considerably more common than we might expect. And that 'emotion', normally so powerful in everyday life, could provide a far greater push against the tyranny of chance than we might reasonably expect.

Baggers

The object of my original academic research was to determine the distribution of growth or decline of companies' share prices over a relatively short period of time. Many investors dream of picking the stock that will multiply 10-fold over a period of time (length unspecified), known technically and affectionately as a 'ten bagger'. Over the long term (20 years, say) the trend of stock markets is almost always positive, so the patient and lucky could well be rewarded with several 10 baggers. But conversely, of course, for those unwilling to cut early losses, the value of some shareholdings will certainly be decimated over the period.

But what of the short term? What distribution of pluses and minuses, gains and losses, might we expect over a relatively short

span of one year - a period of time long-term investors and fund managers generally consider irrelevantly short?

With no experience to suggest any particular outcome, I selected a time range from exactly one year prior to the date of the first trial, namely 30 Jul 2004 to 29 Jul 2005. The results were astoundingly different from chance expectation.

I drew, from the London stock market, the maximum number of shares that were quoted for the entire period. From the main market and AIM (the so-called Alternative Investment Market) combined, the numbers totalled 2571 - more than sufficient for a tidy statistical treatment.

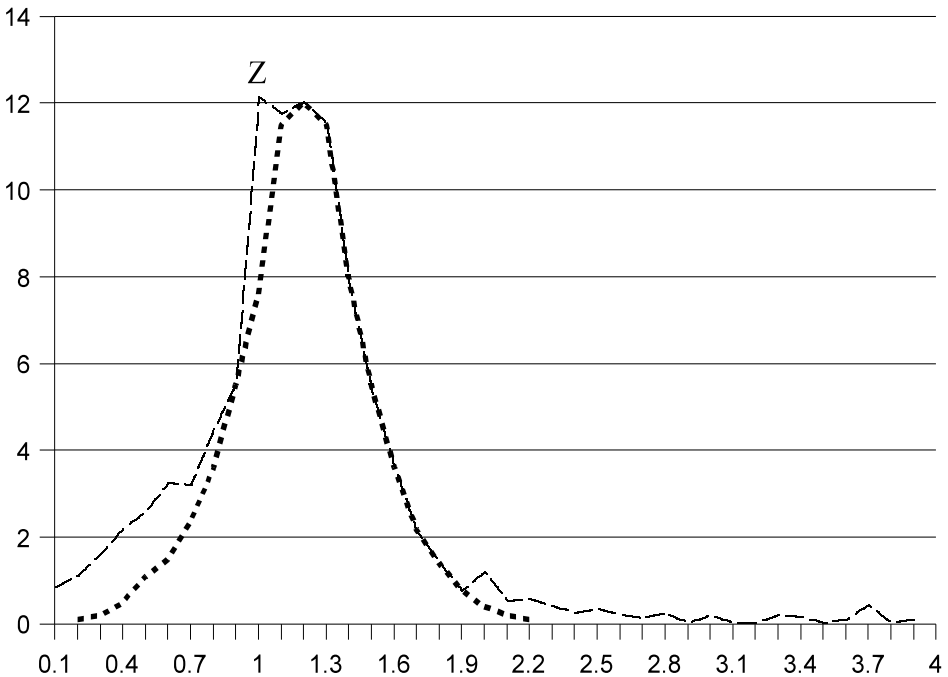


Fig 1: Percentage of total stocks plotted against bagger ratio

My computer program calculated the price difference of each share over the year, expressing each as a 'bagger ratio'. For example, if British Petroleum moved from 516p to 629p, its bagger ratio was 1.22.

So grouping such ratios into discrete intervals, (for example, any ratio between 2.36 and 2.44 will become 2.4), we are in a position to plot the number of baggers over the year at 0.1 unit intervals. The graph (fig. 1) shows the results, with percentage of total stocks on the y-axis plotted against 0.1 bagger intervals on the x-axis.

The line with long dashes represents the data reported, joined by a best-fit curve. The short-dotted curve suggests what the normal Gaussian distribution might have looked like had the entire data set behaved as chance predicts. Indeed, apart from anomalous plot Z (see Note), the majority of data behaved decently - as Gaussian distribution theory expects - to approximately one standard deviation limit. But beyond that, very fat tails exist in both directions. Indeed, the tail on the right extends right up to 11.5!

I repeated the calculations for data from three previous periods, which gave qualitatively similar results.

A point of considerable relevance is the position of the actual median (1.21 bagger units positive for the most recent range). This is actually as predicted, even taking into account the lengthy anomalous data tails. More relevant, it is exactly the ratio of the finish and start values of the FT All-Share Index (representing the top 750-800 stocks) - 1.21. Precisely head on for what we might expect of the core data in a bull (rising) market. It's the tails that should concern us more, for no less than 20% of the results lie outside chance expectation on the standard distribution model.

In round figures, probability theory suggests a 1 in 1000 chance (0.1%) probability) of finding a 1-year bagger 2.4 units or beyond. In this experiment I encountered 3.44% - some 34 times greater probability. And this figure becomes considerably more favourable as we move to higher bagger levels. The chance of finding a bagger beyond 8 is 10^8 and beyond 11, 10^{15} , yet my data exhibit many instances. Figures in the table have been rounded for simplicity.

Odds against chance for each Bagger Ratio

Bagger Ratio	Number of Events	Percentage of Total	Powers of 10 against chance
2	420	16.33	1.4
3	46	1.79	2
4	23	0.89	3
5	7	0.27	4
6	2	0.08	5
7	1	0.04	7
8	1	0.04	8
12	1	0.04	15

My bagger data relate to a short period of one year, and almost certainly the number of extreme baggers is likely to increase if we lengthen the observation period to 2, 5, or 10 years. But even in this short time, the odds against chance of finding such relatively extreme baggers are very much of the same order of magnitude as those demonstrated in psi experiments.

Mandelbrot

None of the bagger revelations would be likely to surprise Benoit Mandelbrot, for it was on financial data such as these that he cut his dentate fractals. His set of famous observations concerned the probability of daily stock market moves of various magnitudes.

On 19 October 1987, the US Dow Jones share index fell 29.2% on a single day. The odds of such a mammoth fall, using standard financial models, are 10^{50} against, a number so large as to be outside the scale of nature.

So he concluded, for various reasons (Oakey, 2005), that share price returns are far from following the bell curve:

- Market price changes are not independent of each other - unlike sizes of random pebbles on a beach. They have a sort of memory and today's performance is likely to affect tomorrow's. If prices take a big leap up or down today, there is a measurably greater likelihood that they will move just as violently the next day - in either direction.
- Prices do not glide but often leap - a sharp contrast with Gaussian distributions. Unlike the distribution of IQ scores, which grade slowly, share prices can often jump from 50p to 80p, or flop to 30p without trading at prices in between, as market participants attempt to guess new levels.
- Big gains and losses often concentrate into tiny packages of time, which contradicts standard theory. If we apply the latter, price-sensitive news events should be distributed randomly throughout the lifetime of a company by the normal distribution pattern.

So according to Mandelbrot, big falls occur more frequently than they should and, as I have demonstrated, so do huge gains.

These observations come as no great revelation to stock market statisticians, who call the phenomenon 'heteroscedacity'. In plain English it is the human propensity to exaggerate fears and hopes - the worst will be unspeakably bad, the best will be too good for words. Translation of these feelings into share prices indicates why values often rise or fall to what prove to be silly and unsustainable levels (think of the dot.com bubble of 1997 to 2000 and its aftermath). Statisticians therefore understand why the so-called normal distribution of stock returns have the long, fat tails I have described - there are lots of extreme events (Bearbull, 2005).

Now all of this has considerable relevance for the way we regard probability in our everyday lives. If so-called 'chance' can thwart our pension administrators in predicting future benefits with any high degree of accuracy, what's going wrong with the world of nitty-gritty, everyday reality?

Quite clearly, standard, normal or Gaussian distribution theory cannot be applied rigorously to events in financial markets (remember that 20% of all my baggers - gains or losses over the year - were in the tails, thus lying outside the predictions of this model).

Is there any link between this analysis and the statistical appraisal of paranormal events? Extreme events occur more frequently than they ought in both stock market and psi experiences - the only difference is the reported frequency of happening. Financial data anomalies appear to be everyday, commonplace events with odds against chance usually in the 10^2 - 10^{15} range - well in accord with the extra-chance observations of psi scores. Could this similarity be linked with the embodiment of emotion?

Sheldrake's classic telephone telepathy tests suggests it can. In a series of highly controlled experiments, people were asked to identify a caller before picking up the phone. Where callers were unknown to the participants guesses were at exactly chance expectation, but where callers were familiar - suggesting an emotional link - the results leapt to a staggering level of 4×10^{16} against chance! (Sheldrake, 2003)

Are markets mental or physical entities?

The questions just posed are interesting when we consider flocks of gyrating birds or the behaviour of human crowds, as psi is sometimes claimed to explain the antics of the former. And stock market behaviour is a very good example of the often irrational and highly emotional activity of human crowds.

When we look at a graph of anything, we are observing a correlation (or mathematical mapping) of highly physical events. On one extreme, the plotting of average daily British temperatures is inviolate, even though various psychics have claimed to alter local conditions. On the other extreme, stock market performance reflects that very interesting borderland inhabited by desire and consequence. The major difference between these two poles is that markets involve direct participation and feedback, something parapsychology has been trying to achieve for aeons.

The essential factor to bear in mind is that stock markets are driven by the twin passions of 'greed' and 'fear', prompting sharp movements up or down.

The psi connection

One of Mandelbrot's explanations for financial anomalies is that market price changes are not independent of each other; they have a sort of memory, and today's performance is likely to affect tomorrow's. Researchers have always made the totally unwarranted assumption that card guesses and REG trials are independent of one another, whereas there is absolutely no evidence for this. In fact the opposite may be true. Trials are not undertaken by mechanical robots, but by live, emotionally-charged human beings, with an active interest in the outcome of the experiment.

Connectivity is also referred to in quantum physics, where two distant particles which previously interacted seem to retain some sort of 'memory' or 'link' with one another, and this observation is often quoted to explain the action of psi.

An experiment

It could be difficult to find convincing support for the grand questions touched upon so far, but as a start, here is a very practical trial to determine whether what we consider as psi can influence markets. Essentially, we should organise a 'crowd' of people attempting to influence an REG, employing the twin emotions of greed and fear. Hundreds perhaps; maybe thousands. Not difficult using computer and internet technology.

Participants would 'invest' hard cash to try to influence market movements depicted on screen employing an interface normally associated with on-line stock-dealing or spread-betting, indicating apparent success or failure. They would be 'willing' movements on the screen graph with actual money, win or lose. The central REG would generate a random walk of market movements (the overall

trend could be preset up, down or neutral), which punters would try to influence (up or down).

In reality, there would be absolutely no physical or electronic feedback connection between the user screen and REG, so that any deviation from expectation of the market 'performance' by many operators acting in concert would have to involve chance elasticity (another more neutral phrase for psi!). And as part of the experiment we should have to evaluate, among others, the 'need to win' element. Are participants merely seeking diversion from boredom or desperately trying to win money to pay the rent?

The consequence

Should this work - even to the slightest extent - the following suggestions become more credible.

- The effect of emotional involvement very obviously distorts the distribution of financial events, so perhaps psi scores may be subject to a similar influence, though maybe on a smaller scale.
- Contrary to previous assumptions, guesses or trials in psi experiments may not be independent of each other, possibly being linked by emotion.

If evidence can be obtained to support either of these assertions, then another conclusion seems inescapable - generations of parapsychologists have been using suspect mathematics to evaluate their results!

And if standard probability theory is dodgy with respect to psi, what system might be used instead? I am sure I am not the first to

suggest fractal algebra, but applying it to the paranormal would be an amusing game to play on a cold winter's evening.

References

Rhine, J B (1934). Extra-sensory Perception. Boston. *Boston Society for Psychical Research*.

Irwin, H J, (2004). *An Introduction to Parapsychology*, 4th edition. McFarland & Company Inc, North Carolina, USA, pp 61-65 &pp 107-110.

Roy, A E (1998). The Challenge of Psychical Research, *Proc SPR* 58, p 112.

Fontana, D (1998). Psychical Research and the Millennium: New Light on the Nature of Man. *Proc SPR* 58, pp 144-145.

Lumsden-Cook, James. *Journal of the Society for Psychical Research*, Vol 69.1, number 878, January 2005, p1, *Journal of the Society for Psychical Research*, Vol 69.3, number 880, July 2005, page 128.

Oakey, Dan (2005). *Investors Chronicle*, 29 Jul, Masterclass page (x).

Mr Bearbull (2005). *Investors Chronicle*, 26 Aug, page 26.

Sheldrake, Rupert (2003). *Journal of the Society for Psychical Research*, Vol 67.3, Number 872, page 184.

Note: The anomalous point Z is explained almost totally by rounding errors bunched together. Included are many low-priced stocks which equally could have been distributed at 0.9 or 1.1. My stock prices are quoted to just one decimal place, which prevents any detailed reallocation.

Acknowledgement: Grateful thanks to James Clark for helpful discussion and references.

Strange Croydon

by Val Hope

ASSAP's Project Albion has been likened to a Domesday Book of the paranormal. It seeks to document the anomalous, often ignored by official history, in a particular area. There have been around a dozen publications in the series since it was started in 1985. Back in 1998 Val Hope wrote the first Strange Croydon. Now a new version, much expanded and revised, has appeared and is available freely to anyone on the internet. To give you a taster, here is a short extract concerning the changing seasons.

There was once a time when life was tied into the changing seasons. We had to ensure we had sufficient food to get us through lean times in late winter and early spring, when one year's food was running out and the new year's food wasn't yet ripe for the table. Food was salted or dried to preserve it. Off flavours and odours could be masked to some extent by spices. Firewood or furze would be gathered for the wintery nights, but only if you had the right to collect it. Punishments were grave if you were caught stealing supplies, no matter how dire your circumstances.

How we lived and what we did depended to a great extent on the changing seasons. Customs and traditions helped mark the seasons and functioned as a reminder, as if the fear of starvation wasn't reminder enough. Some of these traditions have survived, etched into our consciousness, handed down by earlier generations. Churches offer up thanks for bounteous harvests, while pagans have played a major part in reviving ceremonies such as beating the bounds, which originally had a ritual element aimed at obtaining a good harvest from the gods. Corn dollies come from this custom. Modern folk get on the internet and book skiing holidays in the Alps, while unconsciously using sympathetic magic by wishing for the return of spring.

Midwinter Doesn't Have to Be Bleak

The Saxons' midwinter celebrations in their northern European homelands included evergreen branches being carried into the home to ritually remind the sun to return and awaken nature to make things green again. Several cultures, including the Romans, rulers of Britain when Christianity started to spread from the easternmost parts of their empire, celebrated midwinter by turning customs on their heads. Servants would lord it over their masters, there would be extravagant feasts with flowing wine and the giving of presents. This was seen as a jolly good thing, and the Lord of Misrule was a popular folk figure in England until only a few centuries ago. We can see how this taste for seasonal excess resonates in today's society. Celebrations of the winter solstice have long included holly, mistletoe, yule logs and wassail bowls, and these are among the elements that folklorists are striving to retain.

So, what are we doing about it in Croydon? Midwinter celebrations recorded over the years include dancing by North Wood Morris on New Year's Day, and mummers plays. But let's start with Hallowe'en, which technically falls in our autumn nowadays.

Hallowe'en

Midwinter celebrations and New Year have, of course, shifted over the centuries. All Souls' Day was moved to 2 November in 988 to take the place of the Celtic Samhain. All Saints' Day had already been moved in 835 to 1 November from 13 May, another important Celtic festival.

We might think we have lost our Celtic rituals, but many of them have been interchanged with our present Bonfire Night celebrations. Samhain was regarded as marking the New Year, the

beginning of winter. Samhain featured cattle markets, the slaughter of surplus animals which could not be fed throughout the winter, and feasting on their meat. It was regarded as the time of year when the veil between the worlds was easier to cross. Fires were lit to welcome home returning spirits and to keep away unwanted ones. Communion with the next world was easier at that time.

Samhain is still an important time for pagans and Wiccans, who celebrate the Crone goddess, the eldest of the trio of goddesses. The Crone goddess is symbolized by the waning moon, the carrion crow, the cauldron, and the colour black. Samhain is a time for reflection on the past year and honouring the dying god, and also marks the end of the harvest period.

Many elements from these customs and ancient beliefs are reflected in today's celebrations, even if most people have forgotten where they came from. And let's not forget the Romans, whose Pomona, goddess of fruit trees, may well have brought us bobbing for apples.

At Hallowe'en in 1992 North Wood Morris and other dance troupes performed outside (allegedly) haunted venues in and around Croydon. These were the White Lion at Warlingham, near a haunted pool; the Bell Hotel, Godstone, near where a witch is said to have lived; the Wattenden Arms on Old Lodge Lane, Kenley, opposite a haunted cottage; and outside the Whitgift Almshouses, near the site of the Old George Inn. This was followed by a torchlight procession and display of fireworks at Sanderstead, sponsored by Croydon Round Table.

There was a huge rush on pumpkins in 1992, with greengrocers reportedly running out and hoping to get more stocks in. The *Croydon Advertiser* showed a little girl in a witch costume with a huge lantern made from a pumpkin grown on an allotment. The use

of pumpkins for making spooky lanterns is a relatively recent thing, as turnips were traditionally used. Nowadays pumpkins are available in a huge range of sizes and in huge numbers. And there's the added benefit of being able to use the flesh you scoop out for pumpkin pie, another tradition imported from the United States of America along with Trick or Treat. This looked set to become a big thing some years ago. It involves groups of children knocking on doors begging for goodies. Woe betide if you don't hand over sweets or at least 50p - you're likely to get an egg thrown at your window.

Some churchmen from the borough are concerned by the increasing prominence of Hallowe'en as a celebration. In 1996 Wetherspoon's held a Hallowe'en beer festival at the George Inn on George Street, with beers called Crouch Vale Creepshow, Nethergate Nightmare and Hampshire Hellraiser. In 1998 'The Monster Show: Return of the living dead' was staged by Drydo Magic, a production company formed by staff from Croydon Council's leisure services department. Special songs about Dracula, the Bride of Frankenstein and Wolf Man were written for the show by librarian Julian Dryden. In 2000 local broadcasters Cable 17 screened a live 'ghost hunt' from Airport House on Purley Way on Hallowe'en, using microphones and cameras to detect 'supernatural howls and bumps'. The *Croydon Guardian* told us the ghosthunting pair felt a 'strong presence', whatever that means. The respected Selsdon Park Hotel also made Hallowe'en plans in 2002, consulting Martin Jeffrey, editor of MysteryMag.com, to help Hallowe'en 'pass peacefully'. He reportedly advised staff to drape the entrance with wreaths of herbs, including St John's Wort, believed to be 'obnoxious to the ghostly palate'. Groups also used Hallowe'en parties to raise funds for charity.

The Reverend Peter Evans of St Luke's in Woodside told the *Croydon Advertiser* in 1995 that, to combat the 'evil influences' released on Hallowe'en night, his church was holding a special eucharist. He said that Hallowe'en seemed like a bit of fun but the 'seductive excitement of fear' was a wonderful tool for working against Christianity. A 'saints and angels' party was to be held for children to show them a more 'positive side' to life. A Baptist minister from South Croydon, writing in the *Croydon Advertiser* in connection with Witchfest 2004, reported that some churches gave children a party at Hallowe'en to give them 'all the fun and none of the sinister elements of that festival'. His church was throwing a party for up to 70 children. He was sad to see that Witchfest was 'so widely encouraged and promoted' while Christian events weren't always covered in the press, although they were seeking to provide a 'healthy alternative'.

Christmas Cheer

Christmas marks another Christian festival planted on top of (and intended to supplant) age-old pagan festivities. For Christians it is the time when the baby Jesus was born, to pagans it is a celebration of midwinter. Over the centuries it has come to be a gloriously inclusive hotchpotch of customs in which people from any religious or cultural background can take part.

Back in 1995 a journalist from the *Croydon Advertiser* looked into the traditional elements of the Christmas story and punched great holes in them. He examined whether sheep would really have been out on the hills; when in the year the original celebration of Christmas took place; the precise year of the nativity; where the magi tradition originates from; the fact that the Greek word 'kataluma' meant a room, not a stable; the appearance of the Star of Bethlehem, etc. But who needs historical truth to justify a celebration?

The 'pagan versus Christian' argument that occasionally surfaces spilled over into the pages of the *Croydon Advertiser* in December 2004, with a letter writer pointing out a few home truths to MP Peter Ainsworth's comments on the 'true spirit' of Christmas and the Christian basis for it. The MP and readers were informed that the Ecumenical Council meeting in Nicea in 325AD adopted many existing pagan festivals and renamed them. December 25 was the birthday of the sun god Mithras, which was combined with Roman Saturnalia, the Nordic Yule festival and the Celtic winter solstice. Christians should therefore not claim that they invented the midwinter celebrations and discredit everyone else.

Croydon is a hotspot for naturally growing mistletoe. A survey by wildlife experts from the London Biodiversity Partnership, reported in 2002, showed that Croydon ranked second among London boroughs (admittedly behind neighbours and rivals Bromley) for being a fertile breeding ground for mistletoe. Some of the individual sightings dated back 20 years, so the Council was keen to update records, encouraging residents to report sightings. You can't have a Christmas without mistletoe, after all.

Shopkeepers and publicans might think Christmas starts in August, but Christian religious preparations for the festival start with Advent, launched in the parish church in 1991 with a dramatic service, reported in the newspapers. It started in total darkness. A line of flickering light emerged at the high altar and divided into two streams of light, formed by the candles carried by the choir. Singing plainsong, the choir grouped beneath the great tower and made their way to the choir stalls. The light grew as the service proceeded.

In addition to watching mummers plays, Edgar Browne in the 19th

century recorded how the Waits would walk round Thornton Heath, playing from dusk until after midnight. Apparently it was not the done thing to complain about the din produced by the trombone. The 'hot drinks' given to the players only made the music 'confused and discordant'. I think we can assume that these beverages were alcoholic.

In Browne's day carol-singing was mainly practised by young, poor people, while the well-off would do it for fun. Nowadays this custom is perpetuated by the straggly groups of schoolchildren who grudgingly give you a couple of lines of 'Jingle Bells', but only if you open the door to them first. At least they haven't started pelting windows with eggs, like disappointed Trick or Treaters at Hallowe'en.

If you want to hear carols sung properly, go to a church service. There are plenty to choose from in Croydon. At some you'll get the chance to sing along, but at others it's the choir who gets star billing. There are also concerts of seasonal music in the Fairfield Halls. Croydon was one of the first towns to celebrate Christmas with the Festival of Nine Lessons and Carols, now a firm favourite in the calendar. It probably began in 1880 in Truro Cathedral, Cornwall, performed by Archbishop Benson. The Archbishop spent much of his time at Addington Palace and is believed to have introduced the service at St Mary's in the 1880s, making it the first British parish church to perform it.

You can read more of Strange Croydon at <http://www.apaw71.dsl.pipex.com/>

There is more information about Project Albion, including details of other volumes (some on the web) and how to make your own contribution, at <http://www.assap.org/research/albion/albion.html>