"What stuff do you mean?"

"This stuff about flying saucers."

"Who said anything about flying saucers? There's nothing there about flying saucers. Anyway you are not supposed to be talking to me, you are supposed to be discussing it amongst yourselves."

Then, from another quarter: "I don't believe it."

"*What* don't you believe? I haven't asked you to *believe* anything, only to discuss the photographs and the report."

"They must be fakes."

"What — all those photographs — from five different sites! So what are they supposed to be faking?"

"Flying saucers."

"But they are not flying saucers, they are circles in flattened corn."

"They want you to think they are saucers."

When one of the students suggested that the incidents were hoaxes, I invited them to consider how such hoaxes could be perpetrated. At all times I refused to answer questions about my beliefs or opinions. Several of the class were clearly annoyed, and one suggested that I was trying to convert them to a belief in flying saucers, and became quite angry when I pointed out that I had never mentioned such a subject — *they* had.

Finally, a girl who had said nothing hitherto delivered what she thought to be the *coup de grâce* — she didn't see what all this could possibly have to do with O-level English, and she thought we ought to be talking about something which might come up in the exam.

I concurred. After all, if students actually began to think for themselves, it might become very dangerous. I promised them that next week we would discuss something more relevant — possibly rape.

* See FSR 31/5.

OTHER WORLDS — FACT, FICTION, OR BEYOND HUMAN COMPREHENSION?

Paul Whitehead, FSR Consultant

A review of the book *"OTHER WORLDS"*, by Dr Paul Davies (Dent, London, 1980).

At a recent meeting of physicists in Oxford, discussion came round to the "many worlds" theory of the universe we know, and possibly the universes we don't know. Surprisingly, perhaps, in view of the cautious approach that many scientists take to the subject, half of those present thought it reasonable to suppose that our own universe may be overlaid by other universes.

To the layman looking in, and indeed to many academics, the vote would have looked startling. Yet the physicists who voted "yes" were only agreeing with what a growing body of quantum physicists have been arguing for some years.

It is not only quantum physicists (those who study the world of atomic and subatomic particles) who are arguing the case. Mathematicians, whose calculations apparently show that a multiple-universe scenario is not a contradiction in terms, have added their voice to the chorus.

One such mathematician is Dr Paul Davies, Professor of Theoretical Physics at the University of Newcastle upon Tyne, and a well-known figure in the "new physics" mould, whose appearances on television and thoughts on paper* have stimulated part of the British public to broaden its thinking and adopt a more open-minded approach to such matters as religion and science, and the "parallel universe" theory.

(Indeed Dr Davies used sometimes to "sit in on" — and take an active part in — certain very private small discussions held in London by the Editor and Directors of *Flying Saucer Review* — particularly when Dr Hynek was here on one of his periodic visits, when he greatly enjoyed "getting together with 'The Gang'", as he called them. But more about this, perhaps, on some other occasion.)

It may seem odd to some readers to start a series of reviews with a book that is now six years old. After all, I have a number of 1985/6 books sitting on my bookshelves, dealing in the same subject matter and awaiting review. However, this book is a classic.

What is Reality?

In the introduction, Dr Davies states:– "With the advent of quantum theory, that reality (of an objective world "out there") seems to have crumbled, to be replaced by something so bizarre that its consequences have not yet been properly faced."

He adds: "One can either accept the multiple reality of the parallel worlds, or deny that a real world exists at all, independently of our perception of it."

Atoms and subatomic particles, he argues, are not really "things" at all. "Yet we are all made of atoms; the world about us seems to be directed inevitably to an identity crisis."

Readers of FSR should by now be familiar with the

White Horse, Bratton, near Westbury, Wiltshire (1983)

parallel universes theory. For those who are not, let me state it briefly. It is quite possible, some physicists say, for an infinite number of universes to exist in the same "place and time" as our own universe. Others state that just one other universe may exist; we cannot see its stars and planets, even though some may be very close to us, but we may be able to detect them via gravitational waves.

To complicate matters, another plausible theory is emerging, and one which also makes allowances for parallel worlds. This states that all the universes are really just one, and that universe is like a hologram — we only perceive it in one way out of very many, and what we see is the universe we know.

This new theory is not inconsistent with some of Dr Davies' proposals. He adds: "The most profound puzzle of all is the fact that, whatever we may experience mentally, time does not pass, nor does there exist a past, present or future."

In its place is an existence of many universes, overlapping at their "edges", where "time" as we understand it is an irrelevance. The universes are capable of interaction both where they overlap and where "wormholes" pass through them and connect them.

These other universes "can actually make their presence felt in the concrete world of our experience". Surprising though this concept is to the layman, some physicists believe it to be so. If it turns out to be true, it opens up some fascinating explanations for a number of phenomena — or rather for why we experience unusual phenomena as we do.

The world as we know it is Spacetime, according to Dr Davies, "with all events, for all times, included". Of our perception of time flowing like a river, he comments: "Possibly an extraterrestrial intelligence would be utterly unable to comprehend the whole idea."

Cosmic Interaction

In the chapter "Subatomic Chaos", the interesting notion of matter/energy being able to interact over vast distances (i.e., many light years, galaxy to galaxy even) is given a fresh airing. Consider the following:

"When we see Jupiter, photons of sunlight reflected from the atoms in the Jovian atmosphere traverse the several hundred million miles of intervening space, penetrate the earth's atmosphere and impinge on cells in the retina, where they dislodge electrons from the atoms therein. The merest brush of a disturbance sets up a tiny electric signal which, when amplified and propagated to the brain, delivers the sensation 'Jupiter'.

"It follows that, through this chain, *our brain cells are linked by electromagnetic forces to the atmosphere of Jupiter. If the chain of interaction is extended by incorporating telescopes, our brains can couple to the surfaces of stars billions of light-years away."*

At the subatomic level, where these weak interactions operate, some odd things can happen; "material particles can lose their identities and even disappear altogether". (And, as physicists point out, matter can also magically appear as if from nowhere — or somewhere else!)

"Worm-holes?"

The chapter "Superspace" discusses the possible shape, or topology, of our universe, which may be riddled with holes, making it a difficult "thing" to comprehend. To complicate matters, the universe is in a state of expansion, where space and time may connect "in a bewildering way".

The holes may provide bridges, giving easy access to distant parts of the universe. "The possibility of avoiding the long route through intergalactic space would be most appealing if giant worm-holes really do thread the universe," Dr Davies states.

In time, given the correct observations with the correct equipment, it should be possible to ascertain if the universe is riddled with holes — and even what "shape" it is. There could even be holes in time, allowing time to join up with itself, to connect past with the future, and present space travellers with some unusual though useful ways of getting from A to B.

"Although edges and holes in space and time might seem like a mad mathematician's nightmare, they are taken very seriously by physicists, *who consider that such structures may very well exist.*"

Davies returns again to the behaviour of subatomic particles, and their motion. They don't simply move in a straight line; instead their motion is controlled by a wave, which can spread out, occasionally washing through regions which are quite remote from the straight path.

The wave is not a substance, "but a wave of probability" — a notion that is bound up with the many universes theory on which Davies then focuses his attention.

"The wave describes not one world but an infinity of worlds, each containing a different path. These worlds are not all independent — the interference phenomenon shows that they overlap each other and get in each other's way," Davies argues.

A Holographic Universe?

At this point, the theory becomes identical with the "hologram universe theory" propounded in FSR 31/4. All the possible worlds form a "gigantic, multi-dimensional superworld, in which all the alternatives are placed in parallel on an equal footing".

The world we consider to be the "real" one would be a three-dimensional projection from, or section through, this superworld. If the superworld exists it is extremely large with "infinite dimensions of infinity".

Not all the universes within the whole would be like ours. Some would be very different, where life could not exist. Others might be "ghost worlds". Some might be peopled by advanced civilisations, others by people almost identical to, but never exactly the same as, ourselves. There might be another *me,* or several

versions of *me,* all slightly different from *me.* And so on, ad infinitum.

This whole concept is hard to grasp for those with a fixed, conventional view of the universe, where the universe we know is the only one that exists, where everything has a beginning, middle and end, where everything, humans included, follows paths which are pre-determined by the laws of nature.

Davies makes it even more difficult to comprehend, for he proposes that space as well as matter might comprise an endless stream of worlds for each "shape of space". These occupy the same space as the superworld. and he calls this space "superspace".

Contained within it are all the possible space shapes, including wormholes, doughnut-shaped universes, spheres, etc. Even more confusing, "Each space of superspace will contain its own superworld of all possible particle arrangements". But take comfort, we are not confused, thanks to our necessarily simplistic perception of this superworld/superspace universe.

"The world of our senses is apparently a single, three-dimensional element projected out of this stupendously infinite superspace."

However, the world we see isn't just a random selection from superspace. It depends in a crucial way "on all the other worlds we don't see", which exert their subtle influence on it.

Mind the Creator?

The Princeton University physicist John Wheeler even proposes that the observer "literally creates the universe by his observations", says Davies. Wheeler proposes that the universe we know is meaningless or unworkable unless it can produce life, consciousness and observership somewhere in it.

Another interesting chapter in the book is that headed "Mind, Matter and Multiple Worlds". It follows on from Wheeler's proposition above, but explains that few physicists are willing to accept that consciousness creates the world (or conjures up a more concrete world from one of the ghost worlds existing in superspace).

However, Davies apparently believes that it is the logical conclusion of some theories and mathematical calculations. The physicist Hugh Everett even proposes that the "ghost worlds" are actually real, concrete worlds like our own.

Indeed, the Everett theory is sometimes called the "many universes interpretation of quantum theory". It has some profound implications.

Universe Constantly Splitting

For example, it states that the world we know is constantly splitting into countless near-copies of itself. The physicist Bryce Dewitt says: "Our universe must be viewed as constantly splitting into a stupendous number of branches."

Our own bodies are also split time and time again. Our brains and consciousness, too, each copy becoming a thinking, feeling, human being inhabiting another universe much like the one we see around us.

The act of splitting is not observable by consciousness, and it is not possible for an individual to leave one world and visit his copy in another. (But is this so? Davies concedes that attempts are made to explain ghosts as images from other worlds. And would not wormholes, strange twists in time or bending space make it possible for an extremely advanced species to have access to another universe, given the technology to achieve it?)

Possible Life-forms

Davies adds that in some worlds, "the whole Milky Way will be colonized by aliens", Earth included. There will be different life forms, and societies may have developed into advanced Utopias.

He ponders the question of whether life could exist in one of the universes where temperatures are much higher than the average found in our own. The answer, if considering life as we know it, is probably "no".

"On the other hand, there may be forms of life quite unlike terrestrial bioforms, perhaps based on entirely different processes, which could survive and even flourish under widely different conditions from those on earth."

Life as we know it is carbon-based. Both silicon and tin are occasionally proposed as the base for other life forms. Yet, what is life? According to Davies, there is no real definition for it, and the boundary between life as we understand it and non-life simply doesn't exist. There may be complex systems elsewhere in the universe which bear no resemblance whatsoever to living organisms on earth, but are "every bit as living as we are".

As the author says, we may be too narrow-minded in our vision of life.

Consciousness the Key

Davies ends his book with a chapter on Supertime, and speculations on the nature of consciousness and our perception of time. Again, he drives us to question fundamentals: for example, no-one has succeeded in registering the existence of consciousness in experiments, he writes. Does mind exist apart from the physical brain processes?

Certainly, there are mysteries about the "very nature of our perceptions". We are led on to the question of whether our minds can affect our physical brain and other matter (i.e., is there such a thing as mind over matter?).

There is no evidence that this is so, he states, *"apart from the ESP (Extra Sensory Perception) experiments".* Somehow, we might be able to affect the course of the world (the future) through mental means, via an element of chance and an element of choice.

In spite of this conclusion, "there is no reason to suppose that the future does not already exist — even

though it is not yet determined, and even though the individual will have a hand in structuring it". Davies invokes Einstein's Theory of Relativity to support his theory that in some way the future already exists.

He continues: *"It is conceivable that advanced communities elsewhere in the universe have long since abandoned the notions that time passes or that things change ... It is probable that if we encountered such beings we would be unable to communicate much of common understanding."*

The book ends on a high note. If time really does have the richer structure that some scientists and others perceive, "the nature of reality, of time, space, mind and matter, will suffer a revolution of unprecedented profundity".

Dr Davies' book is recommended for anybody interested in the cosmos, whether from a philosophical, astronomical or scientific viewport, or the standpoint of "Are we alone? Is there anybody out there?" It is refreshing to read a work such as this in a world that is still dogged by orthodox thinking.

* Dr Paul Davies' other books include the following:-
The Physics of Time Asymmetry
Space and Time in the Modern Universe
The Runaway Universe. (Titled also *Stardom* on paperback edition.)
The Forces of Nature
The Search for Gravity Waves
God and the New Physics (Penguin paperback, 1983).

Incidentally, I can confirm that Dr Paul Davies has "sat in with us" (and on several occasions) when a small group of *"Mafiosi"* have met together in London, in the apartment of an FSR Consultant, to spend an evening with Dr Allen Hynek during his many visits here. — Editor

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PRESUMED PHYSICAL MEDIUMSHIP AND UFOs

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CONTRARY to some popular accounts, the early serious UFO literature paid little heed to possible paranormal aspects of close encounters. Despite the plethora of subjective data, the paucity of solid objective data was and is notable. However, the journals and file cabinets soon became replete with detailed and sometimes fanciful subjective accounts of UFO experiences. Still the mystery of the origin, purpose, and *modus operandi* of UFOs was as obscure as ever. In many ways, the same can be said for psi.

Careful study of contactees reveals that many had claimed high-quality psi *after* their UFO experiences.[1] However, deeper scrutiny also yields evidence for many psi experiences *before* their alleged UFO contacts. The common contactee attributes for dissociation, capability for entering a deep hypnotic trance, hypersuggestibility, *etc.* are also found in many high quality sensitives. The overlap between various psychic phenomena such as telepathy, precognition, telekinesis, materialization, dematerialization, teleportation, *etc.* have their analogies in many UFO experiences. Despite the appealing practical and theoretical relationships between psi and close UFO encounters, little has been written about the UFO experiences of *documented* gifted sensitives. Although known almost exclusively for their UFO-related experiences, there is a wealth of anamnestic psychic information for Stella Lansing, Betty Hill and Dr. Herbert Hopkins.[1]

One spectacular psi case that I studied involved alleged materialization, dematerialization, cloning, bending a key and coin "melting", writing on a picture window, and paranormal audiotape effects pertaining to UFOs and the experients. In this example, the torrent of events was precipitated by the suicide of a young man who had betrayed his two paramours ... each of whom did not know how, at the time, they were being used.

The second precipitating factor was the death of the principal young woman's father who, on his death bed, had importuned his daughter to learn all she could about life-after-death experiences. She sought help from the American Society for Psychical Research, read Jane Roberts' *Seth* books and finally, with her friend, resorted to the ouija board. Per instructions received from the board, an array of psychical events, including several alleged paranormal tapes, ensued. In a few cases, the psychodynamic and psychic factors were that apparent and, in some instances, very tragic.

Despite the multiplicity of alleged genuine psi, there was little that was directly observed by the researcher: i.e. numerous instances when an office telephone rang even when the cut-off switch was open and it should have been electrically impossible; and some experiments[1] involving one of the protagonists to these events and UFO abductees Betty Hill and Marianne Casio.