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# UFO Quest

A Quarterly Publication of the Australian Centre For UFO Studies

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## Inside This Issue:

Issue #1 October 2003

- The Tyers Farm Event
- Estimating Distances
- The Many Challenges of The Volunteer Ufologist
- Tools of the Trade - UFO Detectors
- Alien Abductions & Natural Selection





# Australian Centre for UFO Studies

# Contents

The Tyers Farm Event.....4

Estimating Distances.....12

The Many Challenges of  
The Volunteer Ufologist.....14

Tools of the Trade.....16

Alien Abductions  
& Natural Selection.....18

### About ACUFOS

ACUFOS was established as The Centre for UFO Studies (CUFOS) in 1974 with links to CUFOS in the USA particularly with respect to filtering and passing on UFO sightings reports. It later assumed a more independent position by adding "Australian" to its name. ACUFOS has been dormant for the past decade and was reactivated in July of 2003.

It is a voluntary association whose main objective is and has been to engage in the kind of study of all aspects of the UFO phenomenon which is most effective in bringing us to a better understanding. The way in which we implement this objective will become apparent to us and our readers as we build momentum and deal with the details that arise.

Our publication, now to be known as "UFO Quest", welcomes research contributions which will be subject to a peer review process. We are looking for well-based creative speculation as well as fact-based research, news, reviews, experiments and indeed anything that can further our progress. Really determined searching for answers may not be everybody's cup of tea, and by definition, the next step forward may be recognized by only a few when it is first presented. "UFO Quest" will not require a large membership in order to be self sustaining, and "unpopular" contributions are just fine with us.

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When sending clippings please include name and date of newspaper and page number.

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ACUFOS invites articles for submission. Please send to the editor at info@acufos.asn.au

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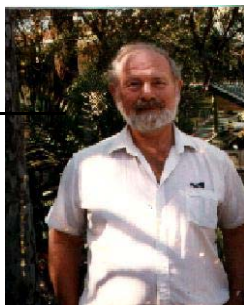
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Greetings cosmic travelers! It is my pleasure to present to you the first edition of the journal of the recently reactivated Australian Centre for UFO Studies, or ACUFOS.

ACUFOS has been dormant for about a decade but with it's recent reactivation we decided that our publication should have a new name, "UFO Quest", which we hope captures the sentiment that keeps so many of us committed to this pursuit.

Many people have poured themselves heart and soul into the work that ACUFOS did in the past, work which has not passed its "use by date" by any means, and has yet to bear a full harvest when conditions are right. It had to be restarted and it's work continued. The only decision was "when".

The past has had its lessons for UFO research and the ACUFOS of the future will, I trust, reflect this. One of the lessons we have learnt, or are in the throes of learning, is that answers in Ufology do not come steadily, and rarely are they what we expect.

With recent developments in "Disclosure", and what is yet to come, UFO Research has entered a kind of Renaissance. Perhaps the time has come to take another look at what we have gathered over the decades, and see if the pieces of the jigsaw might fit in a meaningful way. Perhaps it is again time to seek out new perspectives and new approaches in order to better understand the UFO phenomenon in all its aspects - terrestrial, cosmic and other dimensional.

Referring now to this first issue of "UFO Quest", I can hardly over-exaggerate the importance of the paper by John Auchetti detailing his and PRA's (Phenomena Research Australia's) efforts in obtaining instrumental data on anomalous events linked to a UFO sighting, the unusual behaviour of cattle and a horse and the unusual sensations of a farmer and his wife. This is the first time to my knowledge that the potential usefulness of these instruments and procedures has been experimentally established. It may lead to much new and useful data gathering, and a greater understanding of the UFO phenomenon.

If you investigate UFO sightings then you may be interested to know when an "eye judgment" of size and distance can be relied upon, and when not. If so, take a look at "Estimating Distances" on page 12.

UFO organizations are supported and run by volunteers. These organisations are very different to businesses and corporations and so are their workers. Volunteer organisations have their own set of hurdles to cross and if you have bumped into any of these "The Many Challenges of the Volunteer Ufologist" (page 14) might get you nodding in agreement.

Ufology also has its "Tools of Trade" just like any other pur-

suit. Some of the tools are words, others are ideas, yet others are skills and finally there are instruments, as John's article so powerfully underscores. I hope that we will see an ongoing program of the development of instruments which can support and speed our progress in UFO research. In this issue we are taking a look at "UFO Detectors".

Another interesting article in this issue is "Alien Abductions and Natural Selection". Probably one of the principal messages which the UFO phenomenon delivers to our world, and has done for at least half a century, is that our planet is not and never was isolated from the rest of the universe. "Natural selection" has accumulated on this planet a veritable biological gold mine over many millennia. We may think nothing of it, but guess what! Certain ET's are VERY aware of these riches, and seem to be helping themselves to them.

The material published in UFO Quest is meant to be stimulating, thought provoking and to contribute to our collective understanding. I encourage your feedback about any of it.

I now invite all our former members and our future members-to-be, researchers, friends and readers to join with us in our "Quest".

*Martin Gottschall*

## Disclosure Australia Project

The Disclosure Australia Project was launched at the 3rd Australian National UFO Conference held on the 14th & 15th June 2003 in Brisbane, Australia. The purpose of the project is to ascertain the extent of official Australian Government knowledge of the UFO phenomenon; then to document both this and civilian knowledge on the subject.

This project was launched by Keith Basterfield on behalf of the Australian UFO Research Association (AURA) located in Adelaide, Australia and the Australian UFO Research Network.

Project updates are available via on-line newsletters available at <http://disclosure.freewebsite.org>

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# THE TYERS FARM EVENT

## INVISIBLE BOUNDARY WINDOW

By John W. Auchetti

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### INTRODUCTION

In February 2001, a report of a UFO event from TYERS in the Moe district of Victoria, was provided by Sale District Police for investigation with the specific request that the investigation examine the home of the witnesses and an area near their home for the presence of energetic fields. The report was a detailed description of an anomalous event that involved a flying grey object and after effects that were referred to as 'flowing pulsing fields'. The witnesses reported that the event was ongoing and in their opinion recordable.

A big problem with researching the UFO phenomena is the fact that we are unable to replicate the event and thus directly measure it. Scientifically this problem tends to render the subject too hard to study. The fact that we enter the event phase too late, has its obvious problems. A study of past events gives us some idea why we have so much trouble, as the 'Visual Window' or the 'Event Duration Window' is not long enough for researchers to enter.

Collecting data from repeat events is essential; it gives researchers a chance to look at what happens either before the 'visual window' opens or after it closes. This 'invisible boundary window' that witnesses report, is rich with data and with good detectors and methodology important findings may be made.

### THE TEST

Using the technique of real time measurement of a human response to the alleged reported event anomaly, this data could be matched to data collected from temperature probes and a Near-field Acoustic Holography (NAH) system. Measurements taken from a NAH 5X6 microphones array (30 channels), may capture any pressure component of the room air particle velocity and their intensity in the measurement plane, giving a visual 2D and 3D representation of the shape of the 'invisible boundary' or energy flow. Matching the human data with the sensor data may show a relationship.

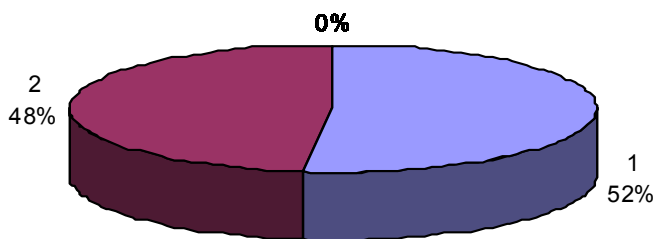
### THE VISUAL WINDOW

To try and understand the mechanics of a UFO event, researchers can look for factors common in reports. If events reoccur then obviously research opportunities increase. The usual method used to capture an event is photography, but the 'visual window' has been relatively unpredictable, for many technical reasons, and if any captured record taken from the 'visual window' is analysed, it usually has limited data.

One of the interesting factors inherent in UFO sightings is the assertion that the event was of a short duration. This limitation is a limit only to the visible window of opportunity. Witness view a perceptible solid object in clarity, then with no apparent warning the solid object will blink out as if the window was closed. The duration of these windows vary broadly from case to case.

### EVENT DURATION DATABASE

To test the assumptions, I have used the comprehensive and very accurate selection of UFO events that belong to the large study called "Project Blue Book". Project Blue Book had 13,134 UFO case events, and was run by the United States Air Force from March 14, 1952 to Jan. 30, 1970. The Brad Sparks 2001 "Comprehensive Catalogue of 1,500 Project BLUE BOOK UFO Unknowns" [1] is the database, however any other study with a sample of over 500 events would also provide similar results.



1 = No Duration Recorded 2 = Duration Recorded

Image 01: The percentage distribution of reports with a logged duration.

Of the 1471 recorded events in the Brad Sparks 'Blue Book Unknowns' [1] study only 706 have duration recorded. This fact is startling, the lack of any recording of the duration, when the UFO event takes place, gives us some stratagem, that the subject is extremely fast and so absorbs ones attention from the act of noting the duration.

### DURATION DATA

For this study the 706 duration records will give us some idea on the statistical size of the durations at a UFO event. The following images will give the reader a good introduction to the issues.

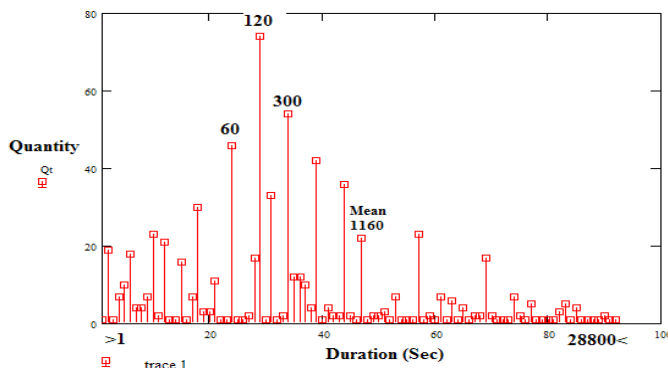


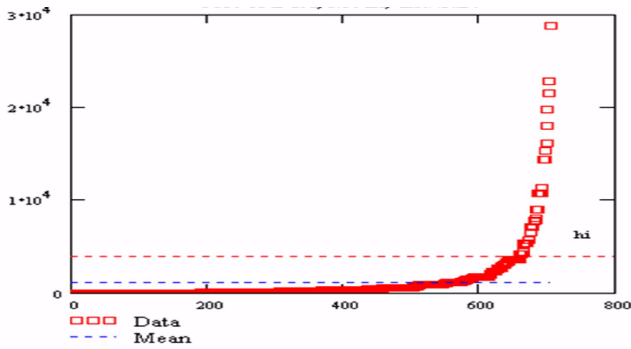
Image 02: Plot of total number of a specific time reports from 706 reports. A view of the duration from 1 sec reports (LHS) to 28800 sec reports (RHS).

The above graph (Image 02) plots more short duration events, these are common, as the durations increases it peaks at 120 seconds and as the event duration gets larger, less events fall into the duration range.

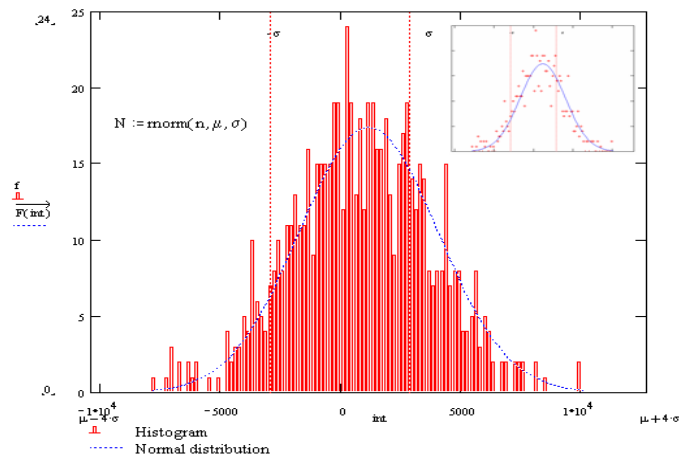
**Statistical analysis of the 706 (n) duration samples show:**

```
n := length(data)      n = 706
SD(x) := stdev(x) * sqrt(n / (n - 1))

Min          min(data) = 1
Mean         mean(data) = 1.16 * 10^3
Median       median(data) = 240
Standard dev. SD(data) = 2.891 * 10^3
Max          max(data) = 2.88 * 10^4
Variance     SD(data)^2 = 8.36 * 10^6
```



**Image 03:** A data plot showing the Mean (Blue Line) and the Standard Deviation (Red Line) for the 706 sample reports.



**Image 04:** To see how well the raw sample of duration data (seen as red histogram, x-axis = duration in seconds and y-axis = frequency of sightings of a particular duration) plots against a normal distribution (Blue Line F(int)), a vector of random numbers was created from a normal distribution with a specified mean m (1.16 \* 10<sup>3</sup>) and standard deviation s (2.891 \* 10<sup>3</sup>). Although the raw sample data is not tight against the norm (F(int)) and some outliers cause problems, the fit illustrates stability and is not platykurtic or leptokurtic. The data is an acceptable sample set, when one realises that the original readings are only rounded time estimations by witnesses. NOTES: The number of random deviates was (n = 706). And the number of bins for histogram was (bin = 100). The vector of random deviates is: N = nrnorm(n,m,s). The frequency distribution: f = hist(int,N) and int = int+0.5>h. The normal fitting function: F(x) = n>h>dnorm(x, m,s).

**INVISIBLE BOUNDARY WINDOW**

However, on occasions there is some hint that there is more

activity going on prior to the 'visual window' opening and long after it seems to have closed. Witnesses will describe strange events that on the surface look as if they are not related to the 'visual window' event.

These 'invisible boundary windows' play an important part in most localised areas, where distance between witnesses and the event are relatively small or the event is seen to cause some reaction to either material objects (car and radio) or animals. The existence of the invisible boundary windows have been described by witnesses in past accounts as 'feelings' or 'sensation' of an invisible barrier.

With accurate instrumentation, one is confident that data would predict their existence through their interaction with the local environment. Objects entering a specified three dimensional space, displace matter in such a way that tell tale evidence of the intrusion exist in various forms. A very common account of a possible intrusion is changes in temperature. These witness accounts vary, but the majority report temperature decreases or walls of cold that flush their body. Temperature if well monitored, with accurate instrumentation, on examination, offers the researcher a cost efficient, fundamental and reliable indicator of unseen intrusion events.

**BACKGROUND**

The TYERS (Map D) sighting is in an area east of Melbourne that has had its quantity of UFO events, producing ground trace markings, animal behaviour disturbances, short duration visual data and lingering effects of invisible boundaries. To understand the area is important. Three of the most interesting past events come from this very small country region:

- (A). 15<sup>th</sup> February 1963 - Willow Grove - Victoria - LAT: 38° 04' S - LONG: 146° 10' E
- (B). 29<sup>th</sup> April 1968 - Heyfield - Victoria - LAT: 37° 58' S - LONG: 146° 47' E
- (C). 30<sup>th</sup> September 1980 - Rosedale - Victoria - LAT: 38° 09' S - LONG: 146° 47' E

The above mentioned events (A, B, C) are summarised here. These three are just a few of many such events from the surrounding area, which have been reported since the early 1950s.



**1963 WILLOW GROVE EVENT**

15<sup>th</sup> February 1963 - Willow Grove - Victoria.  
 LATITUDE: 38° 04' S [Decimal Degrees -38.070°]  
 LONGITUDE: 146° 10' E [Decimal Degrees 146.177°]

At 7:10 am, February 15, 1963, the sky was overcast and

grey, a Mr Charles Brew<sup>[2]</sup> <sup>[3]</sup> was in an open driveway near to the early morning work, of milking his cows. His 20 year old son Trever was in the milking shed at the time on their farm in Willow Grove, near Moe about 130 Km southeast of Melbourne, when he saw a UFO descend fast out of the east through the clouds towards the milking sheds at about a 45 degree angle. As the object got to within 25 metres (75 feet), and about the same altitude, to the witness, it stopped and hovered above 2 large stringy bark gum trees.

The UFO had a dome that appeared to be made of some kind of “glass material”. At the top of the dome was a metallic chrome looking protrusion 2 metres (5 - 6 feet) long. The grey middle section appeared metallic and grey and the bottom section was a glowing blue that was rotating in a counter clockwise direction. There were also “scoop like protrusions around the side” which seemed to be making a “swishing noise”. The object itself was “about 25 feet across and 9 feet high (8m x 3m)”.



The cattle and a pony in the area reacted in a violent manner. The two dogs that were with the Brews fled and hid.

“They did everything but turn somersaults” Charles Brew said in a tape recorded interview with Peter Norris, President of the Victorian Flying Saucer Research Society (VFSRS is now the Victorian UFO Research Society). “They certainly played up they went mad... I have never seen that flying machine before or seen animals play up like that near a car.”<sup>[4]</sup>

After a few seconds the UFO then “took off instantly... with a bang”, climbing towards the west and back into the dark layer of clouds.

Brew reported that, as he was observing the dome, he got “an awful headache just behind the eyes”. Medication had no effect, but the medical disorder wore off that night. He also reported a feeling, similar to a hidden force pulling his eyes towards the UFO, “as though beams of magnetic current” had control over him. Charles Brew’s son Trever never saw the UFO but did confirm the “swishing noise”.

Flight Lieutenant N. Hudson and Squadron Leader A.F. Javes from the Royal Australian Air Force and a Dr F.A. Benson, and associate Mr Clark of the Division of Meteorological Physics of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) interviewed the family and carried out an investigation and report. Rock samples were also collected and taken back to Melbourne Army Labs for analysis.

“We are unable to come to any firm conclusion as to the na-

ture of the object or manifestation reported,” Berson wrote to Peter Norris<sup>[2]</sup><sup>[4]</sup>. However, Dr Benson was interested in the effects that Charles reported. He offered Charles a theory of electromagnetism as the possible cause of the pulsation. The official explanation was “possible cause tornado like meteorological manifestation”.

Dr. James McDonald the prominent US Ufologist visited Charles Brew in 1967 during his Australian trip. McDonald interviewed Brew on the farm and was very impressed with not just the witness but the whole case.

### 1968 HEYFIELD EVENT

29<sup>th</sup> April 1968 – Heyfield – Victoria.

LATITUDE: 37° 58' S [Decimal Degrees -37.982°]

LONGITUDE: 146° 47' E [Decimal Degrees 146.785°]

Two men<sup>[5]</sup> from Heyfield, Victoria were at their truck, which had for no reason broken down. To their astonishment from the west, an odd line of flying red lights approached them. As the lights got closer to the men, they observed a solid object with the lights along the body and above the lights was a dome. Both men reported a feeling of pressure or a light force on their chest and head.

After the event the two men reported being sick. One of the witnesses became so involved with this unusual episode that he returned to the location of the event to have another look, on doing so, he discovered ground marks where grass had gone dry.

### 1980 ROSEDALE EVENT

30<sup>th</sup> September 1980 – Rosedale – Victoria.

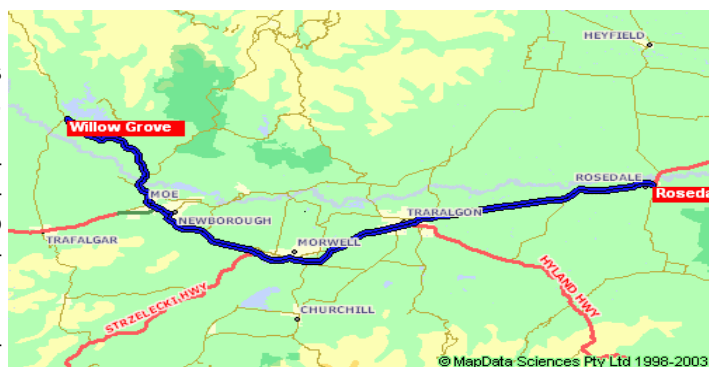
LATITUDE: 38° 09' S [Decimal Degrees -38.153°]

LONGITUDE: 146° 47' E [Decimal Degrees 146.784°]

On the night of the 29<sup>th</sup> September 1980, a Mr George Blackwell<sup>[6]</sup> went to bed at the “White Acres” property and was soon asleep. At around 1:00am now the 30<sup>th</sup> September 1980, George reports, “I suddenly awoke, and lay in bed for a minute trying to work out what had got me up. The room was still dark so I sat up and then realised there was a ‘whistling’ sound coming from outside. It was very high and ear-piercing sound”

George was a 54 year old farm hand looking after the “White Acres” property, and what ever it was had now created trouble with the cows in the paddock, “I got up and turned on the light and walked to the back door to have a look, but it was too dark and I could not really see the cattle, they were not in the paddock, so I got up on the wooden rail near the door and got a better view’.

George then looked into the adjoining field that was directly



out from his location to the southeast, "I had a good look and I was very shocked my herd was in a fright state backed up against the fence and the corner, they were stuck in that position and making a hell of a noise". He then looked at the horse in the paddock just in from the cattle and closest to him and stated, "The horse was in full flight going around in circles with its head up and making all kind of sounds". George noted the direction as anti clockwise.

Then to his right George saw an object at about 3 metres off the surface that appeared suddenly and moved from right to the left along a fence line between the cows and the paddock with the horse in it. It then went over a large Cyprus hedge behind a shed then passed a silo and a large tree. He reports, "... it was just off the ground and about 500 feet (200 metres) from me, it had no wings and no tail, very round with a white dome and an orange body under that.". George viewed the object passing over another fence then it entered a very large paddock.

The object was around 8 metres wide and 6 metres high and was lit up with orange and blue lights.

George then reports, "... the thing kept flying past the silo and over the paddock (east) and then over to a large hay stack, then it turned left crossed into the paddock beside the highway. I was able to see it very well now as it moved around then it stopped over the top of our large water tank (10,000 Gallons 45,000 Litres) and it stayed there for about 1 minute then it landed beside the tank at about 50 feet (17 metres)". At no stage did the objects lights light up the surrounding area.

George then returned to his room and dressed and 5 minutes later returned outside the back door and got onto his Suzuki 100 motorbike started it and rode up the lane towards the object still on the ground. George then reports, "... the object was still making the whistling sound but it was not moving..." he drove up to the first gate and opened it, just as he did that "a cow was next to the gate and was in a bad way, still making a hell of a sound and it was frothing at the mouth... it was very distressed and ran past me over to the shed and got under that."

He then rode to the second gate and crossed into the field that had the object still on the ground.

### **THE PULSING FEELING**

He reports, "I rode up to about 50 feet (17m) from the thing and stopped, I was not going to go on..." He then tells us, "I suddenly started to vibrate, pulsing me like jelly in a dish, it was inside my body the feeling forcing me up and down and the thing was screaming so loud that I covered my ears..."

"I was very close and the object was in two parts, the top dome part was white and the bottom dome part was orange. Around the orange part was window or lights, all were round.." then seconds later the environment changed "it started to get high and higher, the sound, I felt sick and was shaking, pulsing, and around the base (object) suddenly a black tube started to fill up and get larger, around the edge under the object... and then suddenly it went 'bang' a very loud 'bang' and it pushed me back, the force was very hard and the air was hot... that hot blast of air nearly took me off the (motor) bike."

The object then lifted up and rolled away towards the east. George noticed, "Under the object I could see 6 spokes" it then moved to a position about 10 metres from George and at a height of about 3 metres and stopped making any sound, "it just went off, like a switch had been pulled and I heard nothing after that." At this point in the encounter George reports objects, such as dirt, rock cow dung and twigs falling off the object then it moved away to the east and went to a distance where it faded out.

### **THE WRIST WATCH**

George went back to the homestead and took note of the time. It was now 1.50am, he reports, "... I was still in shock, it was too much for me to taken in, my body was tired, I felt as if I was drained. My (wrist) watch was also dead, it was not working by then and was stopped at 1.10am it was all too much." The whole time elapse for the event to that point was about 50 minutes.

### **THEN SICKNESS**

Before trying to get to sleep at 3am George went to check the cows and found them in a bad state, the one that had sheltered under the shed was still there and stayed in that place for the day.

At about 11am (That morning) George reports, "My head started to feel heavy and I was tired, I had a headache that would not go away. The pain was in my eye and in the front of my head... the top of my head was in pain also and was tight."

The symptoms lasted for just over a week and seemed to occur from 10am lasting for about 5 hours. George reports, "I had no real sleep for days after the object landed, my mind kept going back to the object that night and I just could not settle down. I was like the cattle outside we both seemed to still be having feelings after the thing left us." He goes on to say, "I am never really sick I have good health and don't see a doctor, but I was sick, I had the shits (Diarrhoea) and could not eat that well, I had to see a doctor for something to help me settle my gut."

### **THE DEBRIS FIELD**

After the event the area was searched by investigators, at the site of the water tank there was a grass/ground ring of about 9 metres across, and from that a debris field with a collection of rocks and grass that was seen to fall from the object as it departed. The water tank was found to be empty after the event, and there was no obvious cause for the loss of the water, other than the UFO.

### **2001 TYERS EVENT**

2<sup>nd</sup> February 2001 – Tyers - Victoria.

LATITUDE: 38° 08' S [Decimal Degrees -38.148°]

LONGITUDE: 146° 28' E [Decimal Degrees 146.476°]

At about 3.23pm on the 2<sup>nd</sup> February 2001, a farmer called Gordon (anonymity requested) was on his property and in the process of fixing damaged fences, when he noted a sudden disturbance to the east. The cattle on his property had become very agitated and suddenly, swarmed around a small fenced area in the corner of the paddock. After about 60 seconds the cattle stopped their activity as if distracted, only to again suddenly dash off to the south in a mad disturbed rush. The mad herd were so disturbed that on

reaching the dividing fence between the cattle and Gordon, the cattle attempted to jump the obstruction. This whole the UFO had been seen. He examined the area but found nothing unusual.



event lasted about 2 minutes. There was no cloud in the general area of the event and from reports taken from the Department of Meteorology, based in Melbourne, the local weather was fine clear and hot, the local temperature was around 34 °C. The wind was light to moderate east to north-easterly and a fresh afternoon coastal sea breeze.

Gordon then noted an object traverse to his left (north east) some 300 metres from his location and settle behind a row of gum trees. He observed that when the object moved the cattle moved. He described the flying object as being round, about 3 metres wide and 1.5 metres high.

Gordon reports, "I had to rub my eyes, I could see this grey ball thing moving, it was made of solid material it looked metal to me, I don't know why but it was very heavy". When the UFO moved the cattle would react in a violent manner, "It is my opinion that the object was causing the cattle to stampede" said Gordon. He was not only surprised about what he had seen, but he was quite positive that the two events were part of the one.

Gordon believes the whole event with the UFO lasted about 2 minutes and suddenly, the metallic object then rose off the ground, and backed up a creek re-entrant that ran up a slope. As it got to about 400 metres it moved to the right and faded out.

Gordon when questioned by our investigators at Phenomena Research Australia (PRA) had this to report, "It happened very slowly in my opinion that's what it felt like, but in reality it was about 5 minutes all up, some of the time was without the object, but I think it was there before the cattle went mad and when I checked the area up the hill".

He also observed, "While this was happening to me, I felt a pressure in my head like a pulse, a pumping feeling. I was also cold, not like a cold weather day, just like a cold inside you after you have a fright, it was inside me and went away when I left the paddock to go home, but I was not sick, I hardly get a cold these days and I have been working in the open since I was a kid so I know how to keep warm... in regards to the weather... well nothing was different, but I can't tell you what was in me."

Gordon then commenced a reconnaissance to check the cattle that had now settled down and moved to an open fresh grass patch to feed, now seemingly happy and back to normal. After the examination, which showed all to be well, Gordon then went over to the last recorded location where

He returned straight home to the farm homestead and relayed the event onto family members. A little alarmed at first he decided not to return to the fencing task for that day, but planned to continue it next morning.

### THAT NIGHT

At 8.33pm Gordon reports "I was in the kitchen getting a cup of tea, when I suddenly felt a cold wave, it was not the normal feeling of a cold day but it was as if I was hit by a wall of cold that went right through me", he then noticed, "I could hear the cattle in an adjacent pen to the tractor shed suddenly go berserk and become so frightened that when I went out to have a look, I was surprised to see them jumping on top of each other in one corner of the pen".

Gordon also made this observation, "I suddenly realised that I had a feeling of being watched, it was as if I was now in the centre of a searchlight, but there was no light. Just the cold feeling hanging over my body and a pulsing like a low heavy pressure being applied to me."

Gordon's wife Sue, confirmed Gordon's observation, she reported a sudden wave of pressure as if a cold wind had entered the home, "until I felt the cold I would have doubted Gordon's story, but it was real and it seemed to take over the area and then go." Sue also noted, "I suddenly realised that what ever was in our house was also in the cattle pen and that's what was making the animals go mad".

Gordon and Sue then went out to the cattle pen to check the live stock, but on examination all the cattle now looked and behaved normally. Gordon estimated the whole event lasted for 7 minutes, but they both felt shaken and 'on alert' for the rest of the night. As it turned out, the night was uneventful.

The next day the previous days excitement was discussed and like good farm folk the whole event was chalked up to experience and relegated to a future good story for their friends. That was it.

Then two days later on the 4<sup>th</sup>, at 2.37 pm the family were again suddenly surprised to notice that the place had suddenly become cold and a feeling of a pulsing field surrounded them. Gordon describes the event, "I felt the cold again and with in seconds I heard Sue call out to me 'its back", and it was just like what I had felt up on the hill and in the home two days ago".

About 30 seconds later the cattle in the pen went off again, just as wild as the last time and just as noisy, "I could not hear anything and in the middle of the day I found it impossible to believe the cattle were scared of any dogs. It was so unusual"

Gordon goes on, "I walked out to have a look around, but I saw nothing, the place outside was not cold as the inside was, but if you walked in and out of the home you could feel the difference."

He reports, "... across the paddock I could see the other herd who were quiet and seemed normal. Just as Sue came out the feeling of pressure went and she said 'did you feel that move away'. I agreed, some seconds later to my utter

surprise the herd that some minutes before, look normal, went berserk and the whole strange scene was repeated again”.

Gordon again was adamant that the cold and the pulsing field effect were the same thing moving in a hidden manner through the house over the field and up hill. He reported, “I said to Sue its moving over there around the cattle and then like a sudden, stop! It was all over. I could not see anything like my flying grey object. But something was out there in the field in the hot sun.” On this occasion the time interval was approximately 9 minutes.

#### AND THEN AGAIN

Over the next six days similar events occurred on approximately four occasions, and on each occasion Gordon and Sue reported the cold pulsing field and the cattle being disturbed. The two believed that they were able to feel an object moving past or through their home and as this strange manifestation occurred the animals in the direct line of travel were also disturbed. At no time did they see the grey ball (UFO) again, but as Gordon did note, “I am convinced the grey object I saw in the trees is the thing that’s causing the problem, its moving around the area”.

Although the situation presented no signs to be concerned about safety, both Gordon and Sue still felt uneasy and became edgy and alert to any strange sounds or movement. The general time interval for these set of events was approximately 7 to 11 minutes.

However, after the fourth event (10<sup>th</sup> Feb), Gordon’s wife Sue decided to seek advice and see if there was an explanation for their events.

#### A WINDOW OF OPPORTUNITY

It is a rare event to have the opportunity to view a UFO, but to have multiple events and feel that there was some physical connection to these anomalies, is quite extraordinary. When this case was presented to Phenomena Research Australia (PRA), it became quite obvious there was a good possibility that, with the right equipment we may be able to record the said anomaly.

As discussed, the visual window associated with UFOs is very narrow, and if we could capture some side effects of an anomaly associated with UFOs then this may produce vital data.

The window of opportunity in Gordon and Sue’s case was about 7 minutes and if we could place monitoring equipment in and near the home and have the two witnesses also trigger a response when they felt the ‘cold pulse’ enter their area, the results may show some interesting data.

#### INVESTIGATION TIME FRAME

On the 13<sup>th</sup> February 2001 the family was interviewed and a concentrated ground search was conducted at the location in the trees in the upper paddock, the last location of the grey flying object. This search produced no unusual or suspicious data. Some effort was directed to looking for any ground surface marks or disturbances.

After the initial area and witness investigation was completed a plan was implemented to place recording and detection equipment at the homestead. The set up was in-

stalled over the 15<sup>th</sup> and 16<sup>th</sup> and the test officially started on the 17<sup>th</sup> February 2001.

One investigator would stay with the equipment for three days to check the host computers automatic collection of data. Data from the remote sensors would be collect by data loggers, every day the loggers were down loaded by cable to the host computer. This was done by the family. The collection period ran for 14 days ending on the 3<sup>rd</sup> March 2001.

#### DATA INPUT & METHOD

Data for this investigation came from three locations, the home, the field and a witness. Data was delivered into the hard drive database by direct digital signal cable, data logger download or manual input.

Note: We get an improved signal-to-noise ratio due to a digital signal being transmitted instead of an analogue signal.

#### APPROACH

A method to obtain quality real time measurements of the anomaly and the witness observations would substantiate a direct association between an anomaly and human sensory response. The measurements would not confirm a direct association between the anomaly and the reported UFO.

In this paper, no attempt was made to directly connect the test results to a specific argument or theory. A significant amount of detailed information was collected over the 14 day’s; this paper highlights only a few of the key findings.

#### TECHNIQUE

Three techniques were used to capture the real time event data:

##### (1). PHYSICAL

One witness (Gordon) used a mobile data logger, to register:  
1. Any feeling/belief that the anomaly is present and or 2. The witness feels the surrounding environment become suddenly cold, as they have reported during past events.

#### INSTRUMENTATION

A PASPORT Xplorer Datalogger PS-2000 was modified to take single measurements (Alarm) on command using handheld switch sensors. The data was download using cable connected to a computer’s interface standard USB or RS232 serial port on any personal computer.

##### (2). TEMPERATURE

An accurate temperature sensor was inclosed in a 1m<sup>3</sup> sealed structure, designed to pick up any isolated transient temperature variation from the ambient room temperature. An outside ambient temperature will be data logged as a reference. Two isolated transient readings will be made, one from the home and one from the field.

#### INSTRUMENTATION

The **home** temperature sensors PASPORT PS-2125. With a range -35°C to +135°C; 238K to 408K, accuracy ±0.1K, resolution 0.01°K. It was connected via a cable to a USB port on the host computer.

The **field** temperature sensor PS-2125 was connected to a modified (edl-Co2<sup>[7]</sup>) electronic data logger with a modified 128MB memory, enabling a programmable 1 sample/sec reading set over a 24 hour mode. Download data via cable

connected to a computer's interface standard USB or serial port for a personal computer (RS232).

### (3). ACOUSTIC PRESSURE

The Near-Field Acoustic Holography (NAH) is a technique for the reconstruction of acoustic fields radiated in the 3-D surroundings of a noise source using its acoustic pressures [8]. The pressures are measured over a two-dimensional (2D spatial FFT) microphone array (grid of microphones) located on a plane close to the source itself.

NAH programs convert pressure measurements from a two-dimensional microphone array into acoustic quantities in three-dimensional space.

Through wave equations, the pressure on a surface is expressed as a convolution integral of the measured pressure convolved with a function describing how the sound propagates in space. Sound pressure distribution instead of the normal particle velocity distribution on an appropriate surface is used to uniquely determine the wave field within a three dimensional region by using the principle of generalized near field acoustic holography. Since the measurements are made in the near field, NAH obtains sub-wavelength resolution when imaging sources.

To calculate the radiation pattern or Sound Pressure Level (SPL) along a line, NAH can be applied to perform a spatial windowing and filtering of the measured data before Helmholtz Integral Equation (HIE) is applied to obtain the desired output.

The calculation extracts a principal component based representation of the sound field from the measured cross-spectra. From this sound-field representation, holography can be used to calculate pressure, and the normal component of particle velocity, active and reactive intensity in any plane parallel to the measurement plane. If there are bad measurement points in the data, the system interpolates values from adjacent points.

Post-processing Capabilities:

(A). Holography - calculation of pressure and the normal component of the particle velocity, active and reactive intensity in any plane parallel to the measurement plane.

(B). A vector intensity calculation can be done. All vectors in any principal plane (xy, yz or xz) can be plotted in a 3-dimensional view.

### NAH INSTRUMENTATION

Used in this study was a microphone array (30 channels) equipped with:

- (A). Data Acquisition System (Dynamic Sensor Interface Transceiver).
- (B). Sensors and.
- (C). A Host Computer with 30GB hard drive.

**Data Acquisition System** provides distributed signal conditioning, conversion and data transmission for sensors. Controls sensor specific signal conditioning, application specific ADC range, and signal modulation.

**Sensors** and Reference Transducers (RT) supply phase, amplitude and coherence information. The RT is used to distinguish between the different mutually uncorrelated partial fields in a sound field and to achieve a complete view of the sound field in the measurement region. The array uses acoustic input sensor integrated repolarized 1/4" microphones. Measuring frequency range 0.08 Hz - 2000Hz (2 kHz). Holography is a low frequency technique (typically less than 4 or 5 kHz).

The **Host Computer** receives and stores all sampled time data. The cables from the sensors are flat ribbon cable with DB-15 pin input connectors. Data formats are UFF, binary UFF, ASCII.

### QUALITY CONTROL

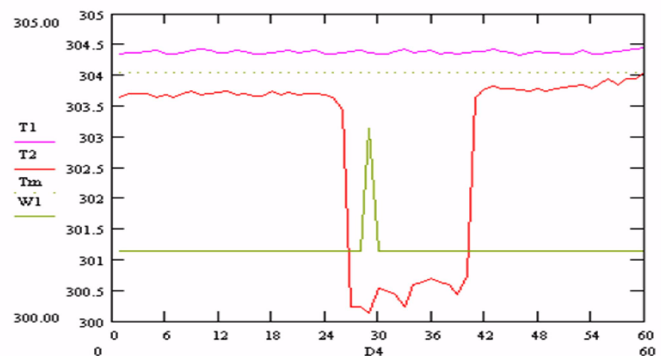
The following procedures are taken to ensure that data received is valid:

- (1). All instrumentation cases and connectors were lock & tagged.
- (2). All sensors were calibrated to manufactures specifications.
- (3). No LED or Monitor will show data flow or sensor fluctuation.
- (4). Data security. Data will be pass word secured on a hard drive.

### ANALYSIS / DETERMINATION

The computer data was collected from the witness's home on day 15 (4<sup>th</sup> March 2001) and returned to PRA Melbourne for analysis. It took 33 days to complete the examination. Using a variety of interrogation methods, data that had amplitude changes over consistent time frames were flagged for further study. Due to the scope of this paper the following is just a few of the results.

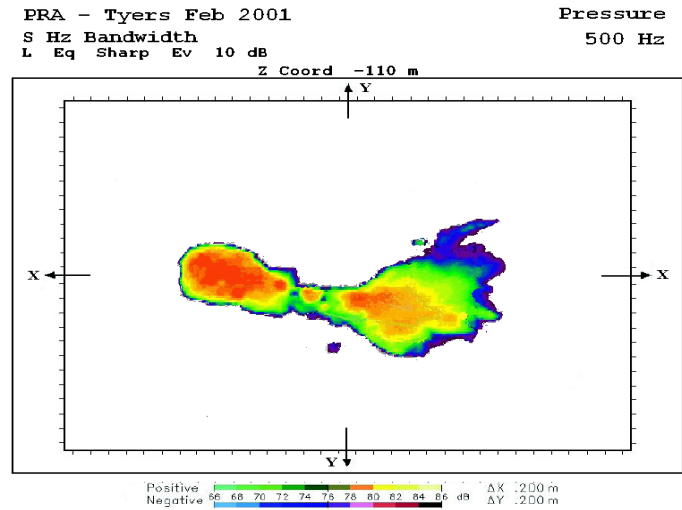
### RESULT WITNESS ALARM (#1) & TEMPERATURE SAMPLE



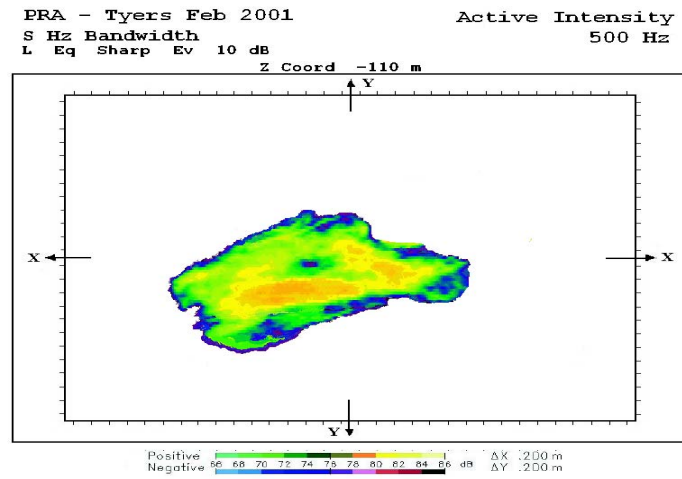
T1 = Ambient Temp T2 = Reading from Home Temp Probe.  
W1 = Witness alarm marker  
W1 = Witness alarm positive spike.  
D4 = Time log in minutes.

**Image 05:** Alarm #1 20 Feb 2001 14:29hr. A temperature variation of from drop 303.6<sup>°K</sup> to 300.2<sup>°K</sup>, over a 14 min frame (303<sup>°K</sup> = 30<sup>°C</sup>). The graph time range (D4) is in minutes. The T2 data was collected in seconds.

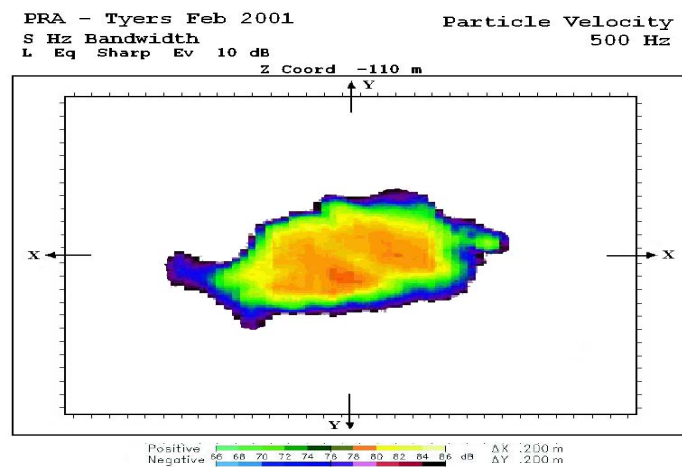
**RESULT NAH SAMPLE**



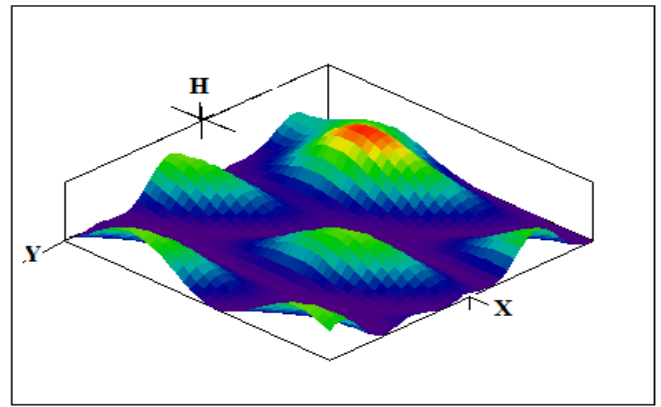
**Image 06:** (Refers to image at bottom of page 11) NAH - 2D home intrusion anomaly, acoustic pressure over a plane tangent to the source surface at 500 Hz. Intrusion into the home.



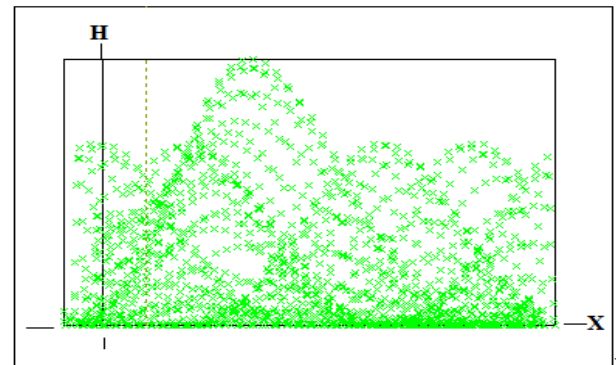
**Image 07:** NAH - 2D home intrusion anomaly, acoustic active intensity over a plane tangent to the source surface at 500 Hz. Intrusion into the home.



**Image 08 :** NAH - 2D home intrusion anomaly, air particle velocity over a plane tangent to the source surface at 500 Hz. Intrusion into the home.



**Image 09 :** NAH - 3D home intrusion anomaly, acoustic intensity vectors over plans parallel to the measurement (500



Hz). Intrusion into the home.

**Image 10:** NAH - 2D home intrusion anomaly, acoustic intensity vectors side plans parallel to the measurement (500 Hz). Intrusion into the home. Flow is from left to right. H is height axis.

**RESULTS DISCUSSION**

In the 14 days of data, the male witness (Gordon) with the handheld switch instigated 8 alarms on the real time data logger he had with him.

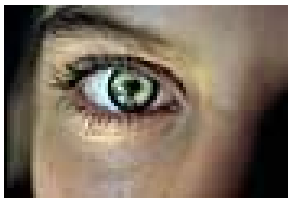
In the 14 days of data, an analysis of the isolated transient temperature variation, from the home probe (ambient room temperature corrected), 26 unusual peaks of similar duration and amplitude were found in the data.

In the 14 days of data, an analysis of the isolated transient temperature variation, from the field probe (ambient room temperature corrected), 5 unusual peaks of similar duration and amplitude were found in the data.

In the 14 days of data, the Near-Field Acoustic Holography (NAH) recorded 104 events. Of these event only 47 produced data that gave 2D images. Of these 47 only 11 showed evidence of a passing front.

Analysis show that all events ended on day 11 of data collection, after that time the data shows normal traces.

An examination of the time data logs from the 26 home temperature peaks and the 5 field temperature peaks, matched all the witnesses 8 alarms. Only 3 NAH images matched the witnesses 8 alarms.



# Estimating Distances

Martin Gottschall PhD

## INTRODUCTION

The determination of distances is a vital component of the investigation and analysis of UFO sightings. When we know the distance of a UFO from the observer, we can make estimates of speed, acceleration and size, which can then allow us to decide if an object is "conventional" or not.

The witness to a sighting usually has no instruments by which the distance of a UFO might be determined. His or her estimate is therefore "by eye". It is important for investigators to be aware of the range over which eye judgments of distances are reliable, so that the observations of a witness are fully utilized and misjudgments are avoided.

When an investigator stands at the place where a UFO was observed he may need to estimate distances also. This too may be done by eye, but the investigator can use a variety of instruments and techniques not available to the witness, to fill in the details of the environment in which the sighting was made.

## ESTIMATING DISTANCE BY EYE

The human eye can estimate distances in a number of ways, and usually an estimate is made by "judgment" i.e. without conscious deliberation. We can assume that such judgment is based on a lifetime of experience and uses all the ways in which the eye can judge distances. These distance judging mechanisms are:

### 1. Eye Focus

The human eye comprises essentially an adjustable lens and a screen (the retina) on which images are focused, not unlike the operation of a still or video camera. However, whereas the focusing lens of a camera has a fixed focal length and achieves focusing by being moved closer to or away from the image plane, the eye contains a lens which can be squeezed so that its focal length shortens, and focusing is achieved in this manner. Whenever we look at anything, a subconscious mechanism comes into play which adjusts the lens in the eyes to give us a clear image of the thing we are looking at. A part of this subconscious mechanism senses the amount of muscle action involved in this process and gives us an estimate of the distance of the object being seen.

Table 1 considers a hypothetical eye whose lens is 24 mm from the retina. The table shows the decrease in focal length the eye lens must produce in order to have a clear image on the retina for objects at various distances. By studying these values, we get an idea of the distance range over which eye focus can estimate distances by sensing eye focus adjustments.

Table 1 Eye Focus Distance Estimation

Distance, m	.4	1.0	3.0	10	15	20	30	Infinity
Focal len, mm	1.36	.56	.19	.06	.04	.03	.02	.00

Inspection of Table 1 shows us that from 30 meters to infinity the change in focal length is very small, whereas at

the shorter distances the changes are relatively large. Thus, we expect distance estimation by focus to be quite good at a few meters, but to be approximate at tens of meters, and useless beyond perhaps 50 meters.

### 2. Bi-Ocular Estimation

We have two eyes about 80 mm apart. When both eyes can see clearly, this feature allows us to judge distances. When both eyes are looking at a close object, the eyes are slightly "cross-eyed". Our muscles which control the direction of our eyeballs can sense this eye alignment and hence allow us to estimate distance in this manner. Table 2 displays the crossing angle of the line of sight of two eyes 80 mm apart for various distances of the object of interest.

Table 2 Bi-Ocular Distance Estimation

Distance, m	1	2	4	10	20	50	100	200	500
Degrees	4.6	2.3	1.2	.45	.23	.09	.05	.02	.01

This table shows a similar trend as does Table 1, except that the range is greater. We would expect useful estimates of distance up to a few hundred meters and beyond 500 meters, we would not be able to distinguish distances reliably.

### 3. Apparent Size Estimation

Many objects which we see are familiar to us in that we know their "absolute" size, for example a car, truck or human being. The distances of such objects can be judged by their apparent size. When an image is formed on our retina, our receptor nerves allow our brains to sense the actual size of this image. The further away an object is from our eyes, the smaller its image on our retina. Thus, when we recognize an object (and hence recall its actual size) its "apparent size" as perceived by our retina allows us to estimate the distance of the object.

Table 3 shows the image size (on our retina) of an object 10 meters in size at various distances for an eye with a 24 mm lens to retina distance.

Table 3 Distance Estimation for Known Objects

Distance, m	20	50	100	200	500	1000	10,000
Image, mm	12	4.8	2.4	1.2	.48	.24	.024

As the retinal image of the object becomes smaller with increasing distance it becomes harder to see and its size is harder to judge. Obviously, the image can not be smaller than the optical sensors in the retina for its size to be perceived, and the focusing ability of the eye (lens quality) must be better than the image size. Somewhere between 10 km and 100 km, depending on the individual, a 10 meter object will be lost to sight or if it is very bright, its image will be surrounded by a bright haze, and an attempt to judge its size will be an overestimate.

It will be apparent that larger objects can be seen at much greater distances. Thus, we see the moon which is about 300,000 km away and the sun which is 150 million km

away. We also see planets like Mars, Venus or Saturn but the images they form on our retinas do not reflect their actual size, as those images are smaller than the focusing ability of our eyes.

#### 4. Estimation of Relative Distances

A feature of all of the above ways of estimating distances is that they diminish with distance. When a UFO (which by definition is of unknown size) lies beyond our ability to judge its distance, we may see it pass in front of or behind trees, houses, hills or other permanent features or known transient ones like aircraft. If we are able to judge the distance of say an aircraft, or later determine the distance of fixed objects, we may be able to place the UFO relative to them and hence obtain some distance information about it.

#### ESTIMATING DISTANCES WITH INSTRUMENTS

Measuring distances is the Surveyor's bread and butter. While his instruments tend to be expensive, and may require high levels of skill, the principles which underpin his procedures are essentially simple and can be applied with simpler and cheaper instruments as well. Some of these methods will now be examined.

#### 5. Estimating Distances with a Telescope or Binoculars

This method is like the method of estimating distance by sensing the degree of eye focusing effort, only a telescopic arrangement is used. In a telescope an "objective" lens collects light and focuses it to an image at a particular place in the tube of the telescope near its end opposite to the objective lens. Another lens called the eyepiece functions like a powerful magnifying glass and allows us a magnified retinal image of the objectives' image.

The objective image is not always formed in the same place. For objects at "infinity" the image distance is equal to the focal length of the objective lens, but for closer objects, the image is further away along the telescope tube. Such images are focused by moving the eyepiece further away from the objective. This displacement allows us to estimate the distance of the object.

Table 4 displays the image displacement for various distances that would be obtained with an objective lens having a 450 mm focal length with reference to the position of the image for objects at infinity.

Table 4 Estimating Distances Using Telescope Focusing

Dist, m	10	20	50	100	200	500	1000	2000	5000
Displ, mm	21	10	4.1	2.0	1.0	.41	.20	.10	.04

This trend resembles that for the eye lens of Table 1 except that the distance range is much greater. Although one could measure displacements of the eyepiece to .01 mm easily, measuring distance with a telescope is more complicated than that. Firstly, the eye of the observer is part of this optical system, and the eye lens, as we know has a variable focal length and can change by about one millimeter. The effect of this is that the telescope image can be in focus over a range of distances. One way to reduce this effect by about 90% is to follow a set procedure. For example the eyepiece is always set to infinite focus and moved back until focus is first achieved. This happens when the eye is just able to focus the image the same way as it would focus an object at infinity.

The second correction for variable eye focal distance is to

use a very powerful eyepiece. For example if the eyepiece had a focal length of say 5 mm (about 5 times more powerful than the eye lens), then the variability of the eye would have five times less effect.

If the objective lens is small compared to its focal length (which is usually the case) then the light rays converge in the focal plane at a narrow angle, and they tend to be focused over a range of distance at the image plane (focusing error). A larger objective lens widens the light cone and so reduces the focusing error. With the normal use of a telescope, a large focusing error means that objects over a wide range of distance are in good focus and focusing is not so demanding, and this is desirable. However, when using a telescope for estimating distances, a small focusing error is better. The ideal telescope for our purpose is a reflecting telescope with a large aperture.

Telescopes designed for terrestrial viewing can be made to give good distance estimates up to about a km, and specially selected or designed telescopes to about 5 km. Binoculars have a relatively large objective lens and make good distance estimators. They have the added advantage that the image remains upright. Only one barrel is needed and a binocular can be disassembled to make two instruments. The eyepiece must be adjustable by a screw action with little or no slack, and a scale needs to be provided so that eyepiece rotation is accurately measured. Finally, the scale has to be calibrated to the user's eye by marking the scale position of two or more objects at a known distance.

#### 6. Estimating Distances with a Compass

Compasses are instruments which allow the user to measure the magnetic bearing of any point of reference whether close by or far away. This property can be used to estimate distances. Suppose that we wish to estimate the distance to the top of a hill thought to be about 5 km away. The hilltop has a well defined tree visible. Any well defined feature will do.

We obtain a bearing of this hilltop tree and then pace out a distance of say 30 meters at right angles to the hilltop bearing and obtain another bearing. We now calculate the difference in these two bearings in degrees and decimals of a degree. Suppose the difference was .3 of a degree. The distance is:

$$D = 30 \times 57.3 / 0.3 = 5730 = 6000 \text{ meters (approx.)}$$

In general, if the paced distance is "d" meters and the difference in the bearings is "b" degrees then the distance "D" is:

$$D = 57.3 \times d / b \text{ meters}$$

By making the transverse distance "d" bigger, we get a bigger value for "b", which will then be more accurate, and give us a better distance estimate. It will be apparent that we will need a compass able to give bearings to at least 0.1 of a degree and we will have to be careful to avoid local magnetic disturbances due to say cars and other steel objects. To check against magnetic anomalies, this measurement should be repeated by using one or more extra bearings

#### EXERCISES IN DISTANCE ESTIMATION

It is important for UFO investigators to practice their distance estimating skill and to check their eye estimates

against instrumented estimates, which in turn have been calibrated against measured distances.

When witnesses to a UFO sighting are interviewed, their estimates of the distances of various objects in their vicinity should be checked against an instrumented estimate. This defines the accuracy of the witness, and generates estimating statistics for witnesses in general that can be useful in assessing reports of sightings.

### INFERENCES

We can draw a number of inferences from the above considerations:

1. If a witness had a well focused view of an unknown object, he should be able to estimate its actual distance up to about 300 meters.
2. If a witness has been able to estimate the distance of an object, he should also be able to estimate its size.
3. If, at any time during a sighting, a witness was able to estimate the size and/or distance of an object then on the assumption that the object retained its size throughout the sighting, he should be able to estimate its distance at other times when it was well outside the range of direct bi-ocular estimation, because it would then be an object of known size for which apparent size estimation is possible.
4. Simple instruments such as a compass and a telescope fitted for distance estimation, combined with some basic knowledge allows an investigator to determine distances to an accuracy and confidence high enough to allow a typical sighting to be classified as "known" or "unknown".
5. An understanding of the range of distances over which distance estimation by eye is possible allows an investigator to make full use of the information provided by a witness to a sighting, and also allows them to recognize estimates which are likely to be unreliable.
6. Fluency in making and evaluating distance estimates is a basic skill which a UFO investigator must acquire and maintain.

### Obituary

Amy Pennisi, wife of Albert Pennisi, passed away on Wednesday morning 10th September 2003. The Pennisi's along with George Pedley were at the middle of the famous Tully "Saucer Nest" incident in 1966 where a saucer-shaped craft was witnessed by George taking off from Horseshoe Lagoon on Albert Pennisi's property in Tully, Australia.

Albert was untiring in his efforts to assist the then Queensland Flying Saucer Research Bureau (now called UFO Research Queensland) in its investigations. Everyone wanted to come and see the "saucer nest" made of reeds left floating on the lagoon by the UFO.

Amy was a lovely person who made her home available to anyone who asked to visit their property at the time. The Pennisi's always had people in their home and Amy was kept busy feeding them all. Local researcher, Clare Noble, described them as a lovely hospitable family who will be missed by the close knit community of Tully. Amy and Albert have three sons and one daughter. R.I.P



# The Many Challenges of the Volunteer Ufologist

By Sheryl Gottschall

*"It is one of the most beautiful compensations of this life that no man can sincerely try to help another without helping himself."*

– Ralph Waldo Emerson

Becoming a volunteer Ufologist may be something you were born to do, drifted into or were dragged kicking and screaming into by your own close encounters. However you got to this place, here you are. Why do people work hard for causes they care about without getting paid for it? That question is often asked and there is no simple answer. Each person has his or her own reason for being involved. However, the one common theme almost universally agreed upon by volunteer ufologists is this: the one who gets most out of this work is the one who volunteers. This is the wonderful paradox.

For many who become what we describe as immersed in this field, but maybe better described as saturated, they have come to the realization that more does not necessarily mean better. Striving for more money and more things does not guarantee more happiness, fulfillment or meaning in life. As Philip Berman states in his book, "The Courage of Conviction", "It seems important to bear in mind that it is entirely possible to be wealthy with things and yet, at the same time, intellectually and spiritually impoverished."

Ufology is one field where one does not have to worry about having too much money as many ufologists not only seek ways to devote more time to the study of the UFO phenomenon, but gladly self fund their personal research often keeping them financially retarded. Hence we have our first challenge – funding.

There is little paid work available in Ufology. That's why ufologists are forced to perform their work on a voluntary basis. Some write books about their research but they do not become rich from these ventures and probably only make a minimal return in relation to their efforts. Others will gain a reputation or following and manage to be part of a lecture circuit which may even take them around the world. Again, although their costs may be covered and they have a nice holiday they only make a small return. However, in general, many ufologists are forced to convert to voluntary simplicity so as to be able to redirect what money they do have into purchasing their equipment, funding their travel costs and their research efforts. Most are usually satisfied with this lifestyle as for many their financial desires become less as they become more and more engrossed in their area of interest and study.

Although the field of Ufology is not financially viable at this

stage, people still become involved and there are other rewards besides money. One of those rewards is recognition. Recognition is a basic thirst of a healthy human being that needs to be quenched. The need to be recognised, accepted and praised by one's own peer group can be worth far more to the heart than many other accolades. However recognition can unbalance a researcher when it is not matched by an equally intense quest for the truth. Hence we are faced with our second challenge – ego.

While most ufologists are concerned with getting to the truth of the matter and are generally immune to the need of the good opinion of others, some aren't as free from that need. These require the good opinion of others, recognition and validation. In the UFO arena one cannot help bump into, or up against, one's peers from time to time and if those peers do not share your motivation for being a Ufologist this can create division, disharmony and disillusionment. As the human condition and need for survival requires us to have an ego, it is only natural for us to want recognition. However, when the focal point for research shifts from the search for truth to the need for recognition, this is when Ufology can appear to be a highly-strung, ego-centred, unbalanced and negatively oriented arena. It is something that the UFO community struggles with constantly and to date no solution to the challenge of ego has been found.

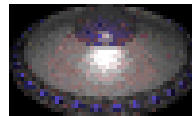
On the flip side of this challenge is the freedom and general conditions necessary for each researcher to forge his or her unique identity. Ufologists are free to pursue their personal interest and areas of research while not being constrained to meet such a narrow focus as scientists adopt. In this way Ufology brings together diversely interested people with many talents and opens the door to ideas which would otherwise be rejected. Without this compensation there may not be as many willing volunteers.

The third challenge to this field, which is rarely articulated but many sense, is the fact that the plight of ufologists is heavily laden with idealism, and uniquely high idealism at that. With such high ideals there is little tolerance for the apathy of the general population whose lethargy towards birthing a new world complete with extraterrestrial neighbours is considered to be like shooting oneself in the foot. Consequently, feelings of 'us against them' often arise which can lead to a sense of separateness and isolation from general society. The UFO community needs to constantly guard against these feelings by consistently building bridges to those it feels isolated from. In so doing, the trickle effect into humanity of changing perspectives is maintained and evolution in consciousness is perpetuated.

The fourth challenge is maintaining momentum, avoiding burnout and staving off the feeling of getting nowhere. As many know, getting your point across to the general public and media does seem like flogging a dead horse at times. Spurred on by idealism ufologists will 'go the whole nine yards' if given their heads, but one can only take the door being slammed shut in one's face for so long. The truth is we are trying to sell a product that nobody wants to buy. The collective conscious and will of society is stubborn at best and down right blinded by denial at it's worst. This is the challenge. Ufologists may have to be content with merely keeping the UFO subject alive until the general flow of consciousness catches up with what the UFO community con-

siders to be 'old hat'. This may be all we can achieve for some time while we play the waiting game.

There are many more challenges but these are some of the most important and prevalent long term stumbling blocks for ufologists and we need to find ways to overcome them. So far we have not done so but tomorrow is a new day.



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# Tools of the Trade

By Martin Gottschall PhD

This is intended to be a regular feature in this Journal. We hope that some of our readers will want to engage in instrument projects designed to help us gather better data about UFO sightings, near approaches and UFO activity in general. Readers are invited to offer ideas, comments and write of their own instrument projects.

## UFO DETECTORS

UFO's have been known to produce magnetic disturbances such as causing compass needles to spin or at least deviate, and to leave magnetic after-effects on cars, rocks and soil at landing sites. Hence instruments able to pick up magnetic changes have been used for decades as "UFO detectors". With the passing of the years and the steady improvement and availability of electronic components and electronic kits, it is worth looking over the topic of magnetic sensors every so often just to see if new, better or more useful instruments can be obtained on a modest budget.

## SIMPLE OPTIONS

### 1. Field recorders

One of the simplest and cheapest magnetic sensors is video or audio tape. This tape is designed to be magnetised so it takes magnetic impressions readily. Figure 1 shows a magnetic sensor based on the use of magnetic tape, say video tape. A single video reel has enough tape for thousands of such sensors. A length of tape, say about 30 mm is cut off and glued to a base of 3 mm plywood or other nonmagnetic material with the magnetic surface exposed. A more refined version has a holder with a stack of perhaps a dozen pieces of tape so that depth of magnetization can be measured also.

A soft iron washer is laid on the tape so that the tape extends beyond the edge of the washer, and fastened in *place*.

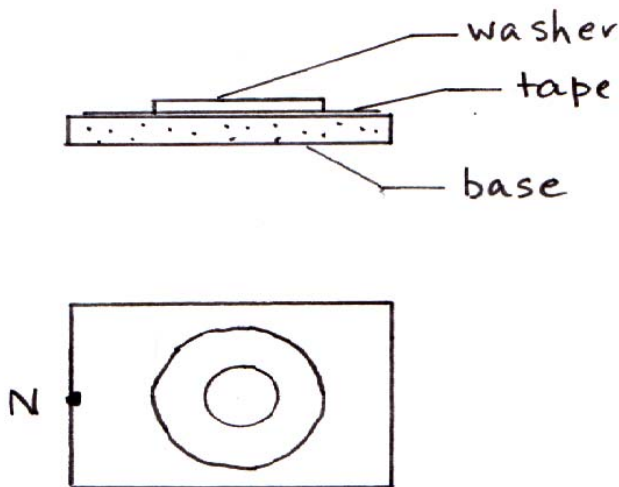


Figure 1. Passive magnetic sensor/recorder

This item is then placed in some convenient location for a period of time and later retrieved. Upon retrieval the washer

is removed and the tape surface is scanned with a magnetic sensor to see if any magnetic imprint has been made. An imprint will tend to be localized around the perimeter of the washer's location and can reveal the direction of the field. A cluster of three such devices arranged to be mutually perpendicular to each other (for example mounted on a small rectangular block of wood) allows the direction of the field to be found in three directions.

A large number of these devices can be laid out in a grid pattern over an area of interest (or buried in the soil), left for days, weeks or months and then retrieved and measured to see if any magnetic activity has affected them. The use of the soft iron washer is to intensify a weak field so that a magnetic impression is more easily obtained. This washer can also be used to find the buried sensors with a metal detector.

## 2. Measuring Magnetic Fields

When performing magnetic experiments or building UFO detectors, it is useful to be able to measure the strength of a magnetic field, say one near a permanent magnet. Hall Effect sensors can be used for this. Mount the Hall sensor on a suitable non-magnetic probe and connect it up to its current source according to the manufacturer's instructions, for example as in Figure 2. Use a digital voltmeter to measure the output voltage.

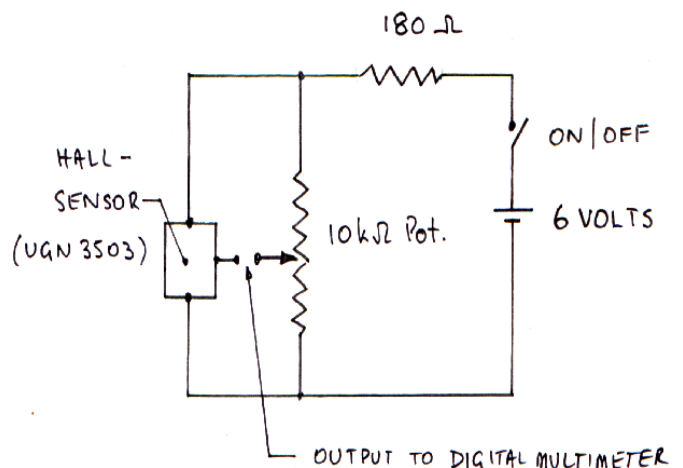


Figure 2. Hall magnetometer

A Hall sensor, sold by Dick Smith Electronics in Australia, has an output sensitivity of about 13 Volt/Tesla, which means that the Earth's field will generate an output of about 0.65 millivolt. My digital voltmeter will read to 0.1 millivolt, so that if I turn my probe I can pick up the effect of reversing the Earth's field in my Hall sensor. The field around magnets is much stronger and this rudimentary instrument will measure them quite well.

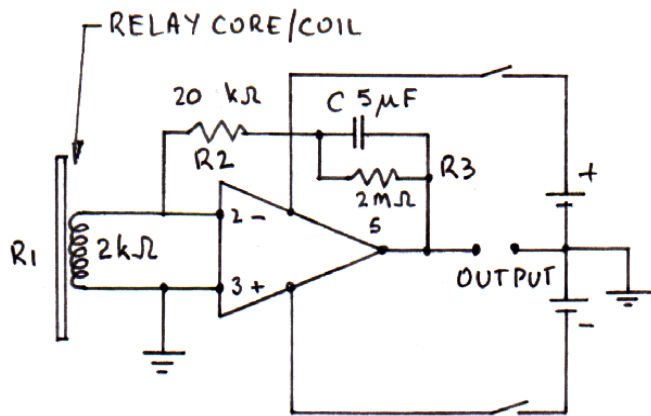
Hall sensors are a much more compact way to sense magnetic fields than relay coils, but they present challenges in stabilizing the amplifying circuit against drift and false alarms. Their use in building UFO detectors will be explored on a future occasion.

## REAL TIME SENSING

The detector of greatest interest has probably always been one that sounds an alarm when the magnetic disturbance is actually happening. Frank Scully in "Behind the Flying Sau-

cers" (published in 1950) was told that during the late 1940's, the US Army had set up sites where soldiers maintained a 24 hour watch on "tenescopes" (which I assume to be sensitive magnetic detectors) in order to be warned of the proximity of UFO's, so that they might then be tracked by radar. The magnetic detector clearly has a long pedigree in UFO detection, but to my knowledge it has not been widely and systematically applied in civilian UFO research.

Figure 3 shows the input stage of a magnetic sensor suitable as a UFO detector. A relay core/winding (like the old Telecom relays with many thousands of turns of fine wire) generates a voltage when the magnetic field in its vicinity changes. This voltage is fed to an operational amplifier chip (op amp) at inputs 2 and 3. An amplified voltage appears at 5 which is the output terminal.



**Figure 3. Magnetic field sensing input stage**

In Figure 3 the feedback resistor R2 is about 10 times bigger than the coil resistance R1, and this defines the signal amplification. The resistor R3 has to be at least 10 times bigger than R2. The feedback capacitor is so chosen that its capacitance C multiplied by R3 is equal to the duration in seconds over which changes in the magnetic field are to be measured.

Operational amplifiers have a gain of about 100,000 times. This huge gain is not intended to be used for amplifying the input signal, because the device would be totally uncontrollable and generate a useless output. To reduce the gain to perhaps 100 or 1000, a "feedback circuit" is connected between 5 and 2. Hence some of the inherent op amp gain is used to amplify and the rest is used to keep the output signal under control as well as "linearizing" the amplification. It can also be used, as we have done here, to process the signal.

Note that the feedback circuit comprises a capacitor and two resistors. When these components are correctly chosen, the output voltage will measure the amount of change in magnetic field which has taken place during the last say 10 seconds or whatever time period is selected. The capacitor stores up the charge passing through the feedback circuit and so sums up or integrates the coil signal over time. R3 allows this stored up charge to bleed away but only very slowly over many seconds, so that the most recent changes in magnetic field are always registered at terminal 5.

While R3 determines how long the circuit will "hold" its signal, R2 determines how fast this signal is acquired. The time constant for signal acquisition is R2 times C, and for the numbers shown this is .1 second. If a UFO were to arrive instantly, stay for say .01 second and depart instantly, we might miss it, but if it then remains for at least .1 second we would sense it. The function of the acquisition time is to tune out unwanted signals like 50 cycle power effects which have a duration of .01 second.

The output voltage may need to be further amplified in another op amp or transistor stage, and may then be used to trip an alarm or display on a meter, or be recorded on some recording device. This circuit can also be the basis for measuring the magnetic imprint on the video tape sensors described above. The main difference would be that the relay core/coil may require a pointed soft iron tip so that it can properly sense the magnetic imprint on the tape. A Hall sensor may also be used to measure this magnetic imprint, and a similar tip may be needed here also.

**DATA STORAGE**

Data storage is a central aspect of instrumentation for monitoring UFO activity when using instruments like magnetic sensing. Not many people can sit by a UFO detector all day and respond to its alarm, or note the magnetic readings. Thus for example, we might want to record the reading of a UFO detector whenever the signal exceeds a set value, and the time at which this happens. Tape recorders are one handy way for doing this in the field when the instrument is far away from electric power.

For a detector used in or near the home, a computer can be a very handy tool since it has a built in clock and can be programmed to process the data and store it periodically on a floppy disk or hard drive, ready for instant display in processed form. Not much computing speed or storage power is needed for such work, and the older (and hence cheaper) laptops are ideal. Effective data storage and handling spells the difference between finding or not finding instrumental evidence of UFO activity, and will be explored in more detail in future issues.

**RESPONSES ARE WELCOMED**

I trust that the above comments have given you a glimpse of what is now possible in UFO monitoring instrumentation, and perhaps you have a project or suggestion of your own that you would like to share.

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# ALIEN ABDUCTIONS & NATURAL SELECTION

Martin Gottschall PhD © 2003

## INTRODUCTION

Has the UFO phenomenon yet revealed to us what things are of greatest value and/or importance to at least some of our ET visitors? I believe it has, and the answer is: "information and genes". Here I wish to address just one part of this answer, the very great importance of genetic material in the cosmic "marketplace".

Human contact with ET's has disclosed broadly two kinds or strands of ET. The one kind is spiritually advanced and individuals live long lives. They maintain a close relationship with nature and also develop mental and emotional powers which they cultivate, to create and maintain adaptable, healthy bodies and minds able to function for many centuries. They possess and use advanced technology but do not use medical technology or genetic engineering, having found more perfect and natural ways to maintain health and an ever-evolving gene pool.

I suspect that without their genetic contribution to the human gene pool over many millennia, humanity would be in much much worse straits, and one day we will know this with certainty, and thank them for past help.

The other kind of ET have taken a different evolutionary path. They have relied almost exclusively on technology, both physical and biological, to provide for their needs and lifestyle. This is the direction in which our society also seems to be heading. If so, we should take a very careful look at where this approach has taken these ET's, just in case we do not like the end result.

## NATURAL SELECTION

To take this discussion further, I wish to borrow a concept from evolutionary science, but use it in a somewhat different way. "Natural Selection" is a process, attributed to wholly natural, random processes (i.e. not controlled by intelligent intervention), whereby living things survive in and adapt to changing environments. Evolutionary scientists use this concept to discover how living things evolve into different species over millions of years. I am more concerned with how this concept helps a species to remain adapted to, and thrive in a changing environment. Also, I do not exclude intelligent genetic intervention, so long as this intervention does not come from the species itself but from a more advanced and wiser source.

With the exception of the last century or so, the human race has effectively been subject to natural selection. This meant, for example, that if an individual's immune system could not protect him from a deadly infection, then he would die. With natural selection, individuals tend to be fit, whole and healthy, since those not fitting this description tend to die

out. With natural selection, every individual is a unique experiment in biological adaptation and survival. It does not produce a single solution to an evolutionary challenge, but thousands or millions of variations on the theme.

While natural selection is clearly efficient, it is also "cruel" in that it is ruthless. When people have the opportunity, through medical technology, and indeed any kind of technology, to avoid the "grim reaper" of natural selection, they do so almost without exception.

## GENETIC ENGINEERING

Medical technology and especially genetic engineering are ways in which a technological society can escape being subject to natural selection. It differs from natural selection as we conceive it here in two important respects: The intelligent intervention comes from the species itself, and the search for "best" solutions tends to homogenise the members of the species. Thus, while the individuals of this species can avoid suffering, sickness and early death, the species as a whole can lose its variability and hence power to adapt, so that it is at risk of engineering itself into an evolutionary dead end.

**...the massive scale on which this genetic harvesting seems to be happening implies there is a truly huge cosmic demand for this product, with which we are at present so liberally endowed, but seem to scarcely appreciate.**

## ET ABDUCTIONS

The ET's typically described by abductees seem to fit very readily into the pattern of those species which are facing extinction. Since these ET's were well advanced in genetic science, they must have known very well that they were heading for "species extinction" long before the threat became real. They could have reverted to natural selection, but chose not to, probably because it was too painful or unpleasant for them. From their point of view, it

might have been far easier to harvest the benefits of natural selection from a relatively primitive species like humans, who were still carrying most of the benefits of millennia of natural selection.

If, for the purpose of the present discussion, we accept that the motive behind ET abductions is largely the harvesting of the benefits of millennia of natural selection, and the beneficial genetic gifts which the human race has received from time to time, then we can draw a few additional inferences.

Firstly, the massive scale on which this genetic harvesting seems to be happening, implies that there is a truly huge cosmic demand for this product, with which we are at present so liberally endowed, but seem to scarcely appreciate.

Secondly, abductees also to endure the suffering and costs of the abduction/genetic harvesting process, without any apparent compensation, without their conscious consent and often against their express wishes.

Thirdly, we simply do not know what changes this process might introduce into the human gene pool which are damaging to us. If the abducting ET's had to modify our genetic makeup just to make it more accessible to them, would they hesitate just because it is bad for us in the long term? Abductions are confined to a small percentage, possibly 3% to 4%. If these people are genetically changed, the changes would spread to everybody in a few generations. From this perspective, it is vital that we be able to find the people who are being abducted and discover if they and/or their children display patterns of both good and bad health, behaviour etc which have genetic roots.

#### ARE WE BEING RIPPED OFF?

When all the features of the abduction phenomenon are put together, they seem to be telling us that we are being ripped off. We barely value the things which are so essential and valuable to the abductors, and for which they will lie to us, steal from us, manipulate and invade our minds, lives and bodies, and then make us think and say that it was OK for them to do it all.

It seems almost unbelievable that humans, so willing to even kill to defend their interests in other situations will submit so meekly to this invasion of their homes, families, minds, bodies and genetic heritage. Perhaps it is the sheer gigantic scope and audacity of this indignity that leaves them unable to believe that it is really going on.

#### ACTION NEEDED

- It is important to continue the study of the abduction phenomenon, to confirm its nature and scope.
- We and our planet possess cosmically valuable commodities, and contrary to what the abducting aliens might claim, they can not be allowed to come here and do as they please. If they do have access, there should be fair compensation and supervision to prevent damage to us and the planet. This is the level on which our governments should be active.
- We need to find reliable ways to identify abductees independent of the abductees identifying themselves, so that we can reliably sample them and discover what the abductions are doing to them and ultimately to us all.
- We need to support the conservation movement which strives to curb the destructive excesses of human greed, ignorance and desperation to preserve the biological heritage of life on this planet.
- We need to study the lifestyles of ET's who are not in danger of species extinction so that we can choose a better path than the one that might lead to our own extinction.

*Continued from page 11.....*

#### CONCLUSION

Further analysis of the data is recommended, however, it is my opinion the data does show the witness's physical response is in some way connected to a moving anomaly that moves through the witness's home. Further refining of the equipment would greatly assist researchers in determining moving anomalies. With due consideration to the testimonies of the two witnesses (Gordon & Sue), I see no reason to dispute their story and find their case compelling.

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NAH - the system would predict the acoustic signature in the near-field as well as far-field, which represent the sounds detected by another entity such as ship, submarine, sea mine or a sonobuoy.

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