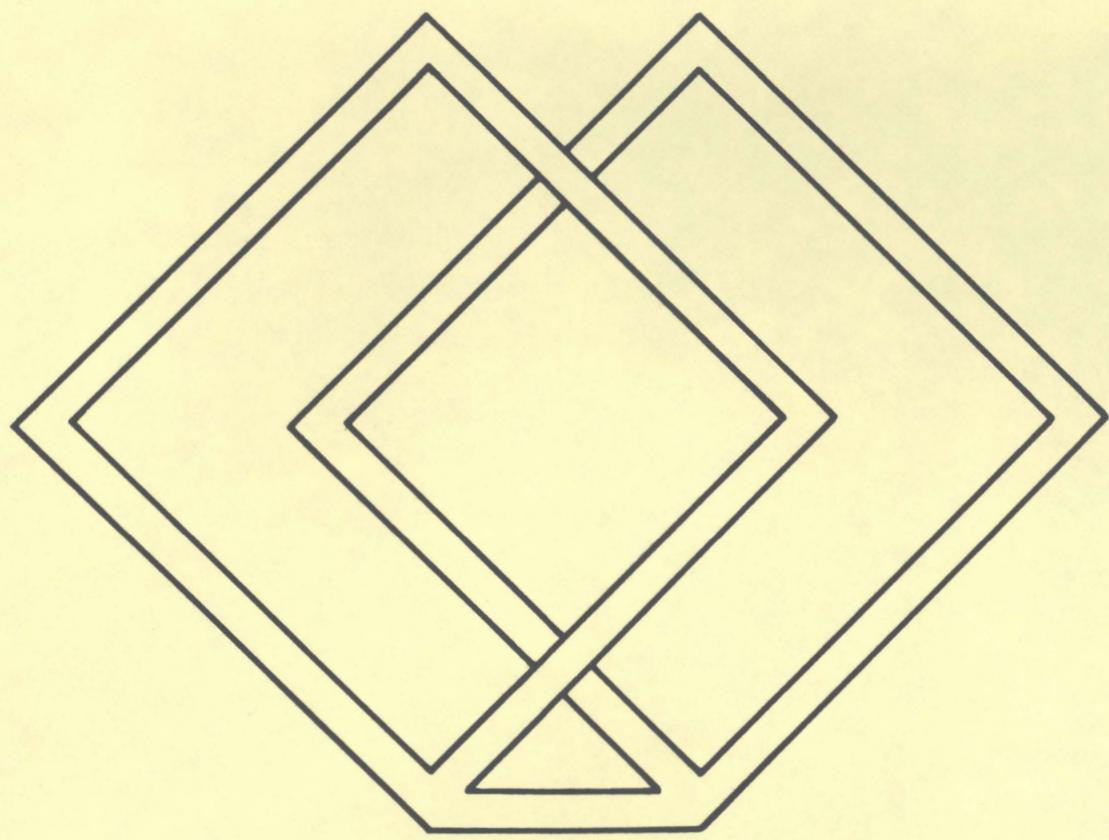


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Editorial

by Frank Gillespie

SPECIAL EARTHQUAKE LIGHTS ISSUE

The 'earthquake lights' theory is one of many on the nature of UFOs. The most outspoken proponent of this theory is Dr Michael A. Persinger; and a sample of his ideas on the subject is included in this issue.

The average ufologist knows little about the technicalities of earthquakes, and even less about the rarer phenomenon 'earthquake lights'. To assist its readers to form an intelligent opinion about the relevance of this phenomenon to UFOs, the ACUFOS Journal commissioned Robert Nation to write the review 'Earth Quake Lights', which also appears in this issue. Robert has spent the last 18 years studying earthquakes, yet he, (like his colleagues) knew little about the 'lights' when first approached; and most of what he 'knew' turned out to be misinformation. Such was the extent of his research on the Journal's behalf, that he should now be the top Australian authority on the subject.

Whatever earthquake lights may be, it is notable that they are widely acknowledged as a reality by the scientific community, on what is really very meagre evidence, most of it anecdotal. The few photographs which exist appear to have been accepted as genuine without any argument, and, more significantly, without expert scrutiny or computer analysis. The evidence for extra-terrestrial presence in the terrestrial environment is vastly superior, both in quantity and quality; yet most scientists reject this evidence as unreliable, mainly anecdotal material.

What is wrong with science today, that it allows, even encourages blatantly prejudicial attitudes such as this? It is not what science is supposed to be all about!

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TRANSCRIPT FROM SIXTY MINUTES (TV PROGRAM - AUST'N EDITION), 1 AUG. 1982

(transcribed by: John Prytz)

Earthquake Lights and the UFO Phenomena

Jana WENDT: People tend to treat UFOs like they treat religion. Either you are a believer or you are not that strange things come into our skies from outer space. The issue has been so clouded with sensationalism and emotion that it's hard to make any real sense of it. But now some scientists in Canada and America have raised a very important question. Could it be that both the believers and the disbelievers are on the wrong track? UFOs don't visit us from outer space, but they aren't optical illusions either. Instead, could it be that UFOs are created by something that actually happens on Earth?

Dr. Michael A. PERSINGER: What people see, and what they report, are two different things. For example, when someone says they see a UFO, that means they see a ball of light. There is no argument there. Most scientists won't argue - that's a ball of light. The argument is when people automatically conclude that because it's a ball of light, therefore it's a flying saucer.

WENDT: It might have been just a ball of light that Deputy Sheriff Val Johnson saw in Minnesota, but it wrecked his car and knocked him unconscious for half an hour. Then there is the case of Travis Walton, a forest worker who saw a ball of light in Arizona.

Travis WALTON: We saw an object hovering near the road. A glowing disc about, oh, 25 feet in diameter, and, you know, we could see it very distinctly.

WENDT: Travis Walton says he too was knocked unconscious. But even more than that, he woke up to find himself on board some kind of spacecraft with a crew of alien creatures. Both those cases involve balls of light, what some people have called UFOs, or flying saucers. But where did those balls of light actually come from, and where were they formed in the first place? Well, one explanation comes from Canada where a scientist says they don't come from outer space at all but they come in fact from deep within the Earth. He says that they are related to earthquake activity.

PERSINGER: These are unknown objects being observed in the early 1800s...

WENDT:...Dr. Michael Persinger prefers to believe his computer at Laurentian University rather than the people who say they have seen flying saucers. And his computer came up with some remarkable results. Look around the world, and where ever you find earthquake activity, you'll likely to find UFO reports. Dr. Persinger began to wonder whether

WENDT (cont.): something connected with earthquakes caused those balls of light that people call UFOs.

PERSINGER: Well, if you take a look at the data, and that's ultimately what it comes down to, the data, not what somebody believes, or how the thing called their basic theories, theories are a dime-a-dozen, it's the data. If you look at the data, you will find a marked relationship between increases in UFO activity, or luminosities, balls of light, and later earthquake activity.

WENDT: Geologists gave Dr. Persinger rare photographs of what's called earthquake lightning. The lights are believed to be electrical energy released by the breaking of rocks containing quartz. So far all we have is a theory. Can it be proved in the laboratory? Dr. Brian Brady is a physicist at the U.S. Bureau of Mines in Denver, Colorado. His research tends to support Dr. Persinger's theory. This is where he tests quartz-bearing rocks in a machine that squeezes them until they break. Brilliant sparkes of light sometimes shoot out from the rock.

Dr. Brian BRADY: Now, under certain conditions, mainly when the lights are out, you can observe this thing. It behaves as a luminous arc, or jet, emanating from the surface of the sample.

WENDT: Take this sample of granite. Steel cylinders will crush it with 150,000 pounds of pressure until it shatters. Just as the rock breaks, a time exposure photo shows that trails of light seem to streak from it's surface like a fireworks display. That's what can happen in the laboratory, so these scientists argue that much bigger balls of light may well come from stresses and strains deep within the Earth.

Deputy Sheriff Val JOHNSON: I was on routine patrol and I was just on here on county road 5. I looked down in that direction and I saw a bright light which appeared to be over the center line of the highway up here...

WENDT: Back to the case of Deputy Sheriff Val Johnson. Mysterious balls of light have often been reported in Minnesota. Val Johnson saw one three years ago.

JOHNSON: Didn't know what in the world it was, and thought I'd better go check it out. We got up here, I got up here by mile marker 68, just like that, bingo, just like that, the light was at the vehicle and inside the vehicle, and I heard the sound of breaking glass, and that's the last I recall. Brakes locked up apparently and there were 99 feet of black skid marks coming to rest sideways in the northbound lane.

WENDT: Val Johnson suffered only minor injuries, but was unconscious for more than half an hour. The strange damage to his car has still not been repaired in the hope that someone, someday, will explain it. Dr. Brady is sure it wasn't a UFO.

BRADY: I would be of the opinion, that, given the conditions that were,

BRADY (cont.): that Val Johnson reported, that what he observed was a luminous display, and not an unidentified flying object.

WENDT: The theory may explain Val Johnson's case, but what of Travis Walton, that forest worker in Arizona? He described what he saw to an artist, and this is the result.

WALTON: I got^{out} and went up close, for a closer look, and deciding that was a little too dangerous to be that close, I raised up to turn and go, when that beam shot out of the bottom of this craft and struck me, and, knocked me unconscious.

WENDT: Travis Walton says the Persinger theory can't explain what happened to him in the pine forest. He did see a strange light. He was hit by some kind of electrical energy. But he says he woke up on board a spacecraft facing alien creatures.

WALTON: Well, they were basically humanoid in form, about five feet tall, and they were, had, well white skin, very pale, white, and with a normal arrangement of features, with except for very, very large eyes, and, no hair on their head.

PERSINGER: To say that he's a liar would be inappropriate. He actually believes that this happened.

WENDT: So if Travis Walton is not a liar, how does Dr. Persinger explain those little white men? He says the answer lies here, in the human brain. Michael Persinger is a neuro-biologist. He studies the human brain. He believes that when the electrical charge struck Travis Walton, it made him hallucinate and affected his memory.

PERSINGER: Now, this is what I think happened in Travis Walton's brain during the period of the discharge from the luminosity. The stimulation occurred here, in the hepo-caple (?) region. This is the most electrically unstable part of the brain, and when it is stimulated, you get experiences of intense meaningfulness, sensations of anxiety, dreamlike experiences, sensations of being lifted, and most of all it interferes with memory. And that is what was influenced the following four to five days. Memory was so modified, because this is the part of the brain that consolidates or stirs memory, that the individual would not know that the memory had ever been modified.

WALTON: Well, it was no, no delusion. It's very real. Everything happened, you know, just, just like you and I talking here.

WENDT: It's nearly seven years since Travis Walton and six other timber workers saw that light on their way home from work in the forest. Perhaps we would all know better what really happened if his mates hadn't panicked and driven off. Travis Walton was missing for five days as people searched the woods for him. So who should we believe, Travis Walton, or Michael Persinger? Perhaps neither. But can Dr. Persinger entirely rule

WENDT (cont.): out the possibility that Travis Walton did meet creatures visiting us from outer space?

PERSINGER: What you are saying is "can you rule out anything?" and my answer is "no you can't". For example, I could argue right now that we are all being urinated upon by invisible, non-physical, pink elephants. And you may not like that. You may say "well they are not there." And my answer is "prove it". "Prove they are not there." And the answer is you cannot prove a negative. It's a word game. And the reason I'm going on about this, is because that particular question is used time-after-time by UFO enthusiasts as a reason to accept far-fetched explanations. In other words they say "well your theory cannot prove that they are absolutely not there, therefore, this far-fetched idea that they are from Planet X is correct". Now this is unscientific, and as well it's illogical (unintelligible) thinking.

WENDT: These days Travis Walton tries to keep his thoughts about UFOs to himself. He told us his interview for Sixty Minutes will probably be the last he does, and UFOs are a forbidden subject at home.

WALTON: We don't discuss it, and my children don't know anything about it, because, that's the sort of thing nightmares are made out of, and we got enough boogeymen in the dark without that.

PERSINGER: People who have got very close to luminous displays, or UFOs, especially the very bright, noisy ones, have been burned severely, they have been knocked unconscious, and that's the danger, that's one of the reasons that concerned scientists like Dr. Brady and myself, say "stay away from it" All right? Now what's happened is because of this myth generated that somehow UFOs are from another planet to help us, and to guide us, people have a tendency to run up to them, working on the assumption that they are somehow positive. That's dangerous. The data indicate time-after-time that these are energetic events, they can produce possible biological damage, perhaps even death at times. So my suggestion is stay away from them.

SIXTY MINUTES - 8 AUGUST 1982 - LETTERS FEATURE

Ray MARTIN: There was also our story about a scientific theory on UFOs - that most sightings appear to coincide with earthquake fault-lines, and those mysterious balls of light could actually be a form of electrical charge from seismic activity.

PERSINGER: Well, if you take a look at the data, and that's ultimately what it comes down to, the data, not what somebody believes, or how the thing called their basic theories, theories are a dime-a-dozen, it's the data. If you look at the data, you will find a marked relationship between increases in UFO activity, or luminosities, balls of light, and later earthquake activity.

WENDT: Geologists gave Dr. Persinger rare photographs of what's called earthquake lightning. The lights are believed to be electrical energy released by the breaking of rocks containing quartz.

MARTIN: That's the theory. But trying to prove it to a believer in spaceships and alien creatures is quite a different matter.

WALTON: We saw an object hovering near the road. A glowing disc about, oh, 25 feet in diameter, and, you know, we could see it very distinctly. I got out and went up close, for a closer look, and deciding that was a little too dangerous to be that close, I raised up to turn and go, when that beam shot out of the bottom of this craft and struck me, and, knocked me unconscious.

PERSINGER: I could argue right now that we are all being urinated upon by invisible, non-physical, pink elephants. And you may not like that. You may say "well they are not there." And my answer is "prove it". "Prove they are not there."

MARTIN: But, from one believer.

LETTER EXTRACT: Why can't people just accept those sightings and encounters? Is it because they're afraid or because they don't like to believe there is any form of life more advanced than they are?

MARTIN: I'm Ray Martin. We'll be back next week with another edition of Sixty Minutes.

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EARTH QUAKE LIGHTS

by R. J. Nation

What are Earth Quake Lights? Despite the numerous observations, made through history, man has yet to understand the mechanism by which they occur!

Early documented reports were often made by untrained observers and most seismologists, justifiably, were reluctant to concentrate their efforts in seeking an explanation, simply due to the lack of hard data.

However, on 26 November 1930 at 4.30 a.m. an earth quake occurred on the Izu Hanto Peninsular, Japan, from which some 1500 reports of E.Q.L's were collated. This mammoth task was undertaken by two Japanese seismologists, Terada and Musya, and was possibly the first real evidence used towards an explanation of the strange phenomena.

There could be no doubt that E.Q.L's, whatever their source, really do exist in the event of some large earth quakes. In the years to follow, further large earth quakes were studied by Musya for their lights, and, although, despite many descriptive reports, now well documented, he could not reach a conclusion explaining the origin of these effects which illuminated the night sky.

Thirty-five years later, a swarm of earth quakes i.e. (many earth quakes all occurring in the same area during a period of a few days) occurred in the Matsushito region of Japan, from which many lights were observed, and fortunately, 'photographed'. At last there was some hard data which could be studied by scientists and also used to dispel any remaining doubts on the existence of E.Q.L's.

The photographic evidence now available was of a good quality and was recorded along with details of time taken, exposure, type of lens, type of film, aperture setting, etc. Since this time there have been further records made of electro-magnetic charges occurring during large earth quakes in China.

In recent years a great deal of study has been carried out on all major earth quake regions of the world towards the hopeful possibility of prediction. Because E.Q.L's were often reported as having been sighted before the actual earth quake, it was thought that this phenomena may be useful as a method of warning. However, it is thought that E.Q.L. only occur when there is a considerable release of energy and this would occur only at the epicentre and at the time of the main fracture. By way of an explanation into the fore-sighting one only needs to consider the relative velocities of waves emitted by light and waves occurring in the earth's crust.

Given that E.Q.L's have been sighted 50-60 km away from the known epicentre, they would be visible at the instant of fracture at the surface. Whilst assuming the crustal shear wave velocity is around 5 km/sec., it would take approximately 10-12 seconds before an observer felt the ground move beneath him, therefore assuming that the lights occurred before the earth quake.

Despite man's rapid advance in the science of seismology during the last two decades he is still only able to theorise on the advent of E.Q.L's. Therefore, this article is presented as a summary of some of the present theories now considered by leading seismologists throughout the world. It is not intended to elaborate on the detail contained in these theories, but the reader can further this interest by noting the list of references.

WHAT DO E.Q.L's LOOK LIKE? A simple description could be that of a bluish coloured sheet lightning, lasting several tens of seconds, glowing in the region of the epicentre, below cloud level, often visible 3 or 4 degrees or 60 km away. Other descriptions vary dramatically, from fire-balls, to bolts of lightning emanating from the ground towards the sky. A comparable description of a search light is often given. The colour also varies from a bluish glare to a red glow, reflected in the lower cloud base.

The photographic evidence taken in 1966 during the Matsushito swarm would substantiate all the above descriptions. Some of the photographs were taken at 3.30 a.m. with a 32 mm lens at F 1.9 for two seconds and gave results which clearly showed all the detail in the foreground, as if taken in poor daylight, indicating a substantial amount of light, for that time of night. Of interest in this case, is that the photographs were taken in mountainous terrain where there are rocks containing quartz.

THEORIES CONSIDERED - 'The piezoelectric effect' - Laboratory experiments have proved that if rock containing quantities of quartz diorite is subjected to extreme pressure a piezoelectric discharge of measurable current is given off. Expanding this to a grand scale such as in an earth quake it was supposed this effect could explain the ignition of escaping gas, or be the lightning type lights discharging into the atmosphere. Further to this, 'if' these electric fields could be measured in some effective way, as the charge was building up prior to an earth quake there possibly lies another means of prediction. More recent studies, however, place some doubt on how such potentials can exist within the earth's highly conductive crust without internally discharging before reaching the atmosphere. The resistivity of rock is quite low, depending on the amount of water and temperature contained at the fracture.

'Low Level Air Oscillations.' - Low level ultra short air oscillations occurring immediately above the epicentre at the time of the earth quake is

possibly another explanation worthy of investigation. It is suggested by Yasui, a Japanese seismologist, that these energetic air vibrations, should the geological conditions be suitable, trigger an atmospheric electrical phenomena.

'Chemiluminescent Gas Reactions' - In the advent of a large earth quake where significant deformation of the earth's upper-crust occurs, one could surmise that there be the release of yet unknown gasses, into the atmosphere, through micro fractures. As these gasses combine with known gasses in the atmosphere there could possibly be a reaction causing the emission of light. An example given is that of ozone and ethylene or ozone and nitrogen monoxide. A point of interest also being that ozone is found in the lower atmosphere immediately following a thunder storm.

'Electromagnetic Emission' - Prediction of earth quakes has already been mentioned in this article and accounts for much of the increased interest in E.Q.L. Associated with prediction are studies of animal behaviour, micro earth quakes, water levels in the ground, and also the monitoring of electromagnetic fields. Work on the electromagnetic effect was recently carried out in Tokyo, using specially designed radio receivers, where unusually high electromagnetic emission was received for a 30 minute period on two separate frequency bands (10-1500HZ) and about (81KHZ), prior to a magnitude '7' earth quake 250 km away. Similar discoveries have been made in China and Russia. Two earth quakes in China in May 1976 also had reports of rain like noise being received on ordinary household receivers whilst at the same time lights were observed. One would observe that these two physical phenomena originated from the same source, i.e. some type of an electrical discharge.

Lockner, Johnstone and Byerlee, three seismologists associated with the U.S. Geological Survey, Menlo Park, have recently put forward a model theory involving a control conductor at the fault zone, created by pressure, high temperature and vapourized pore water of the rock at the hypocentre. Shearing which can occur at the time of fracture is caused by enormous pressure and can generate very high temperatures in a relatively small area around the fault zone. Should the correct conditions occur, the water vapour will change the nature of the rock from one of relatively high conductivity to quite low, forming an insulated barrier, (steam and water vapour, by themselves, being classed as insulators) Further heating at the fracture zone, it is suggested, can produce a narrow central conductor within the insulated boundary set up by the vapourized water in the surrounding rock. This conductor would be capable of attracting an electrical charge at the shear zone and passing it to the surface of the crust at a point source, and possibly discharging into the atmosphere with the appearance of lightning. The calculations presented with this model, make this theory well worth further study as it at least offers a feasible explanation for the means of the normally conductive crust being able to hold a charge separation. Naturally the forces involved at the fracture zone would need to be great to create the heat required, and this possibly would restrict the occurrence of sighting to the larger tectonic earth quakes.

From this abbreviated resume it will be obvious to the reader, that there are many aspects of E.Q.L's that need further study. As with many fields of science in today's world, the tools of investigation have become extremely sophisticated. Seismology is no exception in this case, and yet the study of E.Q.L. is perhaps disadvantaged most by the lack of suitable instrumentation. Records are needed that include magnetic, optical atmospheric pressure, radio transmission and gravity all collated as one set of data for many particular sightings of E.Q.L's.

Apart from the photographic evidence from Japan and a few other radio observations most usable information is via man's interpretation of what he saw, or thought he observed, after the earth quake has occurred. To the scientist, conflicting reports tend to cancel out the real facts. An important point not to be overlooked is man's ability, or the lack of, being able to observe unusual phenomena at times of fear or stress. The author, having been involved with

the collation and interpretation of seismic data for some years in Australia, has had many opportunities to discuss unusual secondary effects of earth quakes with members of the public. Apart from one or two hoaxes, most reports have come from people who are genuine and more than sure of what they have observed. However, detail prompting to questions often reveals that their experiences relate to quite normal events, i.e. thunder, lightning, atmospheric changes etc. possibly to them, occurring at an unexpected time. A recent example of this occurred in August 1982 when most of Adelaide's suburbs were shaken by a large rumbling, supposedly an earth quake! Seismic equipment operating at the time proved that whatever the cause, the rumbling did not originate from the ground. Yet, most people who reported the event to the authorities were convinced that an earth quake had taken place. One person living in the Northern suburbs reported seeing orange coloured lights moving through a closed window.

Note: The earth quake of March 1954 in Adelaide caused some people to ring the weather bureau when they noticed a flash of light in the sky, just before the shock occurred (3.40 a.m.).

Another illusory effect is that of large waves travelling across the ground whilst the earth quake is at its peak. One report from a Physics Laboratory in Pasadena describes the solid concrete floor of the laboratory moving in a wave like motion with crests 100 cm in height and periods between crests of 2 to 3 metres, and yet when the earth quake had passed there was not one small crack to prove any movement had occurred. There can be little doubt that man does see and hear unusual happenings during earth quakes, but his judgement is obviously seriously impaired. It is with this fact in mind that all serious studies of E.Q.L's have been carried out, especially the work executed by Terada, who placed emphasis on trying to relate the lights to known sources.

Conclusions: It is hoped from this generalised account on the subject, the reader will be re-assured that E.Q.L's do exist and have been sighted on too numerous occasions to be ignored or to be classed as illusions. Many reports of large, historic earth quakes which have occurred in populated areas across the world contain a section relating to strange lights visible near the fracture zone. Also photographic evidence mentioned has helped to reinforce the argument for further investigation which is now taking place. The theories reviewed are varied and extremely difficult to prove or disprove completely. Other theories have been omitted in this article for the sake of brevity. Obviously, a complete scientific explanation is some way off, one can only hope from the world wide interest that this phenomena creates, sufficient resources can be made available to further the study now only in its infancy.

REFERENCES:

- D. A. Lockner, M. J. S. Johnston, J. D. Byerlee - Mechanism to explain Generation of E.Q.L. Published Nature - 3 March 1983.
- Zoltan Noszticzius - Possible Explanation for Origin of E.Q.L. Published BSSA October 1979.
- T. S. Derr - Earth Quake Lights Review - Published BSSA December 1973.
- G. A. Eiby - Report on Malborough Earth Quake N.Z. 1848. Richter Elementary Seismology.
- P. Hédervári - Possible Correlation Between Crustal Deformation Prior to Earth Quake and Earth Quake Lights. BSSA February 1981.
- T. Dyster - Historic Earth Quakes of South Australia.

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LETTER to the EDITOR (extract)

Dear Frank,

I do not regard your ACUFOS article "The Trouble with UFO Groups" on pge 5 of Vol.4 No.5 in the ACUFOS Journal as constructive. This article offended a lot of people and was completely unnecessary and totally irrelevant. The ACUFOS Journal is supposed to be a scientific publication.

Vladimir Godic (S.A.)

STUDY OF
OFFICIAL AUSTRALIAN GOVERNMENT INVOLVEMENT IN
THE UFO CONTROVERSY
- A PROGRESS REPORT

By Bill Chalker

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During 1982, I was able to:

- (a) Examine the majority of the extant UFO files held by the Royal Australian Air Force (RAAF).
- (b) Examine the entirety of the extant UFO files held by the Department of Aviation.
- (c) Initiate discussions with a defence scientist privy to the official files and the inner workings of governmental policies and approaches to the UFO subject.
- (d) Initiate enquiries with other Australian agencies and individuals re UFO file holdings.
- (e) Undertake enquiries with overseas government departments re UFO file holdings (in particular, the Ministries of Defence in the U.K. and New Zealand, and the USAF re Project Blue Book, the latter, in relation to Australian cases).
- (f) Undertake discussions with the Department of Aviation/Bureau of Air Safety Investigation on the Valentich affair, and
- (g) publish some of the results of my enquiries.

THE RAAF FILES

The RAAF files held by the Directorate of Air Force Intelligence (DAFI) were examined over four separate visits to the Department of Defence Russell Offices in Canberra during 1982 - namely, January 11-14, May 7, June 4 and October 8.

A total of 56 files were examined. They fell into three categories:

- (1) "Unidentified Flying Objects - Reports of Sightings" - 47 files covering the period 1955 - 1982. Three files covering the period around 1973/74 have yet to be examined.
- (2) "UFOs - Enquiries from Members of the Public and Flying Saucer Organisations" - 7 files covering the period 1966 - 1981, and
- (3) "Investigation of Flying Saucers - Policy" - 2 files covering the period 1953 - 1969. The current "policy" file has not yet been made available.

THE DEPARTMENT OF AVIATION FILES

The DOA files held by the Bureau of Air Safety Investigation were examined on November 19, 1982, during a visit to to their Melbourne office.

Four files were examined and their contents included:

- (1) Previously "secret" papers related to the famous Drury film affair. (I)
- (2) Details about early reports from 1952 - 1968.
- (3) Early RAAF documents and reports (copies) no longer available in the RAAF files, due to the original files, ostensibly, being destroyed during the Department of Air (now Department of Defence (Air Force)) move from Melbourne to Canberra in the early sixties.
- (4) Papers relating to the controversial Bouganville Reef event of 1965, which appear to confirm that the Department of Civil Aviation (DCA) had no knowledge of it, at least at the level of DCA-Director-General in Melbourne. (II)

DISCUSSIONS WITH DEFENCE SCIENTIST

Detailed discussions have been undertaken with a retired scientist who has worked in the Defence Scientific and Technical Intelligence (DSTI) section of the Joint Intelligence Bureau (JIB, now Joint Intelligence Organisation - JIO).

The scientist, in a civilian capacity, had access to the RAAF/DAFI UFO files in 1954 and later, as JIB "liaison" to DAFI, had access to the DAFI files during the late sixties. He was in a unique position to examine the files and observe the policies and approaches of government agencies (DAFI, JIB etc.) to the UFO question.

Further to my discussions with him by phone and letter, I was able to meet him personally during May 1983. I have found his information extremely informative and it has served to compliment and supplement data I have amassed from other sources. A detailed picture of the history of official involvement in the UFO controversy, in Australia, can at last be discerned.

OTHER AUSTRALIAN AGENCIES AND INDIVIDUALS

Upon my request, on July 13, 1982, the Director of Naval Intelligence (DNI) declassified documents relating to the famous radar-visual Sea Fury incident of August 31, 1954. These included written statements by the Sea Fury pilot and the Nowra Naval Air Station radar operator and a previously "confidential" memorandum from DNI to DAFI. (III)

In correspondence with R.H. Mathams, former Director of Scientific Intelligence (JIB/JIO) and author of the book: "Sub Rosa - Memoirs of an Australian Intelligence Analyst", he indicated to me that, "DSTI had only a marginal interest in UFOs; our analytical resources were limited and I had to take the position that we could not afford to become too involved in investigation of UFO sightings until we had reasonable grounds for believing that they were of foreign - as opposed to alien - origin. We relied on DAFI to make the initial investigations and, at times, assisted in the interpretation of the resulting data". Mr Mathams is not the defence scientist mentioned earlier.

Other agencies and individuals have either been contacted, replied, or are in the process of being contacted. I do not, at this stage, propose to possibly jeopardise results, with premature disclosures of current and future lines of enquiries.

OVERSEAS ENQUIRIES

Enquiries with some overseas government departments have borne fruit.

The Ministry of Defence (MOD), Defence Secretariat, Division 8, of the United Kingdom, indicated:

"a. MOD's records on UFOs go back to 1962. Most of the material is reports of

individual sightings by members of the public, passed on to us via ATC centres, police, RAF stations, etc. As an indication of the size of our holdings, we received 2250 sighting reports between 1978 and 1981.

"b. MOD investigates UFO sightings solely to determine whether they indicate anything of defence interest. No attempt is made to find a positive identification for every object seen. We have, therefore, no category of 'unexplained' sightings..."

A reply from New Zealand authorities confirmed that there appears to be little organised effort to investigate UFOs there. No comprehensive records are maintained.

From the National Archives and Records Service, Washington, D.C., U.S.A., where the USAF Project Bluebook files are held, I have received copies of documentation held on some Australian cases. (IV) I also have on order microfilm copies of a comprehensive Bluebook index and all photographic holdings.*

I have also been in contact with a number of overseas civilian researchers who have been assisting me in my enquiries.

THE VALENTICH AFFAIR

On May 26, 1982, the Department of Transport (now Aviation) released to me their Aircraft Accident Investigation Summary Report on the disappearance of VH-DSJ and its pilot, Frederick Valentich. It would appear that this document was made available only to parties having a bonafide interest in the incident. It would appear that, via my correspondence with the Department, they were satisfied that my interest, despite it being from a "ufological" point of view, was never-the-less bonafide. I am aware that the same report has been denied to other parties, whom on the face of it, appeared to have had a bonafide interest. (V)

During my November 19, 1982, visit to the Bureau of Air Safety Investigation, I had the opportunity to discuss the Valentich Affair with Mr A.R. Woodward, A/Director of the Bureau. He referred to the files on the case, he had in front of him, to answer some of my questions, however, access to these files was denied to me, on the basis that all "air accident" investigation files were privileged information. It was evident that they were only treating the affair as an "accident/incident" pertaining to air safety investigation.

More recently, when I questioned him on the alleged discovery of the aircraft, VH-DSJ, off Cape Otway, by divers, Mr Woodward indicated that no action was planned by the Department of Aviation. In the event that VH-DSJ was actually salvaged, the Department would confiscate the aircraft in view of it being the subject of an aircraft accident investigation.

Dr Richard Haines has provided me with an advanced complimentary copy of his "Journal of UFO Studies" paper: "Results of Sound Spectrum Analysis of the Metallic Noises of a Tape-recorded Radio Transmission Between Cessna VH:DSJ and the Flight Service of Melbourne, Australia". (VI)

PUBLICATION OF RESEARCH RESULTS

I have been able to publish part of the results of my research into official Australian government involvement in the UFO controversy:

(1-2) "UFOs and the Royal Australian Air Force - the Inside Story", in the UFO Research Australia Newsletter (UFORAN), Vol.3 Nos.2,3 and 4 (March-April,

**These have now been received and the index is being thoroughly examined to facilitate, eventually, a full record of all Australian cases held within Project Bluebook files.*
- B.C. 11/6/83.

May-June and July-August, 1982) and MUFON UFO Journal No.175 (Sept. 1982) and No.176 (Oct. 1982), the latter in a slightly edited form.

- (3-4) "UFOs: Australia's Secret Documents Revealed", in Omega - Science Digest, Sept.-Oct. 1982, and the APRO Bulletin, Vo.30, No.10 (Oct. 1982) and Vol.30 No.11 (Dec. 1982) as "Australian A.F. UFO Report Files".
- (5) "The RAAF UFO Files", The Journal of the Australian Centre for UFO Studies, Vo.3, No.3 May/June, 1982.
- (6) "The RAAF Files", UFORAN, Vol.3, No.4, July-August, 1982.
- (7) "Valentich Disappearance - the Official Verdict", ACUFOS Bulletin, July 1982.
- (8) "UFOs - the Secret RAAF Files", by Ken Anderson, The Daily Telegraph (Sydney), May 22, 1982.
- (9) "Air Force Files Examined - UFO Sightings 'Still a Mystery'", by Tim Cribb, The (Sydney) Sun, December 8, 1982.

The British Flying Saucer Review (FSR), via Gordon Creighton, have indicated an interest in publishing some of this material. UFO Nyt, the Scandanavian publication, have also been given permission to publish material. The Orbis multiple part publication, "The Unexplained", may also be briefly refering to this research with an article by Jenny Randles in the near future.

I will continue to release the results of my research as time permits.

I have made limited copies of some documents available to those individuals with bonafide interests, e.g. Nebo area events of 1964 and 1965 (VII) and a possible "landing" near Mandurana in 1978 (VIII) to UFO Research (FNQ); 1957 radar visual event in Tasmania (IX) and 1960 USAF aircraft encounter near Cressy (X) to TUF0IC; Groote Eylandt (1964) "EM" event (XI), radar-visual event at Kalamunda (1969) (XII) etc. to UFOR (WA), and various "aircraft/UFO encounters" to Dr Richard Haines, who is specialising in such cases.

In view of the fact that I have signed a DAFI document undertaking to preserve confidentiality, I have to maintain strict control of the RAAF documents released to me. As time permits documents will be released with confidential details (names etc.) deleted.

SPECIAL AREAS OF STUDY

During my reviews and research of official files several particular areas of study have received additional attention. These include:

(1) The case for and against official "cover-ups" of UFO DATA:

More than twenty individual accounts from civilian sources allegedly indicative of "cover-up" activities were and are being examined. I hope to report on my findings shortly.

(2) The Drury film affair:

Most of the original documentation is now secured. Frames from the film are in my possession, however, they are of poor quality. Mr Drury has been contacted and was most helpful with my enquiries. A report on my investigations will be made available when completed.

(3) Reports by military personel:

Reports by service personal have been collected together and a report will be made available when completed.

(4) Reports from aircraft:

Such cases have been isolated and are to be added to an expanded catalogue in conjunction with Keith Basterfield's revision of his existing document on this theme. (XIII)

(5) Official policies to UFOs:

A number of official documents relating to policy have been secured. The evaluation of official policy re UFOs in Australia from 1950 through to 1983 is fairly clear. I will be reporting on this in due course.

(6) Summarising and indexing official file holdings:

Preliminary general indexes are already being worked on which will cover the period 1950 to 1983.

(7) Search for missing files:

While it appears that I have been able to examine the majority of RAAF/DAFI file holdings, a few individual file parts remain to be located and examined. These include:

- (i) Three sighting file parts covering reports during about 1973 and 1974. Major cases known to be in them have already been secured (e.g. UFO over North West Cape (XIV) and a physical trace event near Nebo (XV)).
- (ii) The "current policy" file.
- (iii) The original DAFI files prior to 1955. There is official evidence that these may have been destroyed during the move of Defence from Melbourne to Canberra in the early 1960s. Fortunately, a previously secret report written in 1954, and made available to me, summarises much of the DAFI files of the period 1950-1954. As already mentioned, early DCA UFO files I examined also hold copies of a number of reports and documents from these missing DAFI files of the early 1950s.

Other files are being searched for, however, it is thought that, in some cases, the "missing" files may have been "recovered" as new file series (or the earlier parts of more recent file series). Following the erratic history of official UFO files has sometimes been daunting. I am confident that I have established a fairly thorough understanding of the DAFI UFO files, so much so that the DAFI intelligence liaison officer I have worked with during 1982 was once moved to tell me that I knew the DAFI UFO files better than he did, in fact, better than anyone in the Department of Defence. This can in part be seen as a reflection of the significance DAFI/RAAF may now appear to give to UFO reports.

CONCLUSION

As someone who has taken a special interest in the degree of official involvement in UFO investigation in Australia, for more than a decade now, I have personally been amazed at the extent of the material I have been allowed to become privy to in just on short year - namely 1982.

We have gone from a confused and vague picture of clandestine official involvement to a detailed understanding based on direct officially sanctioned file reviews by a civilian researcher.

In closing I will say that I will be working very hard at making available to each and all the full extent of what I have learnt during this study and the benefit of a much closer relationship with the RAAF.

References and Notes:

- (I) The Drury film affair refers to an incident during 1953 wherein Mr T. Drury, Deputy Director of DCA in Papua, took a movie film of a daylight object which exited a "cloud" at high speed, climbing at about 45 degrees, and disappeared. The film was examined by RAAF and USAF, however, it appears the film itself subsequently "disappeared". The affair has now been one mainstay of the claim made by many civilian researchers that there is an official "cover-up".
- (II) The Bouganville Reef event involved the alleged photographing of a UFO by a pilot of a DC6 aircraft. It has been alleged that evidence about the case, including the film, has been confiscated by DCA officials and subsequently covered up. The classified papers I examined consisted largely of internal communications between the Queensland Regional Director of DCA and the Director General of DCA, which appears to confirm a lack of knowledge about the event, at least at the level of Directors of DCA.
- (III) The Sea Fury incident involved a naval pilot flying over the Goulburn area of New South Wales, encountering two unidentified lights, the presence of which were confirmed by ground radar.
- (IV) In particular the classic Drury affair of 1953 (see (I) above) and the Willow Grove close encounter of 1963, wherein farmer Charles Brew had a very explicit sighting of a UFO on his property. The incident featured animal reactions and apparently related headaches for Mr Brew.
- (V) See ACUFOS Bulletin, July 1982. The "Aircraft Accident Investigation Summary Report" makes no definite conclusion as to cause but indicated "the reason for the disappearance of the aircraft has not been determined".
- (VI) See also, for example, "Valentich - Bass Strait (Australia) Affair", in R.D. Story's, "The Encyclopedia of UFOs", Doubleday, 1980, and New English Library, 1980, and "The Devils Meridian" by Kevin Killey and Gary Lester (Lester-Townsend, 1980).
- (VII) These events refer to an unusual ground mark and an apparently unrelated UFO sighting at the same location.
- (VIII) An extraordinary phenomenon ostensibly had landed in a cane field east of Mandurana, Queensland. It was witnessed by four people for three hours!
- (IX) This event occurred on August 27, 1957, and involved radar tracking of a fast moving object by Met Radar at Hobart, after being alerted via a visual sighting at Launceston ATC.
- (X) On November 15, 1960, a USAF JV57 aircraft operating out of East Sale RAAF base encountered a UFO at a closing rate in excess of 800 knots.
- (XI) In this case a light source approached a ship off Groote Eylandt on January 23, 1964. It came within 6 ft. of the ship, underwater, and was described as "a ghostly white light, in the centre was a shadow which rotated in a clockwise direction causing the light to pulsate". The ship - a barge - was approached by the light at high speed. In total six patches of light were observed, varying in size from a mile across down to quite small. All were the same colour and all pulsed at 12 pulsations for 9 seconds, then irregular, then back to 12 for 9 seconds again. "The compass swung out of control, but became worse as the light approached".
- (XII) ATC radar operator at Kalamunda, 1835 hours on May 23, 1969, received a strong, stationary "paint", 300 degrees, 9N miles from the airport. He had first observed the return whilst talking on the phone to a woman reporting an object "like a big streetlight" over Cloverdale at that time. The "paint" was of 36 seconds duration on the screen. An aircraft was about 4N miles SE of the UFO, but no visual sighting was made. The woman reported the object had departed to the north at tremendous speed and had disappeared from sight.
- (XIII) "A Report on Observations of UFOs from Aircraft Crew Members in Australia".

'BRINGING UFOs DOWN TO EARTH'

Paul Devereux, Paul McCartney and Don Robins.

Comments by Frank Gillespie.

In the New Scientist of 1st September, 1983, the three authors listed above state:

'From their recent work, Randles and Warrington have come to realise, as have a few others including the present writers, that UFOs are not spaceships from other worlds but are propagated by processes occurring (sic) on this one. This realisation leads inevitably to a theory that - after hoax, misperception, and pscho-sociological factors have been allowed for - there is a real core of unexplained atmospheric phenomena which are at the root of UFO reports, and that such phenomena are produced by geological processes - that UFOs are, in fact, "earth lights".'

This is a sweeping claim, reminiscent of statements made by the protagonists of other UFO theories, such as 'imagery', 'plasma balls', and the 'Federal hypothesis'. The question to be answered is, 'Have these writers come up with evidence to justify their claim?'

From the vast number of UFO events which have occurred in Britain, the authors select only those low altitude nocturnal lights which were observed in areas noted for the frequency of such observations. The selection of such a small and unrepresentative sample can be justified under certain conditions, but not when the results are to be extrapolated to cover 'all UFOs'. There is little doubt that the correlation they have found between fault lines and low altitude nocturnal lights is quite real; but the reality of that correlation is the sum total of all that they have demonstrated. There is no basis, for instance, for their assumption that a UFO (earth light) formed at ground level, will the fly 'high and wide'.

It is especially interesting to study the details of the particular theory espoused by the authors. They propose that weak and transient light produced by friction (triboluminescence) in the rocks of passive earth faults, is transferred to the atmosphere as a bright, long-lasting ball, which then becomes free to move about. They actually discard an alternative theory, wherein electric charges build up in stressed rocks (piezoelectricity) to the point where there is a discharge through the atmosphere, which forms a plasma and produces light. I do not believe that the science establishment will be overimpressed by such illogical thinking.

There is a possibility that the authors have actually pinpointed some good locations for the installation of UFO detectors of the magnetic disturbance type. Any electrical effect in the rock, whether 'piezo-', 'tribo-', or something altogether different, should be accompanied by detectable magnetic effects. In fact, any mechanism for producing atmospheric lights is highly likely to have electrical and magnetic components. Looking for magnetic disturbances would therefore be a sensible first step in applying science to this one small branch of ufology.

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LETTER to the EDITOR (extract)

Dear Frank,

Concerning your article 'The Trouble with UFO Groups *!', we were in a situation like that with the President of a society we belonged to. We finally managed to lobby enough to get a new President elected, which saved the Society, but we were very unpopular and were eventually driven out, so there don't seem to be any easy answers.

Paul and Cassandra Sowiak-Rudej (Casino, N.S.W.)

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LETTER to the EDITOR

Dear Frank,

I was very interested in your article, "The Trouble With UFO Groups",⁺ and whilst I am certainly no psychologist and the subject most intriguing, I have no solution to the problem. I am afraid it is one that will continue to arise with almost cyclic regularity in most clubs, organisations, etc. I agree wholeheartedly with your remarks on the disregard of standards of behaviour by the type of person described. They quite purely and simply cease to have any conscience or regard for normal morals and ethics, and if given a position, no matter how small, of power soon begin to take advantage of this for their own personal gratification and sometimes monetary gain.

They invariably are of quite an engaging nature and have quite 'taking' ways; in more ways than one! Not only 'taking' in the more pleasant, and gullible association, but taking advantage of the knowledge and information that has taken the more dedicated and ethical sometimes many years to accumulate.

Whilst it probably doesn't help to overcome the problem, and we certainly can't hope, or even try to alter the character and behaviour of these people, I have found that in many cases the person in question has never been taught the higher principles of life, or, if this was attempted by parents, teachers etc., greed and personal ego satisfaction leads them to ignoring such lessons.

History is full of such people, from little to big Dictators, and while they certainly cause enormous strife and tragedies in their headlong search for power, and the decent, and perhaps meeker, always endure much suffering, the Dictator himself inevitably reaches or comes to a 'dirty end'. I know this is no solution to the problem, and from personal experience have found that "sticking up" for one's principles, and facing up to these 'Nasties' takes not only courage and causes much personal heartache, and perhaps gives others the wrong impression of oneself, but at least you have remained true to your own personal principles, even though they may be too high for others to understand or accept.

The only advice I can give if this situation arises is to have the courage to face these people; as to know oneself is the hardest task in the Universe. In the case of UFO groups, there are so many people who read a few books, memorise a few passages that impress them so much that they immediately become "experts", and from then on are so inspired by the romantic and imaginative aspect that they actually believe themselves to be chosen by 'Them' up there for special missions; such as interviewing members of the public who have reported sightings, and instead of concentrating on factual evidence, manage to convince the sightee by their plausibility that they, the sightee, have actually had an 'experience' instead of perhaps merely seeing a light in the sky! This kind of person manages to gather a select few of his contemporaries and influence them to such a degree that they certainly become not only a nuisance to genuine ufologists, but disruptive to the entire organisation. The old saying that "to ignore them and perhaps (hopefully) they will go away" certainly applies here; as even though it is hard to ignore them and the trouble they cause, it is a fact that they will be their own undoing and will in time "go away", unfortunately to be replaced by more of the same kind. It is really a vicious circle, which from my own observations takes place every five or six years.

The recent years of insidious bombardment by the media has certainly made the public more 'Space' oriented, helped of course by such achievements as the Space Shuttle. So we find that UFO groups are no longer being scoffed at or ridiculed as they were in the past, and people are more prepared to accept the possibility of extra-terrestrial life, and to report sightings and experiences. Also to attend UFO group meetings, where in the past such a thing would never occur to them, so we will continue to receive every type of person in the human spectrum with all their faults and assets.

Even though I am sure that any trouble and strife is caused by we humans ourselves, perhaps if as some believe, we are being tested by those in their 'Magnificent Flying Machines' up there, couldn't we all call out 'Barlees' as we did as children when playing our games?!

Joan Johnston (Cloverdale W.A.)

Compiler's Note: Ball lightning and UFOs have a lot in common. Apart from the fact that each have immense data bases, both have been poo-hooed by the experts; each have been probably been mistaken for the other; on occasion, both may have been one and the same thing (ie: foo-fighters perhaps). In either case, nobody knows for sure the ultimate cause(s) or origin(s).

A ufologist cannot afford not to have some understanding of the theories and case histories behind the ball lightning (or Kugelblitz) phenomena given various associated UFO connections (ie: P.J. Klass plasma theory). This bibliography, small though it is relative to the literature available, will be of assistance to those unknowledgeable about this mysterious meteorological and electrical phenomena; this subfacet of ufology (or should that be the other way 'round?).

A lot of these references have been compiled from a variety of second-hand sources, resulting in a degree of lack of uniformity (ie: sometimes month, sometimes volume number; sometimes all the inclusive pages, sometimes just the first!). Hundreds of references could be given to pre-1900 sources, but they haven't for lack of currentness and space. Interested readers are guided in particular to the master bibliographies compiled by J.D. Barry for those (and other) non-listed references, including hundreds in non-English languages.

Ball Lightning - Bibliographies

- 1) Barry, J.D. - "Bibliography of ball lightning reports" - Journal of Atmospheric & Terrestrial Physics, v.32, 1974 - p.1577.
- 2) Barry, J.D. - Comprehensive Bibliography of Ball Lightning Reports - United States. Air Force. Avionics Lab (Technical report AFAL-TR-73-348), Wright-Patterson AFB, Ohio - Jan. 1974.
- 3) United States. Library of Congress. Science & Technology Division - Ball Lightning Bibliography, 1950-1960 - Library of Congress, Washington, D.C. - 1961.

(see also no. 1 under "Monographs" immediately following)

Ball Lightning - Monographs

- 1) Barry, J.D. - Ball Lightning and Bead Lightning: Extreme Forms of Atmospheric Electricity - Plenum, N.Y. - 1980. (Note: bibliography - p.203-291.)
- 2) Cade, C.M. & Davis, D. - Taming of the Thunderbolts: The Science and Superstition of Ball Lightning - Abelard-Schuman, London - 1969. (Note: Ch.8 - "Fireballs and flying saucers".)
- 3) Dewan, E.M. - Attempted Explanations of Ball Lightning - United States. Air Force. Cambridge Research Laboratories (Physical sciences research paper no.67), Hanscom Field, Mass. - Nov. 1964.
- 4) Dewan, E.M. - Eyewitness Accounts of Kugelblitz - United States. Air Force. Cambridge Research Laboratories, Hanscom Field, Mass. - March 1964.
- 5) Evenson, K.M. - Ball Lightning Research at Highland Lookout, Montana - Douglas Aircraft Co., Santa Monica, Calif. - Jan. 1968.
- 6) Klass, P.J. - UFOs - Identified - Random House, N.Y. - 1968.
- 7) Rayle, W.D. - Ball Lightning Characteristics - NASA (TND-3188), Washington, D.C. - 1966.
- 8) Ritchie, D.J. - Ball Lightning - Plenum, N.Y. - 1961.
- 9) Ritchie, D.J. (Editor) - Ball Lightning: A Collection of Soviet Research in English Translation - Consultants Bureau, N.Y. - 1961.

BIBLIOGRAPHY (cont)Ball Lightning - Monographs (cont)

- 10) Singer, S. - Nature of Ball Lightning - Plenum, N.Y. - 1971.

Ball Lightning - Book Extracts

- 1) Altschuler, M.D. - "Atmospheric electricity and plasma interpretations of UFOs" (in) - Gillmor, D.S. (Editor) - Scientific Study of Unidentified Flying Objects - Bantam, N.Y. - 1969 - p.723-755.
- 2) Campbell, S. - "Ball lightning" (in) - Story, R.D. (Editor) - Encyclopedia of UFOs - Doubleday, N.Y. - 1980 - p.38-40.
- 3) Constance, A. - "Fiery phantasmagoria" (in) - Inexplicable Sky - Citadel, N.Y. - 1956 - p.113-135.
- 4) Corliss, W.R. (Compiler) - Handbook of Unusual Natural Phenomena - Sourcebook Project, Glen Arm, Maryland - 1977.
- 5) Corliss, W.R. (Compiler) - Lightning, Auroras, Nocturnal Lights, and Related Luminous Phenomena - Sourcebook Project, Glen Arm, Maryland - 1982.
- 6) Corliss, W.R. (Compiler) - Strange Phenomena: A Sourcebook of Unusual Natural Phenomena - 2 volumes - Sourcebook Project, Glen Arm, Maryland - v.1, 1974; v.2, 1974.
- 7) Coroniti, S.C. (Editor) - Problems of Atmospheric and Space Electricity - Elsevier, Amsterdam - 1965.
- 8) Gaddis, V.H. - "Lightning legerdemain" (in) - Mysterious Fires & Lights - Dell, N.Y. - 1968 - p.44-57.
- 9) Hitching, F. - "Balls of fire" (in) - World Atlas of Mysteries - Pan, London - 1979 - p.24-26.
- 10) Lane, F.W. - "(Ball) Lightning" (in) - Elements Rage - Chilton, Philadelphia - 1965 - p.134-141.
- 11) Menzel, D.H. & Boyd, L.G. - "Phenomenon of ball lightning" (in) - World of Flying Saucers - Doubleday, N.Y. - 1963 - p.176-180.
- 12) Story, R.D. - "Plasma theory" (in) - UFOs and the Limits of Science - William Morrow, N.Y. - 1981 - p.217-223.
- 13) United States. Department of Commerce. Weather Bureau - "Report information on 'ball lightning'" (in) - Steiger, B. (Editor) - Project Blue Book - Ballantine, N.Y. - 1976 - p.239-250.
- 14) Welfare, S. & Fairley, J. - "Ball lightning" (in) - Arthur C. Clarke's Mysterious World - Collins, London - 1980 - p.206-210.

Ball Lightning - Journal Articles

- 1) Alexander, W.H. - "Possible case of ball lightning" - Monthly Weather Review, v.35, 1907.
- 2) Altschuler, M.D. et.al. - "Is ball lightning a nuclear phenomenon?" - Nature, v.228, 1970 - p.545-547.
- 3) Andersen, W.H. - "Energy source for ball lightning" - Journal of Geophysical Research, v.70, 1965 - p.1291. (Discussion: v.71, 1966 - p.676+.)
- 4) Anderson, F.J. & Freier, G.D. - "Report on ball lightning" - Journal of Geophysical Research, v.77, 1972 - p.3928-3930.
- 5) Arabadji, W.I. - "On the problem of ball lightning" - Journal of Geophysical Research, v.81, 1976 - p.6455. (Discussion: v.82, 1977 - p.3498+.)
- 6) Argyle, E. - "Ball lightning as an optical illusion" - Nature, v.230, 1971 - p.179-180.

BIBLIOGRAPHY (cont)Ball Lightning - Journal Articles (cont)

- 7) Ashby, D.E.T.F. & Whitehead, C. - "Is ball lightning caused by antimatter meteorites?" - Nature, v.230, 1971 - p.180-182.
- 8) Aspden, H. - "Ball lightning enigma" - New Scientist, v.57, 1973 - p.42.
- 9) Atkinson, B.W. - "Riddle of ball lightning" - Geographical Magazine, v.41, 1968 - p.204.
- 10) Bailey, B.H. - "Ball lightning" - Weatherwise, June 1977 - p.99-105.
- 11) "Ball lightning" - Monthly Weather Review, Nov. 1905 - p.409.
- 12) "Ball lightning" - Popular Science, v.192, no.6, 1968 - p.14.
- 13) "Ball lightning" - Science News, 8 April 1967 - p.324.
- 14) "Ball lightning at Alpena, Michigan" - Nature, v.126, 1930 - p.153.
- 15) "Ball lightning at Salina, Kansas" - Monthly Weather Review, Oct. 1919 - p.728.
- 16) "Ball lightning controversy" - Chemistry, June 1971 - p.22-23.
- 17) "Ball lightning due to leak in stroke at joint" - Science News Letter, 20 June 1964 - p.392.
- 18) "Ball lightning in Canada" - Journal of Meteorology, v.3, no.31, 1978 - p.212.
- 19) "Ball lightning is real!" - Science Digest, July 1952 - p.80.
- 20) Balyberdin, V.V. - "Internal energy of ball lightning" - Foreign Science Bulletin, v.2, no.4, 1966 - p.48.
- 21) Balyberdin, V.V. - "Still another ball lightning hypothesis" - Foreign Science Bulletin, v.3, no.5, 1967 - p.103.
- 22) Barry, J.D. - "Ball lightning" - Journal of Atmospheric & Terrestrial Physics, v.29, 1967 - p.1095.
- 23) Barry, J.D. - "Fireball, ball lightning and St.Elmo's fire" - Weather, v.23, 1968 - p.180.
- 24) Barry, J.D. - "Frequency of ball lightning reports" - Journal of Geophysical Research, v.84, 1979 - p.308.
- 25) Barry, J.D. - "Laboratory ball lightning" - Journal of Atmospheric & Terrestrial Physics, v.30, 1968 - p.313.
- 26) Blair, A.J.F. - "Magnetic fields, ball lightning and campanology" - Nature, 29 June 1973 - p.512-513.
- 27) Botley, C.M. - "Ball lightning" - Journal of Meteorology, v.3, no.31, 1978 - p.215.
- 28) Botley, C.M. - "Tornadoes and ball lightning" - Journal of Meteorology, v.2, no.21, 1977 - p.271.
- 29) Bromley, K.A. - "Ball lightning" - Nature, v.226, 1970 - p.253.
- 30) Brovotto, P. et.al. - "On the nature of ball lightning" - Journal of Atmospheric & Terrestrial Physics, v.38, 1976 - p.921-934.
- 31) Bruce, C.E.R. - "Ball lightning" - Journal of the Institution of Electrical Engineers, v.9, 1963 - p.357.
- 32) Bruce, C.E.R. - "Ball lightning" - Nature, v.202, 1964 - p.996-997.
- 33) Burbidge, P.W. & Robertson, D.J. - "Lightning-associated phenomenon and related geomagnetic measurements" - Nature, 16 Dec. 1982 - p.623-624. (Discussion: 16 June 1983 - p.568.)

(cont. next issue...)

BIBLIOGRAPHY UPDATESSagan, Carl - About

- 1) Barry, D. - "Umpire strikes back" - Bulletin (Aust'n), 2 Aug. 1983 - p.36.

Cosmic Chemistry

- 1) Goldanskii, V.I. - "Interstellar grains as possible cold seeds of life" - Nature, 13 Oct. 1977 - p.583-584.
- 2) Goldanskii, V.I. - "Mechanism for formaldehyde polymer formation in interstellar space" - Nature, 18 Aug. 1977 - p.612-613.
- 3) Hoyle, F. & Wickramasinghe, N.C. - "Polysaccharides and infrared spectra of galactic sources" - Nature, 18 Aug. 1977 - p.610-612.
- 4) Sakata, A. et.al. - "Does a 2,200 Å hump observed in an artificial carbonaceous composite account for UV interstellar extinction?" - Nature, 10 Feb. 1983 - p.493-494.

Exobiology - Book Review

- 1) Davies, P. - "'Plurality of Worlds' by S.J. Dick: review" - New Scientist, 7 Oct. 1982 - p.37-38.

Exobiology - Journal Articles

- 1) Davis, J.K. - "Is anyone out there?" - New Voyager, Summer (June) 1983 - p.58-61.
- 2) Gould, S.J. - "Wisdom of Casey Stengel" - Discover, March 1983 - p.62-65.
- 3) Lago, D. - "Living universe" - AstroSearch, May/June 1983 - p.4, 11.
- 4) Sagan, C. - "We are nothing special" - Discover, March 1983 - p.30-31, 34, 36.
- 5) Tipler, F.J. - "We are alone" - Discover, March 1983 - p.56-57, 60-61.

Exobiology - Life in Extreme/Exotic Environments - Monographs

- 1) Heinrich, M.R. (Editor) - Extreme Environments: Mechanisms of Microbial Adaptation - Academic Press, N.Y. - 1976.
- 2) Ponnampertuma, C. & Margulis, L. (Editors) - Limits of Life - D. Reidel, Dordrecht, Holland - 1980.
- 3) Shilo, M. (Editor) - Strategies of Microbial Life in Extreme Environments - Verlag Chemie, Weinheim, N.Y. - 1979.

Exobiology - Life in Extreme/Exotic Environments - Journal Article

- 1) Simon, C. - "Life under pressure: vent microbes grow at 250°C or more" - Science News, 11 June 1983 - p.372.

Life in the Solar System - General

- 1) Butow, S. - "Search for life in the solar system" - AstroSearch, May/June 1983 - p.6-7.

Life in the Solar System - The Jovian Planets & Satellites

- 1) Eshleman, V.R. et.al. - "Is Titan wet or dry?" - Science, 1 July 1983 - p.53-55.
- 2) Flasar, F.M. - "Oceans on Titan?" - Science, 1 July 1983 - p.55-57.
- 3) "Jupiter's moon Europa could support life" - Earth Science, v.35, Winter 1982/1983 - p.24-26.
- 4) "Life in Europa's oceans" - Astronomy, April 1983 - p.60.
- 5) Moore, P. - "Stars: Titan's sea" - Omni, July 1983 - p.28.

BIBLIOGRAPHY UPDATES (cont)Extra-Solar Planetary Systems

- 1) "Another world? Hints of a new solar system" - Time (Aust'n ed), 22 Aug. 1983 - p.71.
- 2) Begley, S. & Carey, J. - "New worlds in the making" - Newsweek (Aust'n ed), 22 Aug. 1983 - p.36.

Human/Dolphin Communication

- 1) Miller, J.A. - "Dolphin voices: hard-nosed analysis" - Science News, 23 April 1983 - p.271.
- 2) Travers, C. (Narrator) - "Communication between man and dolphin" - Towards 2000 (ABC TV program), 20 July 1983.

Non-Radio SETI - Space Probes & Artifacts

- 1) Freitas, R.A. - "Debunking the myths of interstellar probes" - AstroSearch, July/Aug. 1983 - p.8-9.

Messages From Earth - Pioneer Plaques

- 1) Coren, A. - "Somebody up there like me" - Punch, 22 June 1983 p.9-10.
- 2) Parlour, R. - "Prepare to meet alien visitors" - New Scientist, 30 June 1983 - p.965. (Discussion: 14 July 1983 - p.140.)

Cosmic Truths & Consequences

- 1) Clapp, R. - "Extraterrestrial intelligence and Christian wonder" - Christianity Today, 8 April 1983 - p.10.
- 2) Leslie, J. - "Anthropic principle, world ensemble, design" - American Philosophical Quarterly, April 1982 - p.141-151. (Corrigenda: Oct. 1982 - p.380.)

Colonization of Space

- 1) Sobel, D. - "Birth of a station" - Omni, July 1983 - p.72-77.

Astro-Archaeology - Monograph

- 1) Krupp, E.C. - Echoes of the Ancient Skies: The Astronomy of Lost Civilizations - Harper & Row, N.Y. - 1983.

UFOs - Monograph

- 1) Klass, P.J. - UFOs: The Public Deceived - Prometheus, Buffalo, N.Y. - 1983.

UFOs - Official Documents

- 1) Australia. Parliament. House of Representatives - "Unidentified flying objects" (Question no. 1367) - Hansard (House), 24 Nov. 1965 - p.3163.
- 2) Australia. Parliament. Senate - "Unidentified flying objects" - Hansard (Senate), 18 Oct. 1960 - p.1110.

UFOs - Journal Articles

- 1) Burstein, D. - "UFO update:(Chinese ufology)" - Omni, June 1983 - p.107.
- 2) Mishara, E. - "Ike and the aliens" - Omni, July 1983 - p.101.
- 3) Stehling, K. - "UFO update:(mysterious ocean phenomena: the UFO connection)" - Omni, July 1983 - p.99.

UFOs - Fiction & Novelty Items (courtesy of Bill Chalker)

- 1) Goth, L.A. - Red-12 (fiction) - Corgi, London - 1982.
- 2) Kneale, N. - Quatermass and the Pit (fiction) - Arrow, London - 1979.

BIBLIOGRAPHY UPDATES (cont)UFOs - Fiction & Novelty Items (cont)

- 3) Simak, C.D. - Visitors (fiction) - Del Rey/Ballantine, N.Y. - 1980.
- 4) Stow, R. - Visitants: A Novel (fiction) - Taplinger, N.Y. - 1981.
- 5) Tevis, W. - Man Who Fell to Earth (fiction) - Bantam, N.Y. - 1981.
- 6) Thompson, D. - Next Encounter (fiction) - Fawcett, N.Y. - 1982.
- 7) Williamson, J.N. - Banished (fiction) - Playboy, N.Y. - 1981.

Monsters - Monographs

- 1) Cohen, D. - Encyclopedia of Monsters - Dodd, Mead & Co., N.Y. - 1983.
- 2) Grumley, M. - There Are Giants in the Earth - Doubleday, N.Y. - 1974.
- 3) Guenette, R. & Guenette, F. - Bigfoot: Mysterious Monsters - Sun Classics, Los Angeles, Calif. - 1975.
- 4) Izzard, R. - Abominable Snowman - Doubleday, N.Y. - 1955.
- 5) Shackley, M. - Wildmen: Yeti, Sasquatch and the Neanderthal Enigma - Thames & Hudson, London - 1983. (v.t. - Still Living!)
- 6) Tchernine, O. - Snowman and Company - Robert Hale, London - 1961.

Monsters - Journal Article

- 1) Mishara, E. - "Apemen of China" - Omni, June 1983 - p.108.

Artificial Intelligence - Monograph

- 1) Feigenbaum, E.A. & McCorduck, P. - Fifth Generation - Addison Wesley, Reading, Mass. - 1983.

Artificial Intelligence - Journal Articles

- 1) Freitas, R.A. - "Roboclone" - Omni, July 1983 - p.44-47, 117-118.
- 2) Robertson, M. - "Computers that learn from their mistakes" - New Scientist, 6 Nov. 1975 - p.336-337.
- 3) "Robots with feelings?" - Science & Mechanics, May/June 1983 - p.62.

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Added bibliographic note: corrections to ACUFOS bibliography document

As certain as death and taxes, and predicted in my introduction to volume one of my ACUFOS Bibliography Series (D-16), typographical errors have reared their ugly head. From time to time, to assist those who own this document, I will use these pages to alter these typos, and to add other necessary alterations not known at the time.

no. 1664 - p.43 - add to Discussion, July/Sept. 1981 - p.527-530.

no. 2999 - p.76 - change 1963 to 1953.

no. 3538 - p.88 - date is 11 Aug. 1977.

no. 3550 - p.89 - date is 16 June 1977.

no. 3554 - p.89 - date is 20 July 1978.

no. 3555 - p.89 - change v.174 to v.274; date is 27 July 1978.

Name Index - p.95 - change Cowan, R. to Cowan, C.