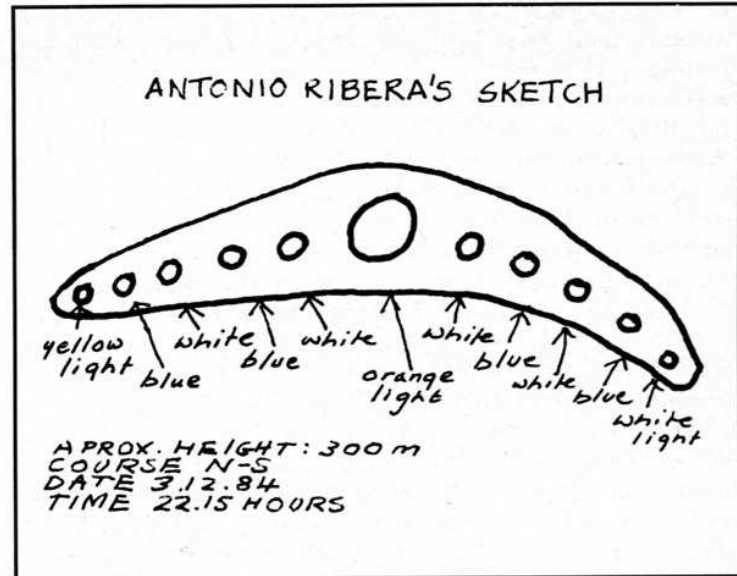


cannot be sure of this. The fantastic "bird" continued majestically on its southerly course, and was soon out of sight beyond the trees on the nearby hills. We sat there dumbfounded.

I attach my sketch of the object, which, at the time, put me more in mind of a gigantic glider, or a "Delta" wing, rather than anything else. However, neither gliders nor "Delta" wings are known to operate at night or to display such arrays of lights.

As my companions were radio people (they had been my hosts on the "Radio Star" programme) they put out an announcement from their station and through other local radio stations asking for other eyewitnesses to come forward, but so far none have done so. (This is surprising, for the time of night, 10.15 p.m., is certainly not considered "late" by Spanish standards!)

Well now — what was it that the three of us saw? It couldn't have been a jet aircraft. At such a low altitude, a jet would have produced a terrific din.



Probably it was just a collective pre-natal uterine memory. In Technicolor. — A.R.

UFOs AND THE FOURTH DIMENSION: A RE-EXAMINATION

Luis Schoenherr

FSR is now completing its thirtieth year, and is not gone yet, which we think is not too bad, seeing that UFOs do not exist, and seeing that, during those same thirty years, plenty of good magazines about things that DO exist have gone to the wall.

The article which we now have great pleasure in reprinting below dates back not quite to thirty years ago, but to twenty-two years ago, for it first appeared in FSR Vol. 9, No. 2 (March/April 1963), in the days when the great Waveney Girvan — by no means now forgotten — was our Editor.

The author of the article, Luis Schoenherr, of Innsbruck, Austria, is unquestionably the most distinguished and internationally known Ufologist in the whole of Central Europe, and particularly well known, it may be, for his articles in the *UPIAR Journal*. When the present article first appeared in 1963 he was a Government official in his own country, and at that date he had already been writing articles on technical and scientific matters for ten years, and his name was already well known to readers of FSR. His first approach to the subject of "flying saucers" was, as he told us then, very reasonably and rightly one of scepticism, but, having begun to collect reports, his interest was aroused, and as the data accumulated he finally became a recruit to our ranks. He was aged 35 or thereabouts in 1963, so today he will be about 57.

As he said himself in a letter to us in December 1982, "We were quite progressive twenty years ago, weren't we? My article of yesteryear could also serve as an encouragement for others, and there are certainly readers (especially younger ones) for whom it would be completely new. Besides, in the past twenty years the UFO Phenomenon has begun to display an increasing number of characteristics which point exactly in this direction — i.e., the Phenomenon has definitely something to do with a defect in, or a manipulation of, the space-time structure, no matter whether one leans more to a physical or a psychological hypothesis."

In our large backlog we still have two other articles by Dr. Schoenherr, namely *On The Systematics of Hypotheses Concerning The UFO Phenomenon*, and *Percipient-Dependent Components in UFO Experiences*, which await publication by us. The last-mentioned piece is rather long (like most of the material that we receive!) but we hope to publish them both soon. — EDITOR

ONE of the most interesting features in UFO reports is the apparent dematerialisation of such objects. The observers frequently persist in stating that UFOs disappeared before being hidden by clouds or before

reaching the horizon or even that they disappeared in the vicinity of the ground. In case of an unexpected observation (and practically all UFO sightings are unexpected) it is unfortunate that most of the witnesses

are unable to tell us exactly in which manner the object appeared. Sometimes UFOs disappear in the same mysterious manner.

According to practical experience as well as to prevailing physical theories the annihilation of mass must create energy. The mass-energy ratio is a very high one. It is quite obvious that you cannot explain the dematerialisation of UFOs that way. They dematerialise without any noise. Sometimes the process is accompanied by a flash. But never an excessive amount of energy has been observed in such cases and there is often no evidence of radioactivity.

Another explanation is that the objects do not really disappear. Instead they become transparent. Now, the UFOs are probably machines built of metal. Observers who came close enough have reported a metallic noise when the objects touched the ground. UFOs have even been fired on in two cases, when a metallic noise was heard.¹ We must also remember the frequently reported metallic appearance which is capable of causing a radar echo. To make metal transparent, the molecular structure of it must be altered by some means. But this could certainly not be done without changing the physical properties such as the strength or the electrical conductivity. It seems impossible to submit the complex apparatus of a spacecraft to such a process without disturbing all the functions.

Alternatively, it could be that UFOs — or some of them — may be objects which enter our three-dimensional space coming from a fourth dimension. There is nothing wrong with the concept of the fourth dimension. Mathematicians have sufficiently proved that it involves no contradiction whatever to logic or to geometry.

Besides the phenomenon of dematerialisation and materialisation there are certain (electro-magnetic.?) effects which seem to indicate a relationship between UFOs and this fourth dimension. But, those effects must not necessarily be considered as ordinary force fields merely superimposed on the force fields of some apparatus such as an ignition system, etc., thus causing the devices to fail. If the UFOs come from another dimension we have to take into consideration that their appearance causes some changes in the structure of our three-dimensional space itself, in the way that the surface of the ocean is disturbed when a submarine emerges from the depths.

Between these two examples there is a noteworthy difference. In the first instance we can protect our devices by proper shields so as to prevent interference. In the second, nothing of that sort is possible, because it is the space itself which is influenced. It should be possible to distinguish between these two effects by experiment. But as the phenomenon we are dealing with is rather rare, the difficulty is to get the measuring equipment at the place when the event and where the event occurs.

The only explanation of the second type of pheno-

menon we know at the moment is gravitation. It is interesting to note that, according to some reports in cases of dematerialisation, the effects of a strong gravitation-like force field have been observed.²

There is even some evidence that UFOs are able to dematerialise other objects, if the conclusions drawn from some radar observations (and not only from them) are correct.³ In my opinion this could only be the result of shifting the objects into another dimension inaccessible to us. It is certainly difficult to imagine a physical materialisation or dematerialisation process, but it may be mentioned that under certain conditions the application of extremely strong gravitational fields could cause a material object to disappear from our space.⁴

As to the relationship between UFOs and fourth dimension I should like to suggest in principle the following possibilities:

1. The fourth dimension is a means of connection between different three-dimensional spaces. Centuries ago, Zöllner, Fechner and Du Prel tried to explain materialisation and dematerialisation by the supposition of the existence of a fourth dimension. If such phenomena can be produced only rarely by the assistance of a medium, this is no proof that somewhere intelligent beings might not have succeeded in creating such effects by technical means at will.

2. Space travellers are indeed coming from outer space but they use the fourth dimension for their voyages. It seems that travelling from a point of our universe to another via the fourth dimension involves a byway. But this ought not to be true. An aircraft which climbs to the stratosphere does not take the shortest route. But, in spite of that, the greater height enables the pilot to reach his destination faster.

The advantages in using the fourth dimension may be similar. Perhaps it allows higher velocities or it could even make completely new methods of transportation possible.

3. The UFOs are not three-dimensional but actually four-dimensional objects. What we can see of a UFO is only the projection of its fourth dimensional structure on our three-dimensional space, as a circle is the projection of a cylinder on a plane. In this case, the frequently reported changing of shapes would be due to varying angles of projection and movements of those objects in their four-dimensional universe. Our three-dimensional space would be a part only of their four-dimensional space as the two-dimensional square is a part of the three-dimensional cube.

4. Present physical theories use a four-dimensional continuum whereby the fourth dimension is considered to be formally identical with time.⁵ It is essential to point out that according to this mathematical concept movements in all four dimensions must be poss-

ible. There is no difference between time and space; there is only the continuum. It has been said that this continuum is only a mathematical device in order to obtain an economical description of physical events and it has nothing to do with the true nature of space and time. As far as I know, there are no grounds for this view. If the contrary is true, if this model does actually fit the real nature of the universe, the fourth dimension is not merely a concept but is actually identical with time. In this case, a movement in time should be just as possible as movement in space and the UFOs may therefore be what H. G. Wells would have called "time machines".

This conclusion is certainly difficult to digest. But there are some details in the reports of contactees which seem to give the hypothesis some reasonable chance of being correct.

(a) Some landing reports mention beings without space suits. If they are really coming from another planet why should they be so careless as to expose themselves unprotected to our atmosphere?⁶

(b) Some of them are said to resemble the inhabitants of the earth.⁶ But if we consider that on earth comparatively insignificant differences in climate have produced very different races it is highly improbable that there would not be essential differences between these visitors and ourselves.

(c) Sometimes those visitors — so it is alleged — use an earthly language.⁶

(d) Their behaviour indicates that there are certain relationships between them and us. For example, it has been reported that these beings have apparently tried to get some information and they seemed to be disappointed or even angry when they realised that they were not understood. From the various stories about Springheel Jack, for instance, one must get the impression that he was looking for somebody. (See *Flying Saucer Review*, May-June, 1961).

If the details referred to above are not simply the inventions of fraudulent contactees there are only two possible explanations:

(a) The visitors are indeed coming from another planet of this universe but they are perfectly accustomed to conditions here and they are, as it happens, of the same family as man.

(b) They are from this earth, but they are coming from another time. (There may also be time travellers from other planets, of course.)

The latter suggestion is a highly speculative one. But those who believe that only the present is real,

may be reminded that what we call "the present" is merely the infinitely small border between future and past. And that this border, without any dimension in time, would be real? If it seems to be so, this is due only to the peculiarities of our consciousness, which comprehends the immediate future and the immediate past as a unique experience, thus giving us the illusion that the present is real. But actually the reverse is the truth. Physically there is no present. We are living between future and past, remembering and foreseeing the things that have gone and those that are to come. The fact that events of a far future have sometimes been exactly foretold may also be mentioned in favour of this view. How should true prophecy be possible, if there is not a connection between the event to come and the prophet? But if the event should effect the prophet's imagination, then it must be real.

If we undertake some speculation about our hypothetical time machine we can reach the conclusion that the craft must have the properties of a space ship. If a time traveller wants to journey, say, from the year 2000 back to 1963 he would have to follow the course of the earth in the four-dimensional continuum with the utmost precision, in order to avoid leaving the earth's surface or atmosphere. I doubt that this is possible. There is an inevitable inaccuracy in every navigational system. However, if one may imagine a navigation in four dimensions it would certainly be subject to some degree of inaccuracy. In this case our time traveller could not be certain that he would manage to stay on the earth's surface or at least in the atmosphere while travelling in time. It is highly probable that he would soon find himself in space, perhaps far away from the earth. As deviation from a true course would be the greater the longer the voyage lasted, one could suppose that the UFOs which materialise within our atmosphere have covered only a short distance in time; that means that they are coming from the "near" future. This could also explain why the materialisation of UFOs has so seldom been observed whereas dematerialisation is more common. The chance of seeing them at their moment of arrival in our time is only a very small one.

On the other hand, you cannot absolutely exclude the possibility that an object, while travelling in time or when attempting to materialise, could collide with some other object already existing in space, e.g. our earth. What would happen? Would there be a collision at all?

There are reports on materialisation phenomena during which other objects have been supplanted by the materialising structure. As to the UFOs, a few of them have been seen coming out from the sea. Is this where they have materialised?⁷

Unfortunately it is impossible to deal in this article with the question of determinism and causality which arises in connection with my suggestions. But I should like to mention that in my opinion the hypothesis of

time machines does not necessarily involve an absolute determinism, because there may be a multitude of worlds in which all possibilities we can think of are realised.

I do not want to imply that one of the hypotheses outlined in this article should be considered as a definite explanation of the UFO phenomenon and I leave it to the reader to judge the value of my suggestions. But, speaking for myself I am convinced that the key to the riddle will be found somewhere in this direction.

NOTES

1. Wickford (Essex), December 28, 1956, reported in the London *Sunday Chronicle*, January 6, 1957, and Poquoson (Virginia), October 19, 1959, reported by N.I.C.A.P.
2. France, autumn, 1954.
3. I refer to the incidents of:
 - (a) Kimross (Michigan), November 23, 1953, reported by Keyhoe.
 - (b) Hokkaido (Japan). October, 1952.
 - (c) The disappearing of an F-86 interceptor and of a transport plane with 26 passengers reported by Comella in *Fate*, May, 1961.
 - (d) Twin Falls (Idaho), dematerialisation of a bull by an UFO, reported by the *Idaho Post Register*, September 7, 1956.
4. According to an astrophysical theory put forward by Prof. Pascual Jordan.
5. e.g. the theory of relativity.
6. In the following alleged cases man-like beings without space suits, partly using a known language, have been observed.

Date	Locality	Observer	Language
August 20, 1954	Mosjoen (Norway)	Jacobson and Solvang	not understood
October 4, 1954	Chaleix (France)	Garreau	not understood
October 20, 1954	Raon l'Étape (France)	Ujvari	Russian
September 10, 1954	Plateau de Millevaches (France)	Mazaud	not understood
Summer, 1956	Sao Sebastiao (Brazil)	Guimarães	—
September 27, 1957	Bressuire (France)	Girardo	—
November 5, 1957	Kearney (Nebraska, U.S.A.)	Schmidt*	German
November 5, 1957	Jonesville (Virginia, U.S.A.)	Seabolt	English
November 6, 1957	Playa del Rey (California, U.S.A.)	Kehoe and others*	English
November 6, 1957	Dante (Tennessee, U.S.A.)	Clark	German?
October, 1958	Snyders Lake, (New York, U.S.A.)	Robinson	English

April 18, 1961

Eagle River (Wisconsin, U.S.A.)

Simonton —

*The assertions of Schmidt and Kehoe (no relation, of course, to the well-known Major Donald Keyhoe of N.I.C.A.P.) have been seriously doubted.

7. I refer to the following cases:

- (a) The observation made by the crew of the brig *Victoria* in the Mediterranean on June 18, 1845. (Report of the British Association, 1861.)
- (b) The object seen by the crew of the steamer *Siberian* near Cape Race in 1887. (*L'Astronomie*, 1887, *American Meteorological Journal*.)
- (c) Possibly the UFO observed and visited by Prof. Guimarães also came out from the sea.
- (d) According to rumours in 1960 an unidentified object — 300 feet long, shape of a rocket — was detected about 16 miles east of Sydney, 500 feet below the surface. It was said, that naval authorities denied that it might have been a submarine.

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FROM ATOMS TO TACHYONS AND HYPERSPACE — AND BACK AGAIN!

Paul Whitehead

Mr. Paul Whitehead, one of FSR's new Consultants, whom we welcome very warmly into our ranks, has, as he describes himself, a number of formal qualifications in journalism, and has worked on newspapers in both the UK and Australia. He now devotes his time to working with both well-known and obscure computer companies — sometimes becoming involved in the forefront of computer technology — and his "high tech" articles appear in leading British computer journals.

His interest in technology has led to an interest in science and physics, and how they can be applied to an understanding of the UFO phenomenon. — EDITOR

DR. J. Allen Hynek has hinted on many occasions over the years at the interesting hypothesis that the UFOs might originate from a "parallel universe". And indeed we see today that, having pointed the way in this direction, he is no longer alone, for a growing number of physicists now include mention of one, many, or innumerable parallel universes in their discussions of quantum mechanics.

The original parallel universe theory originated from Hugh Everett, who theorised that a particle magically follows as many paths from its present to its future as it finds open to it.

So far, since the launch of quantum mechanics (QM) on to an unsuspecting public at the turn of the century by Max Planck, QM has given scientists a correct picture of reality. In other words, the statistical predictions of QM are always correct: it has explained everything from subatomic particles to stellar energy, and the discoveries yet to be made from further study of QM are immense.

However, the theory of a parallel universe to explain where UFOs come from can be complemented by theories, espoused by physicists, that faster-than-light travel, or communication, is possible. Among the findings of studies of QM, including the results of an experiment that Einstein carried out with two other scientists, Podolsky and Rosen, is one that indicates that simultaneous communication between objects far removed (e.g. on different galaxies) is possible if not probable.

Jack Sarfatti, a physicist, postulated not only that faster-than-light connections exist between separate areas, but also that they can be used in a controllable way to communicate. This theory, announced in 1975, was called the "superluminal (faster-than-light) transfer of negentropy (order) without signals."

Before we delve further into the world of instantaneous communication, faster-than-light travel, tachyons (those little faster-than-light particles that are theorised to exist), and hyperspace (a possible parallel universe where matter is so dense that time stands still), let us take a brief look at quantum mechanics, to enable the uninitiated reader to understand

its concept before proceeding on to some of the more interesting theories associated with it.

Put simply, QM is the study of the world of the atom and sub-atomic particles. Unfortunately, it is not as simple as that, *because the mere act of study has an affect on the atoms*. In other words, the observer of physical phenomena is an integral part of what he/she is observing.

Little wonder that some of the physicists studying QM drift into philosophical and quasi-religious terminology when trying to come to terms with the subject.

According to Sarfatti, who produced a mathematical formulation for the following theory, the participant interacts with physical processes at a fundamental level — he literally affects the behaviour of electrons and atoms. Given the correct high level of thought process/concentration, he said, it should be possible to achieve a coherent movement of particles.

"Thinking at" electrons may therefore make them perform to instructions. The interesting thing is that, according to QM, what happens to particles (or an object) in one place can happen simultaneously to other particles (objects) far away, even on another galaxy, provided the two sets of particles have been previously correlated (or, to explain this in the simplest terms, have something in common).

Elaborate theories have been put forward to explain this observable occurrence. Is it all science fact or is it science fiction? If it teaches us nothing else, QM demonstrates that all things are possible. And one thing is for sure — the study of QM represents the ultimate probings of human intellect. As the physicists studying QM say, there are enough new discoveries awaiting at the QM level to keep scientists busy for centuries — or eternity.

The following sections deal with theories thrown up by QM which may offer insights into the areas of faster-than-light communication and travel. Inevitably, those interested in UFO phenomena, and those following current methods of SETI (*Search for Extraterrestrial Intelligence*), may find what follows especially interesting.