

RECENT REPORTS OF SIGHTINGS OVER POLAND

(From the *Chichester & West Sussex News*, June 30, 1987).

(Credit and thanks to Reader M. Rowson of Chichester.)

Polish Pilots see UFOs

Members of Poland's armed forces have sighted several unidentified flying objects in recent days, the official PAP News Agency said today.

An Army newspaper reported that an Air Force pilot flying his plane near the south-eastern city of Mielec spotted what appeared to be a mysterious aircraft which he could not identify.

"I saw the aircraft passing some 60 yards below me and with a plume of bright flames trailing behind, but I was surprised that I didn't hear the roar of a jet engine", the pilot was quoted as saying. "The aircraft

gave off no sound whatsoever".

Similar sightings have been reported in other parts of Poland, including Warsaw, where a group of Air Force pilots saw an object gliding silently past at an altitude of about 600 yards and trailing two jets of bright orange flame.

The hard-line, and generally down-to-earth Army daily newspaper commented: "It is difficult to suspect that a whole group of people could have suffered a hallucination".

The Polish State Television recently showed film clips of alleged UFOs which appeared to be white specks gliding through the sky.

MAINSTREAM SCIENCE AND THE STRANGENESS OF THE UNIVERSE

Copyright © 1986 Dr James A. Harder, PhD., FSR Consultant

A distinguished member of the large team of American PhDs and MDs whose names appear on FSR's List of Consultants, Dr James A. Harder, who is the Professor of Civil Engineering in the University of California at Berkeley, was for many years an active member of Mrs Coral Lorenzen's fine APRO (Aerial Phenomena Research Organization), of Tucson, Arizona, the world's oldest UFO investigation group, and he has played a prominent role in American Ufology, giving testimony before the Condon Committee and Congressional Committees on UFOs, and also (remarkable for an engineer!) specializing in the study of psychic phenomena and in the use of hypnotic time-regression of UFO percipients, etc.

His last articles in our journal were "A Smoking Gun at the National Security Agency (NSA)" and "The Ins And Outs of UFOs And Secrecy Since 1940" (both in FSR 29/6, published in 1984).

Readers will find the following article on the "Strangeness of the Universe" particularly valuable if read in conjunction with all the other reports recently given by our other Consultant, Paul Whitehead, on the same theme. —

EDITOR

A Cautionary Introduction

BEFORE discussing the strange aspects of conventional and unconventional science, a few words about the nature of perceptions, when humans are faced with unfamiliar data, are in order. Faced with the crisis of a poison reaction or a close escape from a tiger, human learning reactions are predictably appropriate. Most of our perceptions, including those of scientific data, are different, in so far as they have little apparent impact on survival and may even be neutral. If 99% of the time leaves are green, and once in a while one is purple, it is easy to overlook this fact if one is a cave-man intent on the development of a useful "average picture" of the environment. Rare and unimportant facts would only clog the mind of an animal intent on eating and not being eaten.

However, scientists, when working in their own field, are sensitive to unusual data; it may mean the discovery of new facts, maybe a new paper, and perhaps more pay. Thus physicists might be expected to be sensitive to the small anomalies indicative of non-conservation of parity, astronomers are on the lookout for unusual red-shifts in galactic spectra, and botanists are sure to see a species new to them when exploring a new environment. Otherwise, rare data are only a nuisance to minds already full of things that have to be done by Friday.

Data about UFOs and psychic matters, in addition to being orphans without a proper scientific home, are rare; and when really unusual items do turn up, they are the object of tabloid sensationalism. This tarnishes their image in the eyes of those who are governed, however unconsciously, by the guilt-by-association doctrine. UFO and psychic phenomena investigators are almost by definition able to pay attention to the unusual, but even there one sees a common picture: the rare item that is in someone else's field is easily overlooked or perhaps disdained. Another aspect is illustrated by my own conversation with a psychic researcher, who confided that he was indeed interested in UFO matters, but would never make that interest public for fear of reducing his credibility in his chosen field. I then confessed that I seldom mention an interest in matters psychic for fear of further reducing my effectiveness in UFO research, where my friends tell me I am already two steps ahead of credibility!

Thus even the open-minded attitudes of this readership may be strained by the strangeness elements discussed below. But may I remind all of us that wherever we find the unexpected we also find the greatest opportunity for finding new science.

The Strangeness of Conventional Science

Scientific discoveries have accelerated at such a

pace during the past decade that it seems unlikely that the scientific specialists involved in them can be but vaguely aware of all of their ramifications. A review of these developments will, I believe, show that the universe is getting more and more strange — and that this very strangeness should encourage us in trying to understand other matters that have long remained outside the purview of conventional study. And while many of the subjects of interest to esoteric research workers may seem strange indeed to advocates of more conventional scientific thinking, it now appears that we may all be confronting similar kinds of problems.

Within the past year or two, three startling discoveries have converged to confront us with matters surely difficult to understand, and which suggest connections with some of the unconventional matters on the borderlines of science. One of these three has been reviewed by M. Mitchell Waldrop.¹ From particle physics there has come a new formulation: *string theory, which theory postulates that the elementary particles are not points, but tiny strings that are closed upon themselves*. String theory has been around for a long time — since about 1970 — but in the summer of 1984 Michael B. Green and John Schwarz² removed some of the final barriers to its acceptance by formulating a theory free from infinities and anomalies — quantum effects that violate conservation of energy, momentum or charge. However, the delicate cancellation of anomalies requires that the quantum numbers of the string correspond to the very large symmetry group $E_8 \times E_8$ — a group that contains all the serious contenders for a grand unification theory. This gives room for a theory free of infinities and anomalies, that specifies a natural group of grand symmetry, a unification of the strong, weak and electromagnetic forces with quantum gravity, but it still had some difficulties. Then David J. Gross and his colleagues³ produced a theory in which all the properties of the elementary particles are explained as vibrations moving around the string at the velocity of light. This is indeed a miracle theory, but it has a cost — *the vibrations of the strings, which carry the properties of fermions and bosons — are in at least ten dimensions. Six of these must "compactify" — roll up and disappear (or at least become inconspicuous) — for there to be the four dimensions we know*.

However, even this compactification has a natural consequence, for when the ten dimensions are compacted to four, the $E_8 \times E_8$ group breaks to $E_6 \times E_8$ and produces four families of elementary fermions⁴; empirically the elementary quarks and leptons do fall into at least three families each of which has the same distribution of quantum numbers. But if E_6 describes our world, what is described by the remaining E_8 ? Speculation is that this may be the basis for a "hidden" world composed of its own fermions and bosons, governed by its own strong, weak and electromagnetic forces, all undetectable by us except through gravitational forces. Or perhaps the other E_8 is broken into an E_6 by rolling up a different set of dimensions, producing four families of fermions that may be like nothing we can readily imagine, in a four-dimensional world we have yet to discover.

A somewhat popularized description of superstring theory is contained in an article "*The Gospel of String*" by Robert P. Crease, in the *Atlantic Monthly*, v. 257, n. 4 (April, 1986).

Enter a second discovery — this time from topology — so remarkable that mathematicians have a hard time believing it. In 1982 Michael Freedman⁵ and Simon Donaldson⁶ established the groundwork

for an existence proof that there is more than one four-dimensional Euclidian time-space manifold. From the point of view of our "own" space, such spaces are not "differentiable" or smooth, as ours seems to be to us, but admit of discontinuities in their dimensions. Likewise, we would seem strange and discontinuous to anyone in another space. This implication is described by H. Blain Lawson and by Dan Freed and Karen Uhlenbeck.⁷ It now appears that there are an unlimited number of such 4-manifolds. As one mathematical physicist put it, "*It could have no physical meaning, or it could mean that there are universes that we can't talk to.*"

A third part of the strangeness is contributed by astronomy. Gradually astronomers are coming to realize that there are gravitational forces holding clusters of galaxies together against centrifugal forces that cannot be accounted for by either luminous matter or dark matter (gases and dust). Since the amount of discovered matter is only on the order of one tenth (with estimates going down to 1/300th) of that required for the galactic motions, and there seems to be no measurement error that can reasonably account for the hidden matter, the puzzle remains. Additionally, astronomers like to think of our universe as "closed", in the sense that after the expansion, following the "big bang", the various parts coast to a stop and then contract again to start another big bang. Again there just is not enough observable matter (by a very large factor) to provide the gravity to overcome the outward momentum. As a further difficulty, the formulation of inertial forces as an aspect of distant gravitational forces acting on accelerating masses requires additional mass in the universe by about the same large factors.

In addition to all of this, there are compelling reasons, from calculations made of the early history of galaxy formation, to believe that a large amount of "cold dark matter" was essential for the collection of normal galactic matter in the sizes observed [reference⁸ and as reviewed in.⁹] If there is "hidden matter" associated with the second E_8 group required by string theory, perhaps in association with another organization of space-time suggested by the topological findings described earlier, it may provide the explanation. Note that from string theory, gravitation has a special status — it is accounted for by the circular strings, and not by the vibrations within them; thus gravity is an integral part of any organization of the strings and is independent of how the dimensions are compactified. Thus the hidden cold dark matter can still have interacted with the hadrons of conventional galaxies, determining their initial size and holding them in their gyrations to the present day.

The newest formulations of superstring theory are not universally accepted, to be sure, for by explaining everything they appear to be too much of a miracle, and thus leave no room for experimental confirmation (excepting perhaps a prediction that there are *four* families of fermions, while we so far know of only three). Some conventional particle physicists are dismayed at these new theoretical formulations, which threaten to supplant quantum chromodynamics; they cling to particles-as-points out of habit. Of course we have no confirmation at all that there are other four-dimensional space-time manifolds as are permitted by the topological findings. The "missing matter" in the universe has been the subject of much speculation, with an outside chance that heavy neutrinos may yet save the day. But taken together, the three areas of strangeness discussed so far may persuade us into thinking that other strange matters heretofore studied only by "strange" investigators may be worthy of

scientific attention from all of us.

Strangeness from Esoteric Science

For those who have been interested in UFOs and psychic matters, these recent discoveries and speculations from mainstream science can be very heartening. It is as if somehow the rest of science is catching up, and that without too much apology one can review some of the discoveries on the other side of the fence that has so far separated conventional scientific thinking from out-of-bounds scientific thinking. Maybe we can now hope this fence will be more pervious to communication. Speculations about "higher dimensions" — which many of us have so far considered only to be the useless substitution of one mystery for another — may turn out to be based on some substance after all.

Strange Force-Fields

Observations made in connection with UFO vehicle performance, and in the areas of UFO-human interaction, are strange indeed. First, some of the physical observations that have been reliably reported in the area of force-fields: In the Travis Walton case (1975) the witness (Travis Walton) was subjected to a strange force-field from a UFO. Travis and six companions had just finished work thinning trees in a mountainous area of North Arizona, and upon leaving the work site in their truck, were amazed to see a small UFO hovering in a clearing some thirty yards away. Travis, in a heroic but perhaps misguided attempt to make contact with ET, jumped out of the truck and ran over to where the UFO was hovering some fifteen feet off the ground. But after he heard some ominous-sounding humming noises from the 25-foot-diameter disk, he tried to hide. As his frightened companions lurched away down the rugged road, they looked back to see Travis enveloped in a "blue-green flash". Very shortly thereafter, when they observed the craft to take off, they returned to the site to find Travis missing. Travis was returned five days later, having lost eleven pounds. His remarkable story is recounted in his book.¹⁰ It is one of the most thoroughly documented and witnessed abduction cases on record.

Of more importance to our discussion of forces, however, is his report of body sensations in conjunction with the blue-green flash. He told me that it was as if he had been hit hard 'and knocked to the ground' by what felt like a body block, as in football. At that point he lost consciousness, and remembers only about one hour out of the some hundred hours he was gone. In other unpublished cases, witnesses have told me of similar experiences with what appeared to be force-fields from UFO vehicles. One woman was knocked to the ground by an unknown force as she was trying to run away from the vicinity of a UFO. In the Carl Higdon case, investigated by Dr. Leo Sprinkle, a lone elk-hunter found himself at the edge of a clearing from which he could see a group of elk on the far side. He shot at one of them, and reported that the bullet seemed to hit something solid, in the middle of the air, part way across the clearing. He walked over, picked up the smashed bullet, and then observed a strange being standing to one side of the clearing. He believed the strange being was responsible for stopping the bullet. There ensued a series of other strange events in connection with his encounter as described in Dr. Sprinkle's reports. The bullet was examined by one of APRO's experts in metallurgy, who found that the copper jacket had been smashed

but that the lead was gone. When I saw it, there seemed to be a degree of melting involved.

Otherwise, witnesses who have reported "force-fields" have not noted any particular heating. If indeed they were feeling the effect of an esoteric radiation-field, conventional wisdom would indicate that the momentum transferred would be the radiant energy absorbed divided by the wave velocity; in the case of light and other electromagnetic waves the transfer of any significant momentum, equalling the energy of the wave divided by the velocity of light, is known to be insignificant unless there is at the same time an enormous energy release, which would be manifest as heating. However, even if there were counterparts to our electromagnetic waves in other dimensions, it is difficult to see how they could have properties that could account for interaction with masses in our own dimensions. So far, the esoteric physics we have examined permit only gravitational interactions between normal and hidden matter, but do not yet predict how gravitational fields could be produced in hidden worlds.

Gravitational Fields

UFOs travelling within the Earth's atmosphere seldom create sonic booms, in spite of their generally high speeds. The creation of a sonic boom depends on two factors: (1) the object must be travelling faster than sound in the medium, and (2) the deflection of the medium from the path of the vehicle must be caused by a pressure gradient. If the air molecules were to be deflected around the vehicle by a force acting on each and every molecule, as through the operation of a gravitational force, pressure forces would not be needed, and a sonic boom would not be produced. *A group of UFOs seen diving into the sea (after being pursued by U.S. Navy planes) at a speed of several hundred knots, were not observed to make a splash; this is a parallel to the non-production of a sonic boom in air.* Further support for the production of gravity type forces is contained in the observation of a UFO that was flying through a grove of trees; *the tree-limbs were bent forward out of the way as the vehicle passed.* Still further support is from observations of a tree that was struck down by a blow from a UFO some eighty feet from the ground; there seemed to be no damage to the tree on the near side, but at the back (in the direction of the fall) a large splinter of the trunk some thirty feet long had been split out, as if it had been forced out in the direction of the blow. One explanation is that all parts of the trunk had been subjected to the same body force, and that the far side was least constrained from breaking out.

Spin Fields

Sometimes additional phenomena are noted that may be gravitationally connected. Thus I have unpublished reports of compass needles that spun wildly as a UFO flew near by. Also, in a reported case wherein a UFO passed over a group of trees, the trees did not bend with the wind, as the observer expected, but *"spun around on top as if they were in a vacuum"*.¹¹

Another provocative observation was made by Mr. Wells Alan Webb, on May 5, 1953, near Spain Flying Field in Arizona.¹² About 10:00 AM he observed a small white oblong object towards the north of him at about 45 degrees altitude. At first he thought it was a cloud, although there were no other clouds in the sky. As it moved 30 degrees towards the east, over a period of 5 minutes, he looked at it through his

polaroid glasses, and then without the glasses, and noted little difference. When the object got to a point nearly to the north-east, it seemed to turn, became round in appearance, and its diameter was reduced rapidly, as if it were receding. During this time, Webb watched it again with and without the glasses, and now noted that through the glasses he could see three dark rings around the object, the largest of which was about six times the diameter of the object itself. The width of the rings was about one-half of that of the space between rings. He repeated his observation, with and without the glasses, several times as the object seemed to move out of sight.

It should be noted that at this time of day, and from that part of the sky, the scattered background blue light was maximally polarized. A 90° rotation of the plane of polarization near the object would change the apparent brightness of the background light from light to dark; the effect would depend on the sine squared of the rotated angle, in consonance with the observed relative width of the rings and spaces. I've calculated that a 90° rotation could be produced, through the Faraday effect, by having the light ray traverse a magnetic field of 100,000 gauss sustained through 100 metres of standard air. A total rotation of 450° would account for the inner ring. The rotation might also be produced by a strong spin field acting on the electron mass during its electric field-induced vibrations. Since the mass and charge are on the same electron, the action of the spin field on the mass would mimic that of the magnetic field on the charge, producing a pseudo-Faraday effect. It should be noted that because of the distance to the object relative to its size, the integral of the magnetic field lines along the sight path Webb was observing would be but a very small fraction of the value near the object, so that the actual fields near the object would have to be on the order of a hundred times the value calculated above.

Extreme Accelerations

Data regarding extreme acceleration are provided in a police report from Memphis. A UFO, approximately the size of a football-field (it was hovering over a high tension transmission line, and extended from one tower to the next), suddenly took off, travelling something like 25 miles in a time period between 1 and 1.5 seconds. There are many reports of this type of extreme acceleration within the atmosphere, *and perhaps there would be more were witnesses encouraged to report unbelievable facts to investigators. Speeds reported from outside the atmosphere are even more spectacular. It is as if the UFO vehicles, when in motion at least, act as if they have zero mass.*

Thus many witnesses have reported experiences that seem to imply being transported vast distances (seemingly beyond the solar system) at what must be very high accelerations without experiencing the accelerations subjectively. It is as if external accelerations are counteracted by internal gravitational fields so that the occupants feel only normal gravity. Sometimes it is difficult to develop any confirming data; however, on occasion an unsophisticated witness will report observations that make no sense to him, but which are very provocative from a scientific point of view. In one case, a witness reported to me that she observed, on a return journey, some spheres through a porthole. They were dark cobalt blue. One interpretation is that she was observing a "blue shift" of the light (perhaps going up in frequency from as far as the infra-red) from the objects (possibly the Earth and Moon) due to a relative motion fairly close to the

speed of light. Further information on this type of observation should be sought, but in developing such information from hypnotized subjects, it is especially important not to give any clues in the questioning that would suggest particular answers.

Gravitational Interactions

We are used to thinking of gravity as a "weak" force (actually the weakest of all), relative to the electro-magnetic and strong nuclear forces, and therefore we find it hard to believe that strong local "gravitation" fields, acting on masses, could be produced by UFOs in much the same way as we produce electro-magnetic forces. This is, however, just what the evidence suggests. Furthermore, the evidence suggests both attractive and repulsive fields that act on mass, such that they could be very strong on a local basis (compare our magnetic forces), but be due to properties that cancel out for great distances (compare our electrostatic forces). This suggests a plus and minus (bipolar) mass-energy charge in a possible esoteric world similar to our plus-minus electrostatic charge, such that the long range effects would not be overpowering. The cosmological effect on masses in our own world would seem to require that there be slightly more "plus" gravitational charge in the "hidden world". It should be noted that there seems to have been, at the time of the "big bang", a similar very small bias in favour of matter over anti-matter in our conventional world.

Were particles in the "hidden world" possessed of plus or minus gravitational/energy charge, an assembly of them would not manifest an external field, except of a dipole sort, unless they were put into motion. But if an assembly of separated plus and minus charges were to be counter-rotated, a field would be produced similar to the "spin field" postulated to be produced (as an ultra weak field) by rotating masses. Were enough negative mass charge to be carried on board a spacecraft, a net zero mass might be achieved, making it easy to produce very high accelerations. Extraordinarily strong dipole fields in combination with spin fields might give the high degree of flexibility in producing interactions with gravitationally sensitive matter as have been observed.

The Psychic Component

Turning now to the psychic realm, consider the implications from the topological findings described earlier. "Non-differentiable" four-dimensional space-time manifolds are hard to imagine, but their properties may be easier to grasp. Non-differentiable means that discontinuities can form in any of the dimensions — *so that objects that are far from each other in our world might be next to each other in a second world. Also, although tomorrow and today may be separated by 24 hours here, they might be right next to each other in a world that admits discontinuities.*

Although we know of no physical channel between these disparate worlds, there is some evidence that mental means could be involved. If through mental communication information could be transmitted between two such worlds, there is opened up the possibility that a three-way communication could make possible a communication between two widely spaced locations in our world. Thus assume two points, X and Y in world A, and two corresponding points X' and Y' in world B. If in world A information at location X can be transmitted to location X', and if location X' is

juxtaposed with location Y' in B via a discontinuity, information could be transmitted from X to X', then to Y', and finally back from Y' to Y. The result would be that information available to an observer at X could be immediately available to an observer at Y even though X and Y are widely separated. In this example, X and Y could be points separated in either space or time.

Thus although all of us are familiar with the remarkable work on remote-viewing published by Puthoff and Targ¹³ in which information was apparently communicated ("telepathically") over several miles between a travelling party and a subject, few may remember that there was also reported a repetition of those experiments in which the communication apparently took place *backward in time as well as across space*. In the slightly varied experiment, the viewing party delayed the random selection of the target and the travel to the target until after the subject had concluded giving information about the target. The results were just as good as in the earlier experiments in which the communication was across space instead of across time. Although the latter results may be less believable than the earlier, the two sets of experimental results may depend on similar properties of time and space.

The Mental Component

There is very limited but suggestive evidence that the transmission of telepathic signals is not limited by the velocity of light. If other spaces admit of different fields corresponding roughly to our electromagnetic fields, there may be two fields that could carry information via wave. The puzzle is how a mind, human or otherwise, could be coupled to these waves.

There are many instances reported in which forces are produced that seem under the mental control of UFO occupants, and seem to be unassociated with any machinery. In these matters we might well take note of the psychokinetic abilities reported for human subjects. Evidence of psychokinesis is probably the least believed of the esoteric evidence from investigations into the strange, yet, though based on fewer experiments than are reported for other kinds of psychic phenomena, is just as well established. Uri Geller is not the only subject in which this has been demonstrated (*I am aware of many of the detracting state-*

ments made by "magicians", etc. regarding Geller, but believe instead reports by competent scientists who have observed the effect under rigidly controlled circumstances). In Geller's book *My Story*¹⁴ he reports his own experiences in such a way as to seem almost naive in its candor, leaving me at least to the conclusion that what he reports might just be true — no reasonably intelligent person would have the nerve to report such experiences were they not true.

At the moment, however, I cannot see how psychokinesis can be brought into any of the above esoteric theories. Psychokinetic events would have to depend on gravitation-like influences on this-world masses (the theories described above do not allow interaction other than those due to gravity), which would have to be originated or controlled by mind-power. *However, if this is at all possible, and mind-power can be sufficiently strong, there may be some basis to speculations that UFOs could be propelled by the concentrated psychokinetic efforts of their occupants.*

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THE DEBATE ON EXTRATERRESTRIAL LIFE "HOTS UP" AND SCIENTIST CLAIMS OUR GALAXY IS DOMINATED BY A SUPERIOR CIVILISATION

Paul Whitehead, FSR Consultant

THE buzz of speculation that our Galaxy is host to millions or many billions of civilisations has reached new heights on both sides of the Atlantic. Fuelled partly by new publicity about alleged Close Encounters and Cover-Ups, and partly by new findings which reveal there may be many habitable planets just a few light-years from Earth, public interest in UFOs is at its highest for many years.

Leaving aside the interesting efforts by the American soap opera *"The Colbys"* to revive its flagging

audience figures by having a leading character abducted by a UFO (a reflection of the huge interest shown in abduction cases in the States), we should not forget that there is a serious side to the entire extraterrestrial debate.

Consider this sentence, which is published in *"The Cambridge Atlas of Astronomy"*, in a section of the extraterrestrial life debate:— *"Another theory, that of the 'galactic zoo' formulated by J.A. Ball, seeks to explain why contact has never been realised by suggesting that*