

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.

Instantaneous communication

The physicist who made the first and biggest contribution to this subject was John Stewart Bell, who in 1964 published a mathematical proof which some scientists believe is a major milestone in the history of physics. One of the implications of his theorem is that the "separate parts" of the universe are connected in an immediate and intimate way.

How can this be? According to QM, it is bound up with how matter behaves. Waves of matter (also known as "matter waves" or quantum wave functions) are ever present throughout our universe, and what happens in one part of a wave happens at the same time in another part of the wave, provided the matter in those parts of the wave have some commonality.

Sarfatti had a phrase for this type of communication. He called it "non-local phase-lock over space-like intervals". It is a very difficult subject to explain within a fairly brief article such as this; readers are urged to visit their library or bookshop and familiarise themselves with QM in their own time.

Essentially, however, it indicates that what happens in one place is connected to what happens elsewhere in the universe — which, in turn, is connected with what happens elsewhere in the universe, and so on. The separate parts of the universe are not separate, they are one whole which comprises quantum wave functions, and quantum wave functions mysteriously permit this kind of communication.

There is a difference between communication occurring naturally (without the assistance of an outside medium, such as an intelligence), and faster-than-light signals sent by an intelligence. It may be that an advanced intelligence could utilise the quantum wave function to send a message from here to the edge of our universe instantaneously. It could also, according to some theorists, send a signal across the same distance at a speed faster than light.

Superluminal communication — faster than light

Do particles that travel faster than light exist? If they did, they would not need vast amounts of energy to be accelerated from subluminal (slower than light) to superluminal speed, because they are already at that higher speed.

Einstein once stated: "velocities greater than that of light have... no possibility of existence". He explained that it took an infinite amount of energy to accelerate anything to the speed of light. Although he may be proved correct, some scientists believe it may be possible for a spacecraft to travel at 99.9 per cent the speed of light.

But in this article we are interested in something better than that. Physicists have speculated about faster-than-light-particles, and a name has been given to one hypothetical particle; *tachyon*. Searches have been made for tachyons, and some Australian scien-

tists believe they may have detected them. But, being what they are, if tachyons exist, they are naturally evasive little fellows!

It may be that tachyons are the medium through which events can be communicated simultaneously across vast distances of space. Information may be transferred by ever present tachyons in the "matter waves" or "quantum wave function" outlined earlier.

Might it be possible to somehow harness tachyons to send a signal into space? Or even harness consciousness to tachyons?

In his book *"Taking the Quantum Leap"*, Fred Alan Wolf (former Professor of Physics at San Diego University) speculates that beyond light speed, a particle or a consciousness would be free to "drop in" anywhere, in the present, past or future. It could visit anywhere at an instant; all points in the universe would be its home.

If tachyons exist, John Gribbin in his book *"Our Changing Universe, The New Astronomy"* presumes they always travel backwards through time. If they can provide a record of their existence by interacting with "ordinary matter" in our world, he says, "then at least in principle it seems that a 'signal' could be sent backwards in time, providing information about events which are in the future of the person who receives the signal."

I will leave the reader to speculate on where that theory could be put to use!

Hyperspace — now you see us, now you don't

Another theory about how it may be possible to travel or send signals to another part of our universe involves another universe called hyperspace, which may exist alongside or within our own. Professor John Wheeler, a co-inventor of the hydrogen bomb, has theorised about hyperspace, and his ideas are given some coverage in a book by Adrian Berry called *"The Next 10,000 Years"*.

Entrances and exits of hyperspace may exist throughout our universe, even on the edge of our solar system, the theory goes.

It is theorised that via these entrances and exits, one could traverse vast distances simultaneously. According to mathematical models, an entire star could disappear down one of these holes (which are similar but not identical to black holes) and re-appear elsewhere in the same universe without suffering damage.

It follows, some theorists argue, that what may happen to a star could also happen to a spaceship or signal. *A spaceship, for example, could pass through a hole into hyperspace and re-emerge into our own universe elsewhere, instantaneously:* "instantaneously" because it is assumed that time does not exist in hyperspace. Matter is so dense there that time ceases to be, as I mentioned earlier.

Vast technical expertise is called for to find a "hole", if any exist, and then send a signal down it.

The problem is, we would never know what happened to the signal if it was to disappear into hyperspace (unless something or someone sent it back!)

Many experiments would have to be carried out, and much mathematical work completed, before a signal or probe could be sent. A probe could at least be programmed to return (or, presuming that artificial intelligence is introduced into computers, a probe with an on-board computer could make its own way back).

Interestingly, Dr. Patrick Moore, FRAS, gives an introduction to Berry's book, in which he says that in 10,000 years time, the ideas contained within it may be as familiar as trains and aircraft are to us today.

One thing is sure. If man still exists 10,000 years hence, and if his current ideas about quantum mechanics are correct, hyperspace may not be necessary to get from A to B in an instant. Still, it's comforting to know one could use it if all the QM communication channels were in use.

Postscript

Two weeks after the above article was written and submitted to the *Flying Saucer Review*, the *New Scientist*, on August 8th, ran a story headlined "Physicists invoke the shadow world," which gave details of a new theory about a parallel universe.

The new theory was put forward by physicists at the Fermi National Accelerator Laboratory near Chicago, and is explained as follows:-

When the universe was very young and hot, it split into two smaller identical masses, one of which split further and gave us the world we know — "our" universe. If the other mass split in *exactly* the same way, it would lead to what the physicists call a "shadow world" — a world which would exactly parallel our own, complete with a solar system identical to "ours".

The parallel universe would exist in a different dimension, but would be detectable by its gravitational interaction with our universe. The physicists argue that if the parallel universe exists, we should be able to feel the "pull" of its mass. We would not see the parallel universe or record its radioactivity.

The New Scientist comments: "We might wonder how to communicate with any shadow beings who may have evolved in the shadow world".

The answer, the writer says, is by gravitational waves. These waves "are the only radiation which can be emitted in one world and received in the other, so if our experiments uncover a supernova-like outburst of gravity waves, without any sign of a visible ex-

plosion, it might be an expensive message from another world".

According to the physicists who formulated the theory, the two sets of mass which comprise our universe and the parallel universe interacted early in the formation of our galaxies (and presumably during the formation of the parallel galaxies).

The "final details" of the two universes were determined by turbulence, shock wave formation, magnetic fields, and other similar factors.

Parallel stars and planets formed, perhaps close to but not in the same place as their visible counterparts.

Should this theory be correct, Hynek's theory begins to take shape as a viable explanation of where UFOs emanate from. We could indeed be sitting almost on top of another, invisible solar system, complete with a technologically advanced society.

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MORE REPORTS FROM ARGENTINA (1984)

María Ángela Thomas Guma

Exactly 22 years ago (FSR Vol. 8, No. 3, May/June 1962) we started to publish remarkable UFO reports from Argentina, and throughout the period thereafter many more came from our correspondent, then known to our readers as Jane Thomas.

Jane, now Mrs. Harold Guma, is our new Consultant/Correspondent for Spanish America, and with this article we are very happy to initiate what we hope will be another series from her. — EDITOR

1. City and country of incident: Aguaray — Salta Province — Argentina

Date of incident: January 23, 1984

Name of paper and date of clip: *El Tribuno* — February 12, 1984

City and country of paper: Salta — Argentina

(Credit for clip: Mrs. Annette Acebo — California)

It is a marvelous spectacle

A CARPENTER WHO WORKS FOR YPF SWEARS HE SAW A FLEET OF 25 UFOS IN AGUARAY

Claiming it is the “most marvelous spectacle I saw in my life”, a carpenter who works in the Campo Duran oilfields belonging to the State-owned oil company YPF swore yesterday before a team of reporters from *El Tribuno*, to having seen a “formation of about 25 UFOs after having attended a union meeting that was held on January 23rd last”.

Augustín Santos Montiel, 59, who has worked for the YPF company for 32 years, said that “I now dare to make my experience public in view of the statements made to this paper by the engineer from Altos Hornos Zapla, Santiago Anibal Guerrero. Besides” — he said — “I thus want to contribute to the solving of these fascinating phenomena. The same as Mr. Guerrero (who made a detailed account of a CEII which was published by this paper), I also was a skeptic in these subjects. But I can no longer sustain this position. What I saw changed my ideas. And I thank God for having given me the opportunity to observe such a magnificence and for not having felt any fear”.

Agustín Santos Montiel said that on January 23rd, at the end of a union meeting held in one of the buildings that the company has in Aguaray, where the personnel lives, I walked to my room alone, about 6 blocks from where the meeting had been held. It was approximately 11 p.m., and strangely, in spite of the heat, the streets were completely deserted. I was looking down when I was suddenly startled by a powerful light blue reflection that lighted up everything around me. I looked up and saw that the School of Crafts, whose walls are plastered, looked like they had just been painted, precisely in a light blue color. I immediately looked at the street lights and saw they had their normal lights. I was impressed, so I didn't move from the spot. At that moment I saw behind some enor-

mous trees that grow along the Mariano Moreno avenue, the main street in Aguaray, that an intense light was crossing the sky. The reflections were similar to those of fireworks. I thought that's what it was and awaited the explosion. But instead, an enormous luminous disc appeared moving slowly to the south-east. Almost simultaneously, a noise similar to that of a gas leak was heard, and the “ship” went dark for a few seconds, giving way to a multi-colored symphony of lights. All the colors imaginable followed, one after the other. The disc continued its slow and regular flight, and behind it there appeared in correct formation of 4 to a row, some 25 ships, separated from each other by streams of light which resembled little sparks. Some of the people to whom I told this said it may have been the windows of one large ship. I'm not sure, but it may be. However, it is my impression that it was a fleet. It was a fantastic spectacle. I called to a neighbor, Felipe Ramírez, to come and see. But some days later he told me he was sleeping at that time and had not heard my calls.

When I arrived at the building, once the extraordinary sighting was over, I asked my room-mate Juan Carlos Olmedo, if he had seen anything. He said yes, but that he had only had time to see the larger disc or mother ship. “I was afraid and went inside,” he confessed. “I didn't want to forget anything, so I wrote it all down in a calendar. And the next day I went to work as usual. YPF engineers Cisneros and Silvestre, and Dr. Feijo, asked me to tell them what I had seen; my colleagues also encouraged me to do so. And when they heard about it, they said it might have been reflections from the disintegrated American satellite Telstar. However, I refused to accept this theory in view of the millimetric and orderly formation of the lights. Some days later, the head of Industrial Relations at the plant, Jose Eduardo Querio, told me “he had seen something similar, but from a great distance, in Tartagal”.

Finally Montiel — who arrived in Salta for his monthly visit to his family who lives in the capital — said: “Had it not been for the interview with Mr. Guerrero, I wouldn't be here. I was afraid of scoffings and general incredulity. I have no doubt my colleagues will make fun of me, but anyway I hope to somehow contribute with this report to unravelling this fascinating mystery posed by the UFOs”.