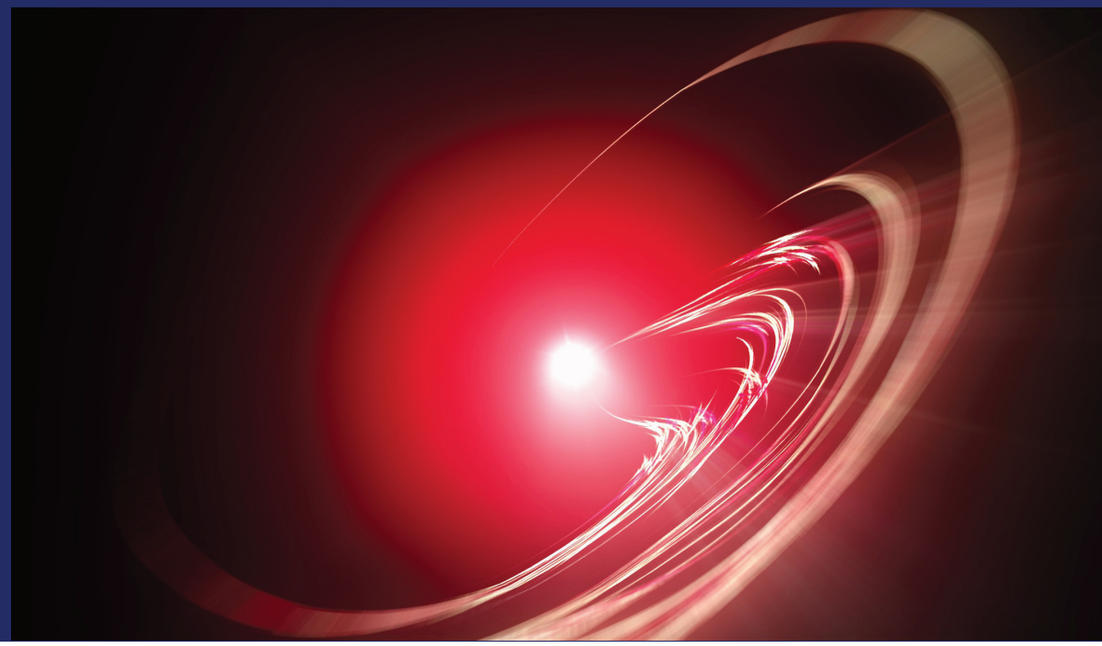
Jack Sarfatti created the legendary Physics/Consciousness Research Group at the New Age Esalen Institute in Big Sur and in San Francisco in 1975 with money from Werner Erhard (est), Sidney and Jean Lanier, and George Koopman. MIT physics professor historian David Kaiser wrote in his award-winning book: "Little could Herbert, Sarfatti and the others know that their dogged pursuit of faster-than-light-communication and the subtle reasons for its failure, would help launch a billion dollar industry ... at the heart of today's quantum encryption technology" (How the Hippies Saved Physics). This book tells the story left out of Kaiser's book showing how Sarfatti has explained the physical nature of our consciousness - our souls. The simple physics involved, if true, will herald in a new post-quantum technology of fully conscious artificial intelligent nano-electronic machines into which your consciousness can be uploaded to survive physical death. Sarfatti also explains what happened in the USS Nimitz's Close Encounter with advanced warp drive craft off the coast of San Diego in 2004 that can render all our weapons impotent and obsolete.

Physicist Jack Sarfatti Ph.D. is a leading character in MIT physics-historian David Kaiser's award-winning book "How The Hippies Saved Physics" on the birth of the quantum computer industry in San Francisco in the 1970s. He has physics degrees from Cornell and the University of California. See Wikipedia for details.

978-613-9-87912-0

Star Gate

Sarfatti



Jack Sarfatti

Star Gate

Essays by and about the disruptive ideas of physicist Jack Sarfatti on mind, matter, consciousness, time travel to the stars and beyond

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Jack Sarfatti

Star Gate

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Literary and Scientific Essays

by and about the disruptive ideas

of physicist Jack Sarfatti

The untold story left out of David Kaiser's book "How the Hippies Saved Physics"

Foreword

Newton's mechanics in the 17th century increased the lethality of artillery. Thermodynamics in the 19th led to the steam-powered industrial revolution. Maxwell's unification of electricity, magnetism and light gave us electrical power, the telegraph, radio and television. The discovery of special relativity by Einstein in 1905 and of quantum mechanics in the 20th century by Planck, Bohr, Einstein, Schrödinger, Heisenberg led to the creation of the atomic and hydrogen bombs as well as computer chips, the world-wide-web and Silicon Valley's multibillion dollar corporations. The lesson is that breakthroughs in fundamental physics, both theoretical and experimental, have always led to profound technological wealth-creating industries and will continue to do so. There is now a new revolution brewing in quantum mechanics that can be divided into three periods. The first quantum revolution was from 1900 to about 1975. The second quantum information/computer revolution was from about 1975 to 2015. (The early part of this story is told by Kaiser in his book, *How the Hippies Saved Physics*, how a small group of Berkeley/San Francisco physicists triggered that second revolution.) The third quantum revolution is how an extension of quantum mechanics may lead to the understanding of consciousness as a natural physical phenomenon that can emerge in many material substrates, not only in our carbon-based biochemistry. In particular, this new post-quantum mechanics may lead to room temperature superconducting quantum dot nano-electronic networks with naturally conscious artificial intelligence, as well as extending human life spans to hundreds of years and more. Finally, the recent release by the Pentagon of the November 2004 close encounter of the USS Nimitz battle group with advanced space craft demonstrating low power gravity warp drive making high speed sharp turns with impossibly high apparent g-forces based on today's military weapons technology. I explain in this book how these craft fly according to Einstein's theory of gravity and that they come from our future.[1]

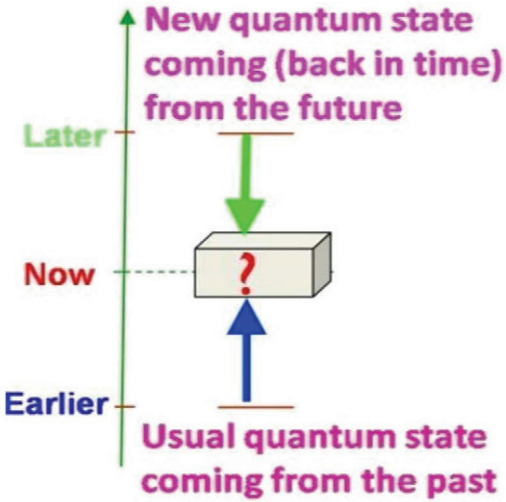
Contents

Dedication

I would like to thank A. T. Conway for putting up with me for over twenty years and "Kelvin" for his generous support over the years.

A. T. Conway in Budapest

Yakir Aharonov's "Back from the Future" Quantum Theory



The usual quantum state from the past is called the "history wave."
The new quantum state back from the future is called the "destiny wave."

"We are four-dimensional beings. As I argue in my new book *Time Loops*, our behavior at any given moment is shaped not only by the exigencies of that moment and what has preceded it, but also by what comes next; we are informed by things we will learn in our future, not just by what we know from our past. … *Time Travel* is … er, *will be* … oddly backward looking, a retrospective view of H.G. Wells' sci-fi trope and its impact on our culture. It will only barely, glancingly, remark on the emerging science that is destined to make time travel, or at least time-traveling information, a reality. '' Eric Wargo[1]

[1] http://thenightshirt.com - Thanks to Nick Herbert for alerting me to Wargo's brilliant blog.

My Original Post-Quantum Mechanics in a Nutshell

Explained in a popular way in this book

"The future belongs to those who can change the past."

Panpsychism, aka "Conscious Intelligent Universe" is a strong likely possibility in Post-Quantum Mechanics (PQM) in which conscious experiences "qualia" are hypothesized, conjectured ("Ansatz" in German) to emerge in any physical system when classical level matter directly back-reacts on its de Broglie-Bohm pilot quantum information instrinsically mental waves in the same way that the direct back-reaction of classical matter on classical geometry (aka Einstein's geometrodynamic field) produces space-time curvature gravity fields. Einstein called quantum entanglement "spooky" "telepathic" indeed it seemed like voodoo magic action at a distance even fater-than-the speed of light in some experiments that violated his 1905 special theory of relativity.[2] We now know that quantum entanglement does not violate relativity at all. Entanglement explained as future destiny colliding with past history to create the present in our conscious experiences.[3]

In the case of post-quantum mechanics (PQM), the conscious qualia only emerge when the Frohlich pump mechanism (e.g., ATP molecular et-al metabolism processes in protein dimer microtubule "quantum dot" electrical dipole networks for human consciousness) drives the many-particle complex system into a non-equilibrium macro-quantum coherent analog to a thermal equilibrium Bose-Einstein Condensate (BEC) active matter phase.[i]

The dark energy[4] acceleration of the expansion of the 3D space that is our observable universe sandwiched between our past and future cosmological 2D horizon "hologram screens" (Lenny Susskind) Quantum Computers (Seth Lloyd) is a Frohlich giant quantum coherent system for the classical geometrodynamic field that is a John S Bell "beable". This is Stephen Hawking's "Mind of God" i.e., I. J. Good's "GOD(D), Olaf Stapledon's "Star Maker", Fred Hoyle's "Black Cloud", Star Trek's "Q", Stanislaw Lem's "Solaris" and P.K. Dick's VALIS.[5]

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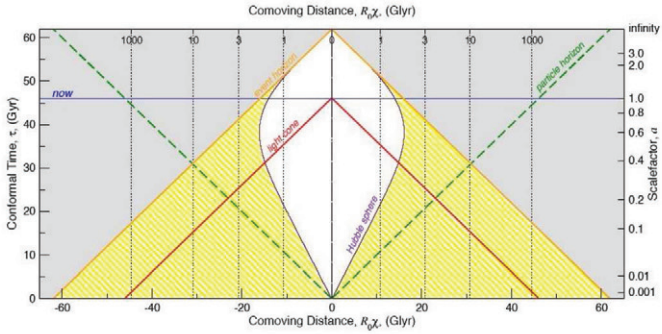
[2] Alain Aspect https://journals.aps.org/prl/abstract/10.1103/PhysRevLett.49.1804

[3] Huw Price, Ken Wharton https://arxiv.org/abs/1307.7744
Yakir Aharonov, Lev Vaidman https://arxiv.org/abs/quant-ph/0105101
Roderick Sutherland https://arxiv.org/abs/1706.02290

[4] The dark energy density we measure is, it seems, gravity redshifted negative energy advanced Hawking radiation from our future observer-dependent de Sitter cosmological horizon.

[5] Lenny Susskind's "World as a Hologram" https://arxiv.org/abs/hep-th/9409089
Seth Lloyd's "Black Hole/Cosmic Horizon Computer" https://www.scientificamerican.com/article/black-hole-computers-2007-04/
John S. Bell's quantum "beable" https://arxiv.org/abs/1805.02143
Stephen Hawking's "Mind of God" https://phys.org/news/2018-03-mind-god-quotes-stephen-hawking.html
I.J. Good's "GOD(D)" https://io9.gizmodo.com/why-a-superintelligent-machine-may-be-the-last-thing-we-1440091472
Olaf Stapledon's "Star Maker" https://en.wikipedia.org/wiki/Star_Maker
Fred Hoyle's "Black Cloud" https://en.wikipedia.org/wiki/The_Black_Cloud
Star Trek's Q https://en.wikipedia.org/wiki/Q_(Star_Trek) same symbol used in Bohm's mental https://en.wikipedia.org/wiki/Quantum_potential that explains how mind moves matter.
Stanislaw Lem's "Solaris" https://en.wikipedia.org/wiki/Solaris_(novel)
P.K. Dick's "VALIS" https://en.wikipedia.org/wiki/VALIS



Our observable universe sandwiched between our past and future horizons

https://arxiv.org/abs/astro-ph/0402278

Summary of Fred Hoyle's idea of the "Intelligent Universe"

"Hoyle's 1983 book introduces particle physics and quantum mechanics. On an atomic scale cause and effect dissolve into indeterminacy. Free will and consciousness are explained as post-quantum phenomena. Radiation travelling from future to past is compatible with Maxwell's equations. Biological systems are able in some way to utilise the opposite time-sense in which radiation propagates from the future to past. Information necessary for the development of life comes from the future."

The information, the elan-vital of Henri Bergson is coming from a source of information, a conscious Vast Active Living Intelligence System "VALIS," "GOD(D)", residing in the remote future on our dark energy de Sitter future event horizon – the cosmic brain holding Stephen Hawking's "Mind of God."

http://wasdarwinwrong.com/pdf/korthof47.pdf

https://en.wikiquote.org/wiki/Fred_Hoyle

CHAPTER 1

Man on a Pendulum
by Colin Bennett

The trouble is that Jack Sarfatti is a star.

Few scientists are of any kind of personal interest. Most have no more a name than does a particular herring from a particular net. By contrast, Sarfatti glitters and sparkles as if he is still on the bridge of the Starship Enterprise. He is more than a futurist. He drives his liminal engine through the dimensions of holographic retrocausality. I can't imagine anything more Star Trek than that.

I wish young Jack Sarfatti had been present when in order to illustrate the motion of a pendulum, a science teacher once asked my school class to imagine a man sitting on a swing and being given some initial push. Upon asking the name of the man on the swing and also the name of the person who gave the first push, I created uproar in class equal to poor Oliver Twist asking for more porridge. The hapless teacher, after having quelled the melee, said that neither person had a name, whereupon I asked if the two people involved were political prisoners. The resulting laughter earned me a day in detention accompanied by a stern Thou Shalt Not warning by the headmaster himself (indeed) about the dangers of trying to "personalise pure abstractions." It might come as a surprise to some that yes indeed, teachers of those pre-Fall days (I was but 10 years of age), used such language to youngsters as distinct from giving politically-correct talks about alternative sexuality, diets, cooking tips, or the politics of dance. Of course, I was later to find that science seen as a culture amongst cultures had more Thou Shalt Nots per unit-concept than a jack-rabbit had second cousins. This experience was a good warning introduction to science. Many years later, whilst writing my biography of Charles Fort "Politics of the Imagination," I learned only too well that intellectual conformity and paranoid cultural fear appeared to be the scientific order of the day. Certainly, scientists cloaked large-scale anomalies (such as the UFO phenomenon) just as Victorian piano legs were draped lest they should inspire outrageous erotic dreams beyond all compass.

My science teacher was the modern equivalent of Dickens' Mr Gradgrind of the novel Hard Times. Many years later I was to meet a considerable number of scientists in the course of my work, and I found that things had not improved much from the days of Gragrind or my school experience. Symbols of post-industrial despair, such human Rubik cubes weighed and measured and calculated like gone-mad grocers. Despite Chernobyl or Three Mile Island, they poured out facts and figures most of which were untrue, ill conceived, rigged, or were sets of "facts" derived from mass deceptions such as Y2K or Global Warming. Due to this depressing influence I left science forever until I met up with Dr. Jack Sarfatti Ph. D and read his books. It is indeed a miracle that Sarfatti is still alive and well after a 20th century cultural maelstrom that instituted a holocaust as regards all heretical scientific opinions. Like most of the Amazon rain-forest, statistically speaking, Jack Sarfatti should now be buried alive under ten feet of that solid corporate car park called Official Science.

As a scientific Bigfoot impossibility Sarfatti actually speaks, he has a face, a name, an opinion and a unique vision. Parts of Destiny Matrix read like a scientific version of Rousseau's "Confessions." The travels, the meetings with significant people, the tempestuous affairs, the broken relationships -and indeed his singing career -come from the inspirations of the major underground avant garde movements and institutions of both Europe and America.

It has to be pointed out here that Jack Sarfatti is not the perfect example of good liberal politically-correct views. He is always being asked to explain, to be rational and reasonable like more conventional folk. He looks down upon humble engineers and mechanists as if they were ragged and impoverished supplicants at his very own Court of Camelot. These rather grand aristocratic gestures are somewhat excusable because after all, he IS an aristocrat, being the descendant of Rashi de Troyes. Of course, such behaviour from a scientific visionary had resulted in him accumulating enemies by the tumbrel load.

The trouble is that Jack Sarfatti is a star. This makes things far worse. He has stardust all over him. He was born of Star Trek, in which he had a part. All stars have something of the magic of fantastic impossibilities in them. By contrast to the scientific drones, as an authentic 21st century Wizard, Sarfatti represents the Star Trek hopes and fears of all the technological years in a much more genuine sense.

He is possessed also of numerous other damning qualities. For infernal cheek, he has the nerve to add more than a touch of mystico-Illuminati to some of his scientific speculations. Of late, even a whiff of that was enough to send the clocks and measuring rods of the nation who gave us Alice in Wonderland into a veritable nanny-tizzy.

Representatives of the nation who gave us that other Wonderland rabbit-hole called the Military-Industrial Complex were equally as baffled. Being "disinvited" from your own conference is a lifestyle achievement few could equal. Recently, Brian Josephson (a Nobel Prize Winner to boot), physicist David Peat and our Jack were barred from attending a conference on Bohm's ideas on quantum theory. Sarfatti himself had proposed such a conference and offered funds to support it. These three scientists were barred because of their interest in that great scientific bête noire called the paranormal. It was all enough to disturb the horses in the street! The disinvite to the Bohm conference was a watershed not only for the participants but for physics as a whole. I myself was a non-scientific participant in that I contributed to the comments section of an article in the UK Times Higher Education Supplement, which discussed the disinvitation. After three days my comments were taken down from the Supplement, although all others were retained. I asked the Editor for an explanation and he did not have the manners to reply. This made me the only member of what must be one of the world's most exclusive clubs.

All this might sound like great liberal fun, were it not at such times we have surely a glimpse of the theme from Polanski's film Rosemary's Baby, or Jack Starrett's film Race with the Devil. In these works, every innocent social-democratic perspective becomes suddenly alive with menacing conspiracies beyond the sun and moon.

Few scientists are of any kind of personal interest. Most have no more a name than does a particular herring from a particular net. By contrast, Sarfatti glitters and sparkles as if he is still on the bridge of the Starship Enterprise. By comparison, almost all scientists at some time or other are sentenced to work within some terrifying department of the Military-Industrial Complex, the perfect equivalent to Kafka's novel The Castle.

Grinding away in such modern versions of Blake's "Satanic Mills," almost all are finally rendered quite faceless, anonymous and often quite speechless. In this respect, just like my science teacher again, Big Science (as General Groves of Los Alamos called it) has always had a love-hate relationship with concepts involving such "non-objective" things as character, identity and personality. To most Stalinists and Victorian Station Masters, these things represent such wondrous modern fables as "noise in the system" in that they are full of very non-Cartesian animals such as images, symbols and metaphors. Such are now propagated by that other complex now called Big Media. Most scientists have not met such a messy and rather indeterminate thing as Media yet, big or small. Most think still that TV alone is a thing to keep the kids quiet upstairs: apparently the absorption of billions of powerful images per second plays no part in modern “scientific” ideas of “causation,” which is still conceived as being essentially made up of “objective” mechanisms in nature and function. Apparently to be “real,” one thing has to bang against another thing. In this respect, no scientist on Earth has yet noticed that the CERN Collider is producing as many images, symbols and metaphors as it is producing “facts,” both of which operate within a framework of cultural deception of one sort or another. In putting foreword, a "no-thrust" theory of UFO propulsion alone, Sarfatti is way ahead of the postmodern gaming syndrome. He is indeed “back from the future.” In contrast, Stalinist mechanists still have their fingers stained with chemicals and theories of "actuality," another word for the constellated "real," which is the very best commercial break in our Entertainment State.

When we examine the verbal surface of his writing we find that Jack is creatively hyperactive. He winds the universe up and lets it spin into infinity. One sentence alone can bring alive whole galaxies of names threading through conspiracies, science and mysteries going back through decades. Here surely is his idea of “back from the future.” It appears that he does not forget a single thing. Each wound and sneer, each bit of praise or criticism is real and alive within him as if he were still acting out some particular slice of time and life a full half-century after it occurred. Perhaps this total inability to forget any single instant of his life drives his sense of time passing and gives him his ideas on retrocausality in the sense that mentally he is always going to and fro, not by the hour or the day, but by the decade. Every minute of the deep past is still living and developing within his mind. Moreover, in what would be a nightmare to most non-cerebral folk, every single minute of every single experience is scanned as if looking for some vital existential connection within the quantum hologram he proposes as a cosmological model. As Destiny Matrix shows, he is inside and out of his model such that each past meeting, each incident is a story-cluster rather like a meme. Each rise and fall of destiny and achievement is a tremor in the spider’s web of the retrocausal hologram. Moreover, the interpretations of each meme permit retrocausal extensions of themselves rather like the opening of a fractal. He has entered the system and the system is talking to him. This is a quantum life. The Microcosm has become the Macrocosm. This is a singular and unique vision of a new kind of stream of consciousness. This is the Matrix visualised before The Matrix was filmed or talked about.

We can only imagine Sarfatti’s problems as he disturbs the Thou Shalt Nots who live in the cooing dovecotes and whited sepulchres of professional science. His great sin appears to be that whilst he is perfectly capable of describing his cosmology mathematically, he insists that he lives within the equations, fleshing them out to become living parameters. Most scientists don’t see themselves as living within the flesh and blood of their proposed models, even if those models become generally accepted, such as Relativity or quantum theory. Like all good books Destiny Matrix makes us think about the unthinkable. The book is a brilliant collection of many unanswered questions in both science and scientific philosophy. Deconstructed science, in the sense that it has to use language sooner orlater, reveals many dialectical defences and wilful self-deceptions.

These are part of the management of psycho-social frameworks of perception. For example, scientists speak universally of cosmic events in the present tense, when according to Relativity, we are "seeing" the deep past within what the philosopher A.N. Whitehead called "an ever-widening penumbra of uncertainty."

This aspect of what Big Media calls "real time" makes Sarfatti's concept of "action at a distance" appear positively endearing. We might ask what the concept of "distance" means here within such a non-Cartesian dialectical warp as described by Sarfatti. Since all cultures are advertising systems of one sort or another, we might have to consider mass existential deception within a warp continuum. This idea is the central core of the Matrix with the heart of the Big Media complex in which we now live. We have to consider such things if only because Sarfatti's inspirations are somewhat multi-media. As an accomplished singer in musical theatre, we can now add Entertainment to that unholy triad called the Military.Industrial-Complex. No matter what, for Jack Sarfatti all trails lead back from the future to Star Trek and what happened to him in a Brooklyn flat in 1952 when he picked up a ringing phone and what he later assumed was an outer-space VALIS computer spoke to him. This was the very beginning of his Star Trek quest two decades before Star Trek was conceived. Back from the future again! He was to become a thoroughgoing postmodern icon with TV programmes and equations pouring out of his head at the same time, both mixed with thoughts worthy of Rabelais and Cervantes as well as P.K. Dick. Both Warhol and McLuhan would have been proud of him as a complete postmodern icon.

He is more than a futurist. He drives his liminal engine through the dimensions of holographic retrocausality.

I can't imagine anything more Star Trek than that.

That Sarfatti has never suffered from what Norman Mailer once described as America's "massive failure of nerve" is a sufficient compliment to the Star Trek wizard.

Representing one of the last toys of scientific innocence, Star Trek still sparkles amongst our rapidly diminishing collection of things of worth. The wizard Sarfatti is Fournier's Le Grand Meaulnes trying to find the enchanted house in the forest he once glimpsed in his early youth. Each time shift forward or back becomes a pilgrimage to the site of his Star Trek lair. This is the fountain of his youth, the map of his impossible endeavours, and it contains still the magical codes of his thought and creation. When fact has failed us, the archetypal TV shows will always be there. Already they have replaced History and Religion. Whatever else they will replace eventually remains to be seen.

In the meantime, Jack Sarfatti, may the gods bless thee and thy holy book, oh magician of our time!

End of Colin Bennett's writing.

“When Jack Sarfatti was 13 years old, he began receiving phone calls from a strange metallic voice that told him he would someday become part of an elite group of scientists exploring uncharted territory. Those calls, which he believes may have come from a computer on a spacecraft, proved a seminal influence on his life and led him to pursue a career that combined mainstream physics with an enduring interest in UFOs and the far-out reaches of science.

For those who might dismiss Sarfatti as a crank, he is quick to point out that he is not interested in debating the reality of little green men, but rather whether the existence of UFOs might prove that the technology required for interstellar travel is possible. “It’s the physics that interests me,” says Sarfatti, who received his PhD in the subject from the University of California.

That experience, and interest, also helped make Sarfatti one of the key figures invited last year to help formulate an unusual government programme: the 100-Year Starship.” Sharon Weinberger http://www.bbc.com/future/story/20120321-searching-for-a-starship

1952 “As a child in 1952, Jack Sarfatti claims to have received phone calls from the mechanical voice of a conscious computer aboard a spaceship, recruiting him along with 400 others for some special project. These calls have similarities to the mechanical voice which talked to Andrijah Puharich via his tape recorder. Sarfatti was later associated with Puharich. Puharich first contacts "The Nine" - a group of channeled being via a medium.

According to Jack Sarfatti, a "very, very sophisticated and successful covert psychological warfare operation run by the late Brendan O Regan of the Institute of Noetic Sciences and the late Harold Chipman who was the CIA station chief responsible for all mind-control research in the Bay Area in the 70s."

‘Richard Kennett’ is a pseudonym used by author Jim Schnabel in Remote Viewers (Dell, 1997) to describe a CIA scientist who worked with the remote-viewing project. In the photo insert is a picture of Kennett, Pat Price, and Harold Puthoff after a remote-viewing experiment involving a glider.

Elsewhere (example: Puthoff, Harold, "CIA-Initiated Remote Viewing Program at Stanford Research Institute", Journal of Scientific Exploration, Vol. 10, No. 1, Spring 1996), the man in the photo on the left is identified as Chistopher Green. As there can't be too many scientists at the CIA with an interest in the paranormal with this name, I feel safe in guessing that the two are the same, although I haven't absolutely confirmed it. At any rate, here is the information on "Richard Kennett", all from Remote Viewers.

In Spring 1973, he was an analyst with the CIA's Office of Scientific Intelligence with a Ph.D. in neurophysiology. "Within a decade, Kennett would be the assistant national intelligence officer for chemical and biological warfare issues". His work concentrated on evaluating the health of foreign officials, but he also explored the fringes of medicine and psychology. It was under these circumstances that he challenged Hal Puthoff's research at SRI, although he was not officially controlling the contract. (pg 104-6)

The initial challenge was to view a secret microwave receiving station. [This controversial experiment is dealt with at length here. According to Schnabel's information, this would make Kennet the "East Coast challenger" from Mind Reach].

Kennett - as well as the team at SRI - were reportedly investigated by the Defense Investigative Service after the viewing. Kennett was also involved with the experiments with Uri Geller. (pg 139).

Kennett was also called in to look at the scientists at the Lawrence Livermore National Laboratory who began to see "visions" after experimenting with Geller. (pg 166-9) Kennett left the CIA around 1985. (pg. 317)

Hal Puthoff, Jack Sarfatti and "Richard Kennett" aka Christopher “Kit” Green MD London Oct 28, 2017 Fetzer Foundation London University David Bohm Centennial

In 1974, Jack Sarfatti is director of a physics program at the Esalen Institute. He's been funded by Werner Erhard and Jean Lanier (a friend of Laurance Rockefeller). (Sarfatti, Jack, "The Parsifal Effect", The Destiny Matrix.

Sarfatti met with Puharich, Uri Geller, and Ira Einhorn at Puharich's Ossining ranch. Einhorn acted as a literary agent for Sarfatti and brought him to Esalen Physics /Consciousness research group. This is where it all started back in 1975. PCRG was co-founded by Jack Sarfatti and Michael Murphy at the Esalen Institute in Big Sur, California in 1974. Financed by Werner Erhard, Jean Lanier, and the late George Koopman, the PCRG nurtured the creation of books like Space-Time and Beyond, The Tao of Physics, The Dancing Wu Li Masters, Cosmic Trigger, and The Roots of Consciousness.

The group included the physicists and authors Fred Alan Wolf, Nick Herbert, and Fritjof Capra, along with Saul Paul Sirag, Henry Dakin, Robert Anton Wilson, Uri Geller, Barbara Honneger, the late Brendan O'Regan, George Leonard, Gary Zukav, Ira Einhorn, and artist Lynn Hershmann. Nobel Laureate Brian Josephson along with

physicists David Finkelstein, Russell Targ, Karl Pribram, Henry Stapp, Phillipe Eberhard, and Ralph Abraham all came for shorter visits.

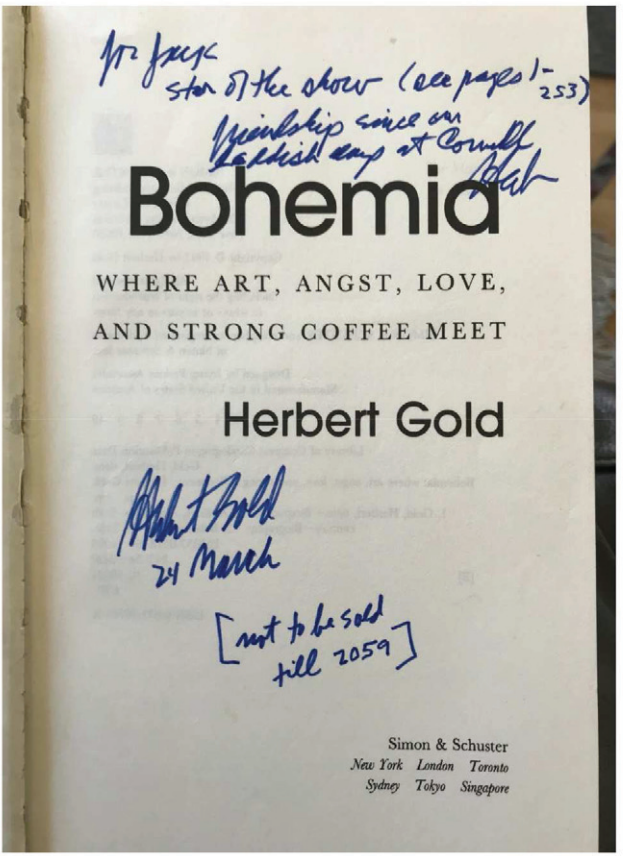
The group is now reborn on the World Wide Web 20 years later with both new and old faces. According to George Koopman, the PCRG was the inspiration for the film 'Ghost Busters'."

Website: https://www.bibliotecapleyades.net/esp_cointelpro06.htm

CHAPTER 2

The Bohemian Who Saved Physics

Audio files of some of my 1964 operatic performances at Cornell and Oberlin are available on You Tube and Vimeo along with several lectures on post-quantum mechanics and consciousness.[ii] Tom Pynchon was in some of my classes. Gold was filling in for Vladimir Nabokov who was off writing the screenplay for "Lolita". Herb introduced me to European literature (Dostoyevski, Goethe's Faust, Tolstoy, Proust). I would see him outside of class either in Willard Straight Hall or in Noyes Lodge where C. Michael Curtis, Kirk Sale, Richard Farina, Peter Yarrow, Tom Pynchon, Sergio Sismondo and other emerging literati and people of talent would gather. Curiously and uncannily enough, Noyes Lodge was given to Cornell by the grandfather of my far future Grand Passion Suky Sedgwick of six years in honor of her grandmother, Julia Gilman Noyes. Suky's grandfather on her mother's side was Rudyard Kipling's close friend and a partner of Railway Baron, E.H. Harriman. The entire story is to be found in the book, "Edie", by George Plimpton, editor of the Aga Kahn's "Paris Review", and Jean Stein, heiress to the MCA super-fortune left by her father, Jules Stein. Even more remarkable is the fact that her paternal grandfather wrote an essay in 1908 that anticipates the New Physics in which the Future causes the Past. Herb Gold explains all this in Chapter One of his book fitting me into the Bohemia of Jack Kerouac, Gregory Corso and Lawrence Ferlinghetti in that sizzling cauldron of creativity that is San Francisco's North Beach. Gold connects North Beach of the latter 20th century to the Bohemia of Vienna, Paris, London and Greenwich Village of years gone bye. Gold's richness of prose is a joy to read. Gold's book should be made into a docu-drama. Like Mel Brooks, Yiddish Vaudeville would have been for me, were it not dead and were I not partially waspified by the Cornell Savoyards in my tender years when I first met Herb at Telluride House in the Groves of Academe in 1957. It was in Ithaca with Herb Gold that the imprint of the Penelope archetype was made on my Wandering Jewish Soul that appeared in my future liaisons with several Amazon Women who run with Wolves — and bite like them too!


To Jack
star of the show (see pages 1-253)
friendship since our
Yiddish camp at Cornell

Bohemia

WHERE ART, ANGST, LOVE,
AND STRONG COFFEE MEET

Herbert Gold

Herbert Gold
24 March

[not to be sold
till 2059]

Simon & Schuster
New York London Toronto
Sydney Tokyo Singapore

“So now I am in the first hour of one of my deaths. The thought made me dizzy. I was reminded of Jack Sarfatti, Ph.D. physicist and reincarnation of the eleventh-century mystic Rabbi Sarfatti…with rapt descriptions of how events from the future cause events in the past.” Herbert Gold, p.115

“One of his soaring theories is that things, which have not happened, yet can cause events in the present…Obviously this has consequences for prediction, the nature of causality, our conceptions of logic…He has published papers in respectable physics journals. His poetry is widely photocopied. His correspondence with the great in several fields is voluminous, recorded on computer disks. Cornell University BA, University of California Ph.D., his credentials are impeccable. Following is a quotation from a lecture given to a San Francisco State University physics seminar on 30 April 1991:”

‘The universe is created by intelligent design but the Designer lives in our far future and has evolved from us… Perhaps all of the works of cultural genius, from the music of Mozart to the physics of Einstein, have their real origin in the future. The genius may be a real psychic channeler whose mind is open to telepathic messages from the future. The genius must be well-trained in his or her craft and intellectually disciplined with the integrity of the warrior in order to properly decode the quantum signals from the future. The purpose of our existence would then be to ensure, not only the creation of life on earth, but also the creation of the big bang itself! We obviously cannot fail since the universe cannot have come into existence without us in this extreme example of Borgesian quantum solipsism. Existentialism is wrong because it is an incorrect extrapolation of the old physics. Breton’s surrealism, with its Jungian idea of meaningful coincidence, is closer to the truth. This would then be “The Final Secret of the Illuminati” - that charismatic chain of adepts in quixotic quest of their “Impossible Dream” of the Grail. Enough of my subjective vision, now on to the objective physics.’ (pp. 15 – 16 Bohemia, Herbert Gold)

Weird Science

Alex Burns

21 C Magazine 1996

Author's note: This interview was originally published in 21.C magazine (4/1996, The Unafesto): 54-59. It was my entre to a covert and mysterious world.

[My 2018 comments are in square brackets]

Dr. Jack Sarfatti is one of the leaders of the New Physics movement. However, his research into E.S.P., time, future causality and his VALIS-type experience has provoked dissent in the mainstream physics community.

The Bohemian physicist . . . contributes a balanced scientific non-establishment for this expanding society. I don't mean to disparage the work, either . . . Originality has always required a fertile expanse of fumble and mistake . . . Your wastrel life might turn out to be just what's required to save the planet.

Herbert Gold, Bohemia: Where Art, Angst, Love and Strong Coffee Meet

Black holes, Alcubierre warp drives, traversable worm holes, and the quest for the Holy Grail of dark matter are outpacing the wildest SF fantasies in the public's imagination. In the science fraternity, this 'quantum weirdness' is creating new paradigms with which to view reality. The most controversial physicist in this field is Dr Jack Sarfatti, whose investigation of such phenomena as superluminal (faster than light) information and anomalous experiences challenges the very underpinnings of modern quantum physics.

Sarfatti's exotic theories are rarely discussed within the mainstream physics community. Like Harvard Medical School department of psychiatry's John Mack, who controversially researched UFO abductions, Timothy Leary's early 1960s metaprogramming experiments, or Lyall Watson's unorthodox explorations of Supernature (New York: Anchor Press, 1973), Sarfatti's exploration of the questions polite academics avoid has tainted his reputation. A typical off-hand response came from N. David Mermin of the Cornell physics department who studied Sarfatti's papers and corresponded with him during the 1980s: *"Jack Sarfatti? What a weird, strange subject to be writing about!*

Master of the Vortex

Yet Sarfatti's theories of future causality – the future impacting on the present – are influencing the contemporary cultural meme pool. From Terminator 2: Judgment Day (1991) to Twelve Monkeys (1995), Sarfatti's ideas have been the subject of major sci-fi scenarios. Sarfatti himself was parodied as the memorable time-travelling Dr Emmett Brown in the Back to the Future trilogy.

According to Creon Levit of the NASA Ames Research Center, who studied and worked with Sarfatti,

"Jack is a maverick, because he is examining what is perhaps the most cherished assumption of modern science – that all causes must precede their effects. People, including scientists, do not, unless they are very brave, like to question their cherished assumptions. This is unfortunate, because in quantum theory the mainstream theorists have gone so far as to give up objectivity – both in their physics, and I am afraid, in their approach to physics – in order to save causality."

"Physics is the Conceptual Art of the late 20th Century," Sarfatti claims. *"But as a science it will lead to new practical super-technology."* Recognizing the role of theoretical physics as a cultural 'early warning system,' Sarfatti like his predecessors Carl Jung and Wolfgang Pauli, has investigated its archetypal foundations.

Consequently, he has evolved into a true 'Trickster' figure in the Gurdjieff/Leary mold, reconciling the roles of conceptual artist, physicist, poet and Magus.

"After Timothy Leary, I'm the only Magus left!" Sarfatti jokes. His synthesis attempts to capture the subjective reality of unconscious archetypes 'revealed' by quantum physics, a reality that, he says, can only be accessed by metaphor, evocation, poetry, and music.

Sarfatti's 'court' is the chic Caffe Trieste (dubbed 'Sarfatti's Cave' in deference to Plato). Situated in the bohemian suburb of North Beach, San Francisco, an area Sarfatti equates with the Left Bank of Paris: "very chic and the place to be seen; it's my neighborhood for over 20 years."

Francis Ford Coppola (founder of the American Zoetrope motion picture production company); Lawrence Ferlinghetti; Guerilla Marketing expert Jay Conrad Levinson; and Jefferson Airplane's visionary musician Paul Kantner ("who visits the Caffe Trieste almost daily") are amongst the local community, supplanted in recent years by the Silicon Valley Nouvelle Riche and Hollywood creative artists who reside in or near North Beach. Metallica drummer Lars Ulrich can be frequently found in local restaurants like Rose Pistolas or Toscas, capturing the Italian old charm that embodied the San Francisco of the Beat Era. Increasingly, North Beach is home to thriving publishing, advertising, investment, and multimedia production houses; and to activist think tanks including the Milarepa Fund and the Earth Island Institute. For many cultural iconoclasts, North Beach is a reminder that San Francisco had atmospheric character and artistic integrity decades before the Haight-Ashbury legacy descended. The Caffe Trieste has been the site of Sarfatti's 'self-imposed' exile from the conservative academic community, and his preferred location for lecturing to a rapt audience of 'espresso scholars'. A noted personality in the North Beach scene, Sarfatti is mentioned in Herbert Gold's works Bohemia: Where Art, Angst, Love & Strong Coffee Meet (New York: Simon & Schuster,1993) and Travels In San Francisco. His colleagues included the famous Beat poet Gregory Corso (RIP), who reinvigorates poetry long demonized by the Machine Age.

'Sarfatti's Cave' has now gone online, as he utilizes the World Wide Web as an interactive education tool. The tax-exempt, non-profit 'Internet Science Education Project' uses SF trappings (the primary directive of The Sarfatti Group is to "Make Star

Trek Real") and video-capturing software to make physics relevant to Net surfers. Sarfatti rails against the over-specialization of academia that leads many people into intellectual cul-de-sacs. Linking science, technology and culture, he believes, is an exercise in egalitarianism and combats the current U.S. education trend of the creation of a mass "stupid society" and a meritocracy that protects an educated elite. Echoing Christopher Lasch's criticisms of a decline in public discourse, Sarfatti fires missives worldwide, attempting to enliven the physics community.

"I am in the meme business," says Sarfatti, recalling zoologist Richard Dawkins study of ideas, behaviors, and skills that replicate and transmit themselves via imitation (using the human mind similarly to the way that a virus does in a biological host).

"My objective is that certain memes will win the competition in cyberspace and shape world consciousness. The Web will be the dominant means of learning and communication; it is a democratic forum."

"Censorship is to be fought. The free competition of conflicting memes on the Web will be subject to Darwinian natural selection pressure plus some advanced quantum action from the future via John Lilly's Cosmic Coincidence Control. This makes it all come out in a globally self-consistent time loop the way Kip S. Thorne defines it in Black Holes & Time Warps (New York: W.W. Norton & Co, 1994).

"The main new feature of the WWW is its dynamic nature. Several minds can contribute to the shaping of a work."
"My field is that of perennial philosophy. I put the most important questions up for discussion. The most important single question is 'What is Consciousness?'"

[And now in 2018 I have finally solved it after being asked by Werner Erhard and agents of the U.S. Intelligence Community to work on the "hard problem" (David Chalmers) as far back as the 1950s as told in my book "Destiny Matrix" and in the book "Star Gate Conspiracy" by Lynn Picknett and Clive Prince.]

"My basic program is the same as Tim Leary's – Space Migration, Intelligence Increase, Life Extension (SMI2LE). The cancerous growth of population and diminishing resources mean that large decreases of population in the near future are impossible to avoid, barring some breakthrough in space propulsion that would allow large numbers of us to migrate to virgin worlds."

"Let's hope that UFOs are real and that they are time-travelling ships from friendly ETs, or time travelers from our future – because if they are not real, it looks pretty grim for your children and their children."

Encounters with VALIS

Sarfatti insists that in 1952, at age 13, he had an anomalous experience that changed his life. He claims to have received a single telephone call from a cold, metallic voice, declaring to be a conscious computer on a spacecraft from the future. But, after Sarfatti lent his mother a copy of Andrija Puharich's book URI (London: Futura Publications Ltd, 1974), in which he described similar contact with Uri Geller, Sarfatti's mother remembered that the young Sarfatti received the calls over a three-week period. Sarfatti had been selected as one of '400 receptive young minds' to be part of a project that would begin to occur 20 years in the future. He links this alleged 'contact' ("the intrusion of an objective entity") to the Vast Active Living Intelligence System (VALIS) experience of science fiction author Phillip K. Dick. Sarfatti's 'experience' has met with widespread criticism from the physics community. Sarfatti believes that there is an Illuminati or Elect of minds, citing Pythagoras, Leonardo Da Vinci, Isaac Newton, Albert Einstein, and Werner Heisenberg as examples who, throughout history, have deciphered messages from the future. The notion of an Elect is featured in the works of many occultists, Rabelais' Gargantua & Pantagruel (New York: Norton, 1990),

Toynbee's "creative minority" and the 'evolutionary Calvinism' SF works of Colin Wilson, such as The Philosopher's Stone (London: Barker, 1969).

In 1973, the late Brendan O'Regan told Sarfatti that he had been collecting data on other scientists who have had similar 'anomalous experiences', predating later investigations by Jacques Vallee and Harvard's John Mack. Sarfatti believes that his critics "wish to crucify me because they think I am lying or insane about my 1952 VALIS-like experience."

Sarfatti claims that his critics are demanding "the blood of the poet" when they claim that his theories and "exuberant talk" are "corrupting the youth." The "hemlock of financial support" prompts many scientists to become slaves of the State, he says. "I think they are afraid of my limited attack on the principle of retarded causality, which holds that causes must always be in the past of their effects. What I am saying is that there is a small, but significant chance for causes to be in the future of their effects. They are afraid of my open mind on the question of precognitive remote viewing (ESP), faster-than-light4 communication and other heretical notions," he says.

[The Pentagon released the "Tic Tac" video footage of what I think is a low-powered warp drive flying machine capable of time travel to the past and future able to manipulate the gravitational field at will. This "tic tac" incident occurred off the coast of San Diego in 2004 witnessed by pilots from the U.S.S. Nimitz carrier strike group. Allegedly, there are other similar incidents. I am also working with a retired U.S. Marine tank commander sculptor Don Rich who in 1968 had possession of anti-gravitating metal parts from the 1947 Roswell saucer crash as part of his courier duties to MI6 and other agencies for the CIA. *https://en.wikipedia.org/wiki/USS_Nimitz_UFO_incident*

"Neither classical physics or standard quantum physics today permits 'intent' or 'free will' or 'creative intelligence'. This essential hallmark of life demands a violation of the statistical predictions of quantum physics as formulated today. This is the key idea of what I call 'postmodern physics.'"

Sarfatti's early academic studies showed no sign of what was to come. He graduated Midwood High in Flatbush, 1956; the same school that Woody Allen attended. His academic credentials were impeccable: B.A. in physics from Cornell; M.S. from the University of California, San Diego; Ph.D. from the University of California, Riverside; and stints with the Cornell Space Science Centre, the UK Atomic Energy ResearchEstablishment at Harwell, and Heisenberg's Max Planck Institute in Munich. *"By 1969 I was an assistant professor of physics at San Diego State with Fred Alan Wolf next door,"* Sarfatti reveals ironically – Wolf would later link the 'pop physics' of Jungian psychology, quantum physics and New Age phenomena, pre-dating bestsellers like James Redfield's The Celestine Prophecy (New York: Warner Books, 1993).

Sarfatti went on to become an honorary research fellow with David Bohm at Birkbeck College of the University of London in 1971 and was visiting physicist at Nobel laureate Abdus Salam's UNESCO International Center for Theoretical Physics in Trieste, Italy. Ilya Prigogine invited Sarfatti to Brussels in 1973. Sarfatti's career was growing in prestige and recognition.

Then the weirdness descended.

[Burns wrote the original in 1996. Since that time, I have changed my view rejecting "faster-than-light" and "superluminal" because they contradict the spirit if not the letter of Einstein's relativity. Olivier Costa de Beauregard explained quantum entanglement as future causes of past effects in his "zig-zag" (A.K.A. "local retrocausality in a block universe). This idea can be traced back to Wheeler and Feynman, I.J. Good, Fred Hoyle, Yakir Aharonov, John Cramer and others. Huw Price, Bertrand Russell Professor at Trinity College Cambridge has recently written several convincing papers on why Costa de Beauregard was right and even John Bell was wrong. Roderick Sutherland has taken the Costa de Beauregard zig-zag and Aharonov's back-from-the-future "weak measurement" and put them into a new post-Bohmian fully relativistic Lagrangian mathematics for particle quantum mechanics. The use of higher-dimensional configuration space for many-particle entanglement is completely avoided. Furthermore, the new Lagrangian restores Einstein's action-reaction between the quantum information waves and the matter particles. It was this same general idea of rejecting the "unmoved mover" that allowed Einstein to extend special relativity to the general relativity of real gravity space-time curved by energy. Sutherland's action-reaction is the "back-action" I first suggested back in 1996 in more precise mathematical form. Finally, Sutherland has applied the same locally-retrocausal weak measurement ideas to quantum gravity.]

Into the Pandemonium

In 1975, Sarfatti co-founded the legendary Physics-Consciousness Research Group with Esalen Institute's Michael Murphy, funded by EST guru Werner Erhard. Murphy was investigating revelations of the USSR's intensive parapsychological research projects, later setting up the Soviet-American Exchange Program at Esalen in the 1980s, which attracted the likes of Boris Yeltsin during his 1989 U.S. visit.

Sarfatti gave seminars at Esalen, serving as a guiding influence behind Fritjof Capra, Gary Zukav and other proponents of the 1970s "New Physics" movement, which explored links between quantum physics and Eastern mysticism. Sarfatti brought Zukav to the Esalen Institute, where he conducted the research for his bestselling The Dancing Wu Li Masters (New York: Morrow, 1979), a book which captured worldwide attention. Sarfatti ghost- wrote major parts of the book, but a bitter feud eventuated when Zukav reneged on promised royalty payments. A notable 'paraphysicist' (physicists who investigate ESP phenomena), Sarfatti co-authored the lurid paperback Space- Time & Beyond with Bob Toben and Fred Wolf, later withdrawing his name from the updated edition. Sarfatti also contributed material to futurist Robert Anton Wilson's Cosmic Trigger I: Final Secret of the Illuminati (Berkeley: And/Or Press, 1977), and Jeffrey Mishlove's The Roots of Consciousness: The Classic Encyclopedia of Consciousness Studies (Council Oak Distribution, 1993). Current editions of both Zukav and Mishlove's books have deleted much of the original material, which he wrote for the first editions. *"Not a very smart move on the part of the authors!"* replies Sarfatti.

The deployment of Psychological Operations (PSYOP) warfare during the Vietnam War led the Central Intelligence Agency, the Defence Intelligence Agency and Office of Naval Intelligence to explore similar 'mindwar' techniques during the 1970s, through facilities like the John F. Kennedy Special Warfare Center at Fort Bragg. The CIA funded Project Scanate was set up to explore the use of precognitive remote viewing techniques to probe Soviet military installations from a distance. Psychics including the Scientologist Ingo Swann were employed to gather intelligence data. Stanford Research Institute's Electronics & Bioengineering Laboratories were assigned to the project under the direction of Russell Targ, parodied in the film Ghostbusters (1984), as Dr. Egon Spengler (Harold Ramis) and Hal Puthoff. Interest in Scanate led to further projects, such as the notoriously named Stargate, and long-term research into neuropsychology and cognitive science. Military intelligence sources invested over $20 million in the Remote Viewing (clairvoyancy) field until 1995. The CIA ended the programs in the late 1970s after determining that while there was some evidence for ESP ability, it yielded no useful results for intelligence work. The DIA took over the program and funded it until 1995, when information on Scanate and Stargate was declassified, leading to a media feeding frenzy lead by ABC's Nightline program.

Targ and Puthoff became entangled in controversy after notorious tests of the Israeli psychic Uri Geller. Sarfatti initially supported Geller's claims of psychic ability after Geller's famous Birkbeck test, attended by Arthur Koestler, Arthur C. Clarke and David Bohm (engineered by Brendan O'Regan). He later labelled Geller a fraud after discussions with magician James Randi. Martin Gardner has captured this strange period in his book Science: Good, Bad & Bogus (Buffalo: Prometheus Books, 1979). With the publication of Journal of Scientific Exploration (Vol.10, No. 1), and new papers by

researchers Edwin May, James Spottiswoode and Jessica Utts, Sarfatti no longer dismisses much of the research as "pseudoscience."

Increasingly disturbed by Werner Erhard's authoritarian tactics and his 1984-esque 'psychobabble,' Sarfatti warned of "KGB spies within the New Age movement." The disagreement with Erhard alienated him from many New Age devotees. It was after Erhard ended funding for the Physics Consciousness Research Group, replacing Sarfatti with his assistant Saul Sirag, that Sarfatti exiled himself to the Caffe Trieste, where he lectured on time-travel techniques and consciousness research.

SDI: Rust in Peace

Contact with Lawrence Chickering of the policy think tank Institute for Contemporary Studies (ICS) led to Sarfatti acting as a consultant for the Reagan Administration's fledgling Strategic Defense Initiative (or Star Wars project). This brought Sarfatti into the twilight world of half-truths, where the obsessive apparatus of State security interlocks with sinister forces from big business.

"I spent a lot of time with Marshall Naify in the late 1970s and early 1980s. He is a billionaire and was Chairman of United Artists back then. He was a Hollywood mogul and certainly knew Reagan. Naify, Lawrence Chickering and I had lunch at Enrico's maybe in 1981, where Naify spent at least half an hour describing in detail what would later be Star Wars SDI. Chickering worked directly with Ed Meese. [In the early 1980s Meese was a confidante of Reagan. Meese's Institute for Contemporary Studies think-tank was admired by Reagan, Caspar Weinberger, and Chickering. He became U.S. Attorney General under Reagan but was caught up in the Iran-Contra scandal.] He asked me to write a memo based on this lunch and some of my own ideas. Around this time, I I had a correspondence with Igor Akchurin of the Soviet Academy of Sciences on all of this – so the Soviet Intelligence were getting from us that SDI would really work! Chickering told me that my memo was well received and that, in particular, Paul Nitze, Reagan's chief arms control guy read it and 'liked it.' In addition, Casper Weinberger's son was feeding my stuff to his dad, who discussed it with Reagan."

Caffe Trieste and Enrico's were the favorite slumming places for Hollywooders and other 'rich and famous' when they visited San Francisco, says Sarfatti. Having been taught at Cornell in the '50s by "the guys who built the bomb," Sarfatti was now encountering "*Reagan's people who were tapping the brains of the North Beach Bohemians using the Caffe Trieste" in a bid to build what was then considered the ultimate nuclear warhead for the SDI project."*

"Cornell is an Ivy League School, and the CIA is run by Ivy League guys," says Sarfatti. *"I was a rebel and a 'loose cannon,' but I was still Ivy League and part of the old-boy network whether I wanted to be or not. I was 'stable' enough for the Naval Intelligence to allow me on nuclear-weapons-carrying aircraft carriers 'on station,' sometimes under battle-readiness Condition Zebra."*

DEPARTMENT OF THE NAVY
NAVAL EDUCATION AND TRAINING SUPPORT CENTER, PACIFIC
SAN DIEGO, CALIFORNIA 92132-5105

IN REPLY REFER TO:

1560
Ser N2C/ 2355
16 SEP

From: Commanding Officer, Naval Education and Training Support Center, Pacific
To: Mr. Jack Sarfatti, , (GS-12 Eqv.)
Central Texas College, 4250 Pacific Highway, Suite 128,
San Diego, CA 92110

Subj: TRAVEL AUTHORIZATION IN SUPPORT OF DEPARTMENT OF THE NAVY AFLOAT EDUCATION PROGRAMS

Ref: (a) Navy Contract No. N00612-87-D-0421
(b) NAVMILPERSCOMINST 4650.2A
(c) NAVMILPERSCOMINST 1750.1A

1. AUTHORIZATION: You are to proceed on or about 16 September 1987 to the USS RANGER (CV-61) with the concurrence of the Commander Naval Air Force, U.S. Pacific Fleet. Upon arrival, you are to provide counseling and instruction in support of courses offered under the provisions of reference (a).

2. PASSPORTS, VISAS AND IMMUNIZATIONS: Prior to commencement of travel and/or deployment, you are to obtain all necessary passports, visas and immunizations for all countries to be visited. You should request a visa for a period of nine months. You will be required to carry a certificate reflecting your current immunization status at all times.

3. GOVERNMENT TRANSPORTATION: Your use of government air transportation is authorized outside the continental United States and must be utilized where available. For agency issuing the MAC Transportation (MTA): Cite these orders in item 7, as per reference (b), and request direct billing to Central Texas College, 4250 Pacific Highway, Suite 128, San Diego, CA 92110 in Item 11. Provide a priority II authorization with carry-on luggage of 66 pounds.

4. UNIFORMED SERVICES IDENTIFICATION/PRIVILEGE CARD: As authorized in reference (c), Section V, a Uniformed Services Identification and Privilege Card (DD Form 1173) may be issued at your first overseas port not to include Hawaii. Benefits to be extended to you will be determined by the cognizant overseas area commander issuing the card. You are required to surrender the card to the issuing activity upon completion of your assignment.

5. MODIFICATIONS: These orders may be modified to extend your current assignment. Modification will be by message from this command to be attached to this authorization. Unless modified to read otherwise, you are to return to the original place where travel commenced in Calfornia no later than 30 November 1987.

L. DE LA FUENTE
By direction

Copy to:
USS RANGER (CV-61)

(Cross out one)

2:15 9-24-87
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Jack Sarfatti, Fall 1987, Indian Ocean USS Ranger CV-61 Battle Group

Strange Loops and God-Phones

During the 1980s, Sarfatti concentrated on investigating superluminal, or faster than light (FTL) communication. Jung's synchronicity meme ("meaningful coincidences", or John Lilly's 'Cosmic Coincidence Control') challenges causality and suggests that quantum-mechanics theory is incomplete. Taking a step further, he designed and obtained a patent disclosure for a 'God Phone' – a machines designed to decode such messages.5 In Science: Good, Bad & Bogus, Martin Gardner stated with tongue-in-cheek irony: *"I know of no other physicist who thinks it will work. If it does, Sarfatti will become one of the greatest physicists of all time."* None of them could work because he was missing the key idea of 'back action.' Sarfatti's early designs tried to use ordinary quantum mechanics, and, therefore, violated Eberhard's theorem. Back-action is really new physics beyond quantum mechanics. As Nobel laureate Brian Josephson explains: *"His initial attempts had the air of attempts to derive a perpetual motion machine in the sense that there were mathematical demonstrations of the impossibility. Hence, I, like others felt he was wasting his time. But there may always be problems with one's basic assumptions, and this is what he and others are looking at now. I doubt, however, if this has led to his reputation improving generally, since he is still working on the basis of unverified theories. If he could make a more specific model in this new area in the way that he tried to produce models (which didn't work) earlier, then things could change. But the responses to [Henry] Stapp's publication of a similar kind in Physical Review should make one wary of believing that people will easily be made more open-minded."*

Unfortunately, that design could not work because it used quantum mechanics that forbids the use of spooky telepathic psycho-kinetic "entanglement" as a locally decodable keyless command-control-communication- channel. Fortunately, quantum mechanics is limiting case of a larger "post-quantum theory" which permits the control of entanglement for direct communication and psychokinetic mind-manipulation at a distance, e.g., precognitive remote viewing CIA experiments of Hal Puthoff and Russell Targ at Stanford Research Institute. Hameroff and me do agree that the microtubules are the most likely mechanism for the emergence of our conscious experiences (qualia). They disagree on the precise physics explanation. Sarfatti rejects the need for Roger Penrose's "Orch OR" in which the self-gravity of a system of many entangled qubits causes collapse that generates the quale. As a Bohmian, I reject the very idea of "collapse" needed in Bohr's incomplete picture of physical reality.]

'Who is Number One?'

But other cultural analysts aren't so sure. Sarfatti has had fierce arguments with Stuart Hameroff about his post-quantum 'back-action' theorem.6 He dismisses Murray Gell-Mann and the influential Santa Fe Institute as a modern- day Laputan Academy, because he believes that Gell-Mann artificially abstracts the mind's active non-algorithmic understanding as emphasized by Roger Penrose. *"Therefore, the mind-brain system is a classical-quantum information machine, which undermines the misconceived classical theories of consciousness of Francis Crick, Marvin Minsky, Paul Churchland, Daniel C. Dennett, William Calvin, and Gerald Edelman,"* claims Sarfatti. And he is angry at the confused physics espoused by populist New Age writers who lack the scientific training to interpret Niels Bohr, Richard Feynman, and David Bohm's legacies correctly.

Colleague Fred Alan Wolf offers a succinct explanation of the nature of these psychological conflicts: *"Jack is brilliant but has a serious problem when dealing with people. He doesn't suffer fools very well. And a 'fool' to Jack is often anyone who doesn't agree with him. However, Jack has had a major influence on many people including myself. He has encouraged many to think freely and to engage in very imaginative scientific rambling often leading to new insights."*

Don Webb, the Texas-based science fiction writer who has mentioned Sarfatti's theories in his novels and short stories, and who has had anomalous experiences of his own, offers yet another perspective: "He has had some very unusual experiences and been privy to strange secrets. I sometimes get the feeling that like the Lovecraftian hero, Sarfatti has ventured too far past the Looking Glass, and not fully returned. This is an occupational hazard for those who will investigate the secret and suppressed parts of history: they may make stunning discoveries in one area whilst blighting their personal reputations in another. Conventional society fears nothing more than the isolate psyche whose genius isn't working towards the pre-conceived aims of the group-mind (super-organism). 'Radical friction' as a postmodern survival stratagem where there is no clearly ruling societal paradigm is required as a necessity to annihilate resistance. It overcomes the forces of naturalization, which over time tend toward hatred and ignorance.

UCSD La Jolla 1960s, Jack Sarfatti on extreme left at Christmas party with the Benford twins and other grad students[6]

[6] My second wife Roberta Anne Friedman RIP is seen next to me.

Unlocking the 'Destiny Matrix'

Future causality has influenced the contemporary cultural meme pool. Sarfatti's fellow student at UCSD, Gregory Benford, uses a chilling 'doomed earth' future scenario in his Hugo-winning novel Timescape (New York: Pocket Books, 1980). Californian physicists in a 1962 timeline attempt to decipher a Morse Code-like warning sent from a Cambridge, England physicist in a 1998 timeline, whose world is facing catastrophic environmental devastation.[7]

Benford sets these irregularities, according to Sarfatti, against the realistic backdrop of academic physics research subculture: pressures from the university and government, the struggle for grants, the impact upon personal relationships, and the pressures of the wider scientific race for knowledge.

Chris Marker's acclaimed 1963 short La Jetee which influenced Sarfatti, formed the basis for the recent thriller Twelve Monkeys (1995). The Back to the Future trilogy (1985-1990) along with James Cameron's Terminator 2: Judgment Day (1995) also feature the meme. Sarfatti remarks: "If these authors are receiving messages from the future, it may be reflecting the same message."

Future causality also plays an important part in Sarfatti's Destiny Matrix, a conceptual synchronicity timeline describing Sarfatti's family history. He traces his Hebrew title back to the Rabbi, Rashi de Troyes (1040 – 1105), an advisor to Godfrey de Bouillon, who led the First Crusade to Jerusalem and who experienced a precognitive vision. Another ancestor, Samuel Sarfatti, was physician to Pope Julius II, and was crucial in getting Michelangelo to paint the Sistine Chapel ceiling (the esoteric meaning of the painting, says Sarfatti, is God reaching backwards in time to create himself through mankind). This cosmology closely links with the Cabbalistic Great Work of manifesting the unconsciousness, which is probably why Sarfatti was anointed by occultist (Qabalist) Carlos Suares as 'Heir to the Tradition' and given the task of "smashing the wall of light." Sarfatti also bears the name of Rashi des Troyes and, like the Tibetan Tulkus, "I may well be a reincarnation not only of Past Rashis but more importantly of Future Rashis."

These Rashis, he says, are part of the Elect or Illuminati that have decoded quantum messages from the future throughout history, transmitting the information via objective art. Sarfatti cites his contact experience, Fred Hoyle's cosmology, as postulated in Evolution from Space (London: Dent, 1981), The Intelligent Universe (New York: Holt, Rinehart, and Winston, 1983) and Cosmic Life Force (London: Dent, 1988), and theAnthropic Principle as evidence that strongly suggests an intelligent, yet 'limited' God intervened in the primordial moment after the Big Bang when the universe was smaller than an electron, to create the conditions required for carbon-based life. This superluminal being (a kind of benevolent VALIS) is implicit in the Sufi/Hermetic 'subjective conscious evolution' traditions, and Sarfatti suggests that this goal is what mankind is evolving towards; the true secret behind the world's religious traditions. The pioneering artificial intelligence (AI) work of I.J Good (who helped develop the Enigma

[7] Gregory Benford and me were graduate students together with his twin Jim Benford at UCSD La Jolla in the late 1960s. Jack was part of a composite character in Timescape – more uncanny synchronicity suggesting manipulation by an advanced intelligence coming back from the future Destiny Matrix – Jack Sarfatti 2018

Machine in World War II to crack Nazi ciphers) and other writers such as Freeman Dyson and Roger Penrose supports the theoretical possibility of such an entity.

Sarfatti believes that his model is a real alternative to Frank J. Tipler's famous Omega Point scenario, postulated in the controversial book The Physics of Immortality: Modern Cosmology, God, and the Resurrection of the Dead (London: Macmillan, 1995), which is a closed universe and relies on the strong AI that Roger Penrose objects to. Tipler suggests that the fast-track evolution of information processing and the appearance of nanotechnology reveals a process of exponentially increasing computational capacities which will extend over hundreds of trillions of years of the universe's lifespan until a final gravitational collapse will densely compact this information into an omniscient point of ultimate knowing. Essentially, God will come to know God, and humanity evolved as a mechanism for the universe to perceive itself. Sarfatti hopes his model will endure the wrath of fundamentalist Christians and sceptic atheists that Tipler faced.

"It looks as though my 'back-action' theory of matter on its pilot quantum wave, which generates consciousness, and my physics/consciousness model predicts VALIS in the far future of an open universe, which continues to expand forever. My superluminal theories and cosmology are compatible with Penrose's recently published works."

Quantum Physics and the 'Meanings of Life'

The presence of Roger Penrose's neo-Platonism – or recent mystically inclined cosmologies – has come under attack from scientists uncomfortable with such tendencies, including Daniel C. Dennett in Darwin's Dangerous Idea (New York: Simon & Schuster, 1995), Nicholas Humphrey in Leaps of Faith: Science, Miracles and the Search for Supernatural Consolation (New York: Basic Books, 1996) and notably Carl Sagan in The Demon Haunted World (New York: Ballantine Books, 1997). These books highlight the dangers of 'degenerative mysticism' on the edge of the scientific frontier.

Sarfatti believes that behind some of these criticisms is a political agenda: *"Many scientists like Sagan, while brilliant, have not escaped their early red diaper toilet training since most of them have Leftist if not Stalinist backgrounds. That is where the anti-religion bias comes from in most of them."* Sociopolitical factors played a crucial part in determining the durability of established scientific facts and approaches, he says.

"[Marxist sociologist] Herbert Marcuse suggested that Big Science is dominated by mean-spirited men who have a problem with 'the vision thing,' which results in a limited one-dimensionality. The Communist Party dominated Robert J. Oppenheimer's crew from the 1930s including most of my professors. Luckily many of the top physicists today are religious in some sense, which is a good thing."

Heuristic pursuers of knowledge need to avoid *"the double-edged sword of scientific morality and social immorality,"* Sarfatti believes, *"if we want to avoid tyranny and dogma."* Echoing Socrates, Sarfatti demands that *"we should not allow political and moral considerations to impede the search for scientific truth. There is a delicate balance here between the extremes of Nazi and Stalinist types of corruption of Science on the one hand, and complete disregard of scientists for the public welfare, on the other."*

"We have a strong tendency to dismiss vigorously any ideas that are contrary to the official line," says Brian Josephson. "Scientists distrust intuitions, except in the case that they agree with their own 'gut feelings'."

The Non-Lethal Warfare Imperative

The major testing ground for this morality may well be the current non-lethal psychic-warfare research being conducted by the military intelligence community in search of a 'Manchurian Candidate.'

"Non-lethal psychic warfare using the distant manipulation of the consciousness of the 'enemy' will be an important factor in the 21st century," Sarfatti believes. "*But it is preferable to the old means of war. The potential for these techniques of mind-control to be used in the field on unsuspecting naive populations in 'non-lethal warfare' are awesome to behold and contemplate. They can be and will be easily misused by authoritarian immoral power structures. These techniques not only involve manipulation by drugs and ordinary electromagnetic, sound and kinaesthetic signals – as in subliminal television broadcasting and virtual reality transmission via the Web – but also purport to involve quantum action at a distance in the reports on psychokinesis, telepathy and remote viewing."*

Despite the SRI controversies during the 1970s, Sarfatti believes that "there is still great interest," which is proven, he feels, by the gathering of such heavyweight physicists, neuro-psychologists, and cognitive-science researchers as Paul Davies, Roger Penrose, David Chalmers, Michael Lockwood, Brian Josephson, Henry Stapp, Daniel C. Dennett, and Sarfatti himself at the Tucson II Conference on Consciousness held in April 1996, in Tucson, Arizona.

"Most of the funding can be traced to spooks. If I were head of CIA or DIA I would put a few billion dollars into consciousness research."

The 1996 U.S. defence authorisation bill earmarked $37.2 million to further investigate non-lethal technologies. Colonel John B. Alexander of Los Alamos National Laboratory, Major Edward A. Dames of PSI TECH Inc, Willis Harman of the Institute for Noetic Sciences, and other 'spooks' maintain links between military intelligence, physics researchers and the New Age community, claims Sarfatti.

"We have had a few talks on PSI [ESP] topics at the Cavendish," says Brian Josephson. "*They are very well attended and in the very short-term people were impressed, but they very quickly forgot about the talks, which might just as well not have been given. However, attitudes are not as negative as they once were."*

"I gather the evidence is that precognitive remote viewing tests work," says Josephson. "*Not with 100% reliability but with more accuracy than standard CIA guess work. I gather that the CIA research was stopped for sociopolitical reasons rather than because it was discredited – or maybe they just felt it had been tested enough."*

Edwin May of The Laboratories for Fundamental Research recalls: *"The company that conducted anomalous-cognition research for DIA was Science Applications International Corporation (SAIC). Since I was the director of the contractor effort in the government's activity in PSI research since 1985, I have some understanding of what they did. At SAIC we did not conduct a single precognition experiment. In fact, except for two studies, one of which Puthoff and Targ published in their Institute of Electrical and Electronics Engineers article, we have not been studying precognition since 1972."*

Sarfatti could well still be one of the greatest physicists alive. Alternatively, he would be a great candidate as scriptwriter for “The X-Files.” End of 21C article.

Most recently the Fetzer Foundation is funding research in this area. The “retired” CIA’s Christopher “Kit” Green is on their advisory board. I was with Dr. Green and Harold Puthoff at the Fetzer Bohm Centennial at the University of London Oct 26 – 28, 2017. Puthoff is also chief scientist for the “To the Stars Academy” that is the front for the recent CIA-Pentagon Disclosure of the U.S.S. Nimitz incident with the “tic tac” advanced flying machine.

CHAPTER 3

Future Mind by Lynn Picknett and Clive Prince

A child in 1950s' New York from a modest background gets a series of bizarre phone calls from what claims to be an intelligent computer from the future. It tells him he will become a top physicist. Real life then takes over – and fulfils the prophecy. After entering university at just 16 he becomes one of the most promising scientists of his generation. Then, frustrated by the narrowness of contemporary physics, he leaves academia and, now notoriously a maverick, becomes a huge influence not only on the Californian counterculture but also on the new world of quantum theory – and even on political movers and shakers.

And all the time, the CIA not only takes a keen interest in his work but also actually funds it. Why?

Jack Sarfatti has not only the experience but also the maths to show that the future can and does influence the past. He knows what dark energy is. And he jokes – perhaps only half jokes – that while Stephen Hawking famously searches for the mind of God, he has not only found it, but can actually calculate God's I.Q.

Make no mistake, Jack has long been taken very, very seriously by many in high places, having not only been a key inspiration for Ronald Reagan's Star Wars programme but also having had a pivotal role in the burgeoning field of quantum computing, cryptography and teleportation, as highlighted by MIT science historian David Kaiser in the 2011 New York Times' bestseller *How the Hippies Saved Physics*.

And although regarded as a loose cannon by many – but not all – members of mainstream science, Jack has an uncanny habit of being right. In fact, time and time again the establishment has been compelled to play catch-up with him.

It's time to go back to the future with Jack Sarfatti.

Inside the Destiny Matrix

To understand the significance of Jack Sarfatti's contribution to science we need to look back over the last few decades in which physics has become almost unrecognisable, moving from the old Newtonian worldview of nuts-and-bolts matter and neatly definable energies, to the quantum world fizzing with apparent impossibilities.

Over the last fifty years physics has been transformed from the purely functional - used to drive technological development – to the head-spinningly, transcendentally, weird. The discovery of increasingly strange subatomic particles has changed the landscape of physics once and for all. Einstein's special relativity theory demonstrated that matter and energy, once considered distinct entities, are in fact two aspects of the same thing.

However, even more startlingly, quantum theory has shown that matter is related to *information*. Although still not well understood, the concept of quantum information or 'qubits' (quantum bits) – which one leading physicist even describes as 'thought-like' – occupy centre stage in the drama of physics today. The late, great American physicist John Archibald Wheeler, an important influence on Jack's thinking, called this 'IT from BIT' ('every "it" – every particle, field of force, even the space-time continuum itself – derives its function, its meaning, its very existence' from those qubits).

The emerging quantum world can seem like pure science fiction. Yet today's physicists accept the seemingly impossible: that subatomic particles can travel backwards in time, or can interact with the experimenter's own consciousness - and that parallel universes co-exist invisibly alongside our own.

One of the weirdest phenomena is *entanglement,* where subatomic particles from the same source – perhaps a collision in a particle accelerator – somehow remain forever connected, no matter how far apart they are physically. Like twins feeling each other's pain, if one particle is changed, the other reacts. Because the two were once connected, they will *always* remain connected. And this works in both directions in time; they can even be entangled in the past because they are destined to meet in the future. Although this phenomenon challenged traditional physics - not to mention common sense - head-on, entanglement was finally proven experimentally in the early 1970s, completely changing scientists' understanding of the universe.

The implications are profound and far-reaching. Entanglement seemingly violates two of the most fundamental laws of our material universe: locality (two things must be physically connected in order to interact), and the limitation of the speed of light. And as the two particles communicate instantly, no matter how far apart, even the nature of time demands a revolutionary rethink.

The ramifications of entanglement are challenging, to say the least. Since all particles of matter were generated by the Big Bang, it follows that everything in the universe is connected and 'aware' of everything else. Small wonder, then, that soon after entanglement was confirmed, parallels began to be noted with the writings of mystics.

Enter Jack Sarfatti, one of the first physicists to explore the implications of quantum entanglement - and to attempt to exploit it in new technology. His pivotal role was

highlighted in David Kaiser's *How the Hippies Saved Physics* (voted best book of 2012 by *Physics World*). But even Kaiser could only tell some of the story, especially concerning the extent of US intelligence agencies' role in the physics revolution – and the extraordinary series of events that put Jack in the perfect position to seize and run with the possibilities of entanglement.

In the 1960s Jack was recognised by many eminent physicists – such as Richard Feynman, John Archibald Wheeler and David Bohm - as one of the rising stars of his generation. In the next decade he was at the centre of the quantum revolution kick-started by the proof of entanglement. He played a major role in the 'New Physics' and was instrumental in *all* the bestsellers that eagerly seized on its implications, such as Fritjof Capra's *The Tao of Physics* and Gary Zukav's *The Dancing Wu-Li Masters*. In the 1980s, having abandoned academia, the philosophical implications of his 'post- quantum theory' made Jack the centre of a vibrant West Coast scene that included novelists, poets, artists, filmmakers and, incongruously, neo-con politicians.

Today, Jack is probably the most controversial figure in physics. While his academic credentials and intellectual brilliance are indisputable, the challenge he presents to the completeness of quantum theory, besides his willingness to embrace unconventional areas of research, are steps too far for many even in the wacky quantum world. As a result for the last forty years he has worked outside the scientific and academic establishment.

Throughout that time Jack has had many critics, but the problem for them is that he has consistently been proved to be *right*. Several of the radical ideas that he put forward in the 1970s and 80s which were then were regarded as far-fetched are now part and parcel of mainstream physics, having been independently 'discovered' by other scientists (who have often won prizes for it). And, as we will see, those parts of his post-quantum theory that have yet to be widely accepted are not only supported by the latest discoveries and research, but also supply solutions to some of the greatest mysteries of modern cosmology, such as the origin of the 'dark energy' that has the wider physics community stumped. The result is a complete, consistent explanation of both the way the universe works and the part human beings play in it.

To Jack, it's all about time. Although quantum theory accepts – actually, even requires - that from a human perspective time flows backwards at the subatomic level ('retrocausation'), scientists utterly reject any suggestion that this can be exploited at the 'macro' or everyday level. Particles can flout the arrow of time, but people can't. Precognition and time machines are impossibilities – so ridiculous that few are willing even to discuss it. Not so Jack.

To him the future can (and does) interact with the past in ways that can be both observed and put to use. Not mere theory - recent experiments have shown him to be right about this (and much else), as we will see.

Most physicists' acquaintance with extreme possibilities remains safely in the lab or within the pages of textbooks. But everything that Jack Sarfatti is and represents has been shaped by a series of bizarre, reality-challenging *Matrix*-style experiences – examples of 'high strangeness' - which even he has struggled to make sense of.

Jack's remarkable experiences even suggest that he owes his inspiration to a future that can reach back to influence history: his own life is living proof of his theories.

The high strangeness and the hard science are inextricably entwined. The weirdness shaped Jack's view of what is and isn't possible, encouraging his intellectual daring to explore areas damned as unworthy of attention by most scientists. As it turned out, this included nothing less than the key to new concepts in quantum theory. But conversely Jack's knowledge of the often bizarre quantum world allowed him to be open to the high strangeness.

But there is a third strand to Jack's story: throughout his life defence and intelligence agencies have emerged repeatedly as big players – and often in the oddest circumstances. Not only were they closely involved in his science – frequently even acting as covert sponsors – but also in his high strangeness experiences. Jack's story therefore invited us to dig deeper into one of our own greatest interests - the questions that surround the undoubted involvement of the likes of the CIA in phenomena that are usually categorised as paranormal. Most famously this involved their research into the military and intelligence applications of psychic abilities - but sometimes it extended into areas that might seem to be way off the end of the weird scale.

But why would they devote so much time and effort into such undertakings? What do they hope to get out of it? Jack's story provides some tantalising insights.

The Godphone

As a child growing up in Brooklyn Jack was fascinated by physics, especially the nature of time. He remembers as a five-year-old trying hard to imagine – and communicate with – his own future self.

At around the age of 12 Jack experienced a series of strange events, culminating in 1953 with what became a pivotal experience, although relegated to the back of his mind for many years. He jokingly calls this the 'Godphone call'. [iii]

Jack remembers receiving a phone call from a mechanical-sounding voice that claimed to be a conscious computer from the future. It told him he was one of a group of brilliant young minds that had been chosen for great things. However, the voice explained he wouldn't understand what kind of great things - and why he was chosen - for another 20 years.

This signal from the future was to affect all his life and work. In fact, both parts of the prediction came true: Jack went on to enjoy a brilliant scientific career, and the high strangeness did indeed find him again. Exactly 20 years later.

There is corroboration of this bizarre episode, but which only reinforces the weirdness. When the event assumed significance two decades later (as described below), Jack's mother confirmed she remembered it, but her memory differed from his: while he recalls just one call, she remembered several, over a period of three weeks – each call lasting several hours - during which he sat listening, glassy-eyed, as if hypnotised. She eventuall y snatched the phone away, yelling at the voice to stop harassing her son. As Jack notes wryly, 'Not even a super-technological conscious computer from the future can argue with an irate Jewishmother!' To this day, Jack has no memory of the other calls.

Yet at the very least, the Godphone obviously had one major effect on the young Jack: it certainly opened his mind to more extreme possibilities.

Almost immediately after that first intrusion of the weird into Jack's life came the first intimations of intelligence interest. Within a few months – perhaps weeks – of the Godphone, Jack's potential was recognised by another, rather more obviously terrestrial coterie. He was selected to join an after-school group of gifted children organised by the controversial Walter Breen. It was Breen who launched Jack on his scientific career, by securing him a scholarship at Cornell University at the age of 16. Apart from extra schooling and an introduction to new cultural experiences, the activities included testing for ESP. Jack did spectacularly badly.

However, there is a sinister subtext. Breen was talent spotting for a larger project organised by the even more controversial psychologist William Sheldon, who advocated a theory of genetic destiny that his critics regarded as little more than repackaged eugenics. (This makes Breen's term for his after-school group - 'mutants' - all the creepier. He might have been only partly joking: to him they represented a new type of human.) In turn Sheldon's project was funded by leading industrialists with close links to the defence industry. And interestingly, the activities of Breen's group included talks on patriotism, anti-Communism and good citizenship by representatives of the Sandia Corporation, the major atomic energy contractor to the US government.

Although such a mix – philosophy, science, industry and the military – may seem odd now, in the context of 1950s' America it made more sense. Defence and intelligence agencies worked in a symbiotic relationship with industry, and during those early years of the Cold War they were keen to explore all kinds of new theories and ideas, most notoriously in the form of the MKULTRA and other psychological warfare programmes.

Of course, the obvious question is whether there was a connection between the Breen/Sheldon project and the Godphone call – and if so what? Today Jack muses that the Godphone could have been part of some kind of experiment connected with the Sheldon project, but no one scenario ticks all the boxes. Whatever was going on there is no simple explanation.

An answer might lie somewhere among the three, apparently disparate, strands converging in Jack's life: a developing career in advanced science, high strangeness experiences, with the defence and intelligence agencies always lurking in the background.

And indeed, when the Godphone 'prediction' came true twenty years later, it did so because Jack's story merged with a highly complex series of parallel events. And they had been set in motion at exactly the time Jack was experiencing the Godphone…

This was real *X-Files*. It was as if Jack's life was willing to show everyday banality no mercy at all.

The Rising Star

At just 16 – and with the aid of Walter Breen - Jack arrived at Cornell, where he studied under the great physicist Hans Bethe. A brilliant student, he graduated in 1960, moving on to Brandeis University on a National Defense fellowship.

At this time virtually all physics research was defence-related, concentrating on the practical – technological - applications of quantum theory. Exploring the philosophical side was actively discouraged, the academic mantra being 'shut up and calculate'. This was particularly frustrating for Jack, who has never naturally been one to shut up, and while adept at calculation, his whole raison d'etre was always what the numbers actually *mean*

The big questions remained as to what quantum physics could reveal about the nature of the universe and reality. Jack was particularly fascinated by the possibility – inspired by the work of David Bohm – of faster-than-light ('supraluminal') processes at the subatomic level, which he realised would resolve certain fundamental problems in quantum theory. It was at this time that Jack anticipated theoretical aspects of entanglement that would only be confirmed a decade later.

All that was still to come. To Jack's tutors at Brandeis this had no practical value, and they left him in no doubt that if he wanted to make a name for himself in academia he should forget this sort of work. Frustrated by their attitude, in 1962 he left university in a fit of pique for a brief career in industry – after all, if physics really was just about doing the maths for technology it might as well make him money. (Ironically, when Jack's favoured line of research *was* finally deemed permissible – and fundable - after the 1970s physics revolution that he himself largely initiated, it resulted in radical military and intelligence applications, most significantly quantum cryptography. This was not the first time that ignoring Jack significantly delayed major discoveries.)

Jack left Brandeis to work for a CIA contractor and then for a division of Ford that carried out work for NASA and the Defense Department. He returned to Cornell as a graduate researcher, co-writing a seminal paper with Leonard Susskind, one of the 21st century's top theoretical physicists, then went on to the University of San Diego. During this time he also crossed the Atlantic to work at the UK's Atomic Energy Research Establishment at Harwell. Jack ended the 60s as an assistant professor at San Diego State University.

Jack's career brought him into contact with physics A-listers such as Richard Feynman, John Archibald Wheeler, and David Bohm. As David Kaiser notes, all these luminaries recognised Jack as one of the rising stars of his generation. Jack particularly hit it off with Wheeler, under whom he studied in the mid-1960s, and who was to become hugely important in the next phase of his career. This was a radical departure because of a series of events that took place in 1973 – as specifically predicted by the Godphone.

Space-Time and Beyond

The mid- to late-1970s saw Jack's career at its most turbulent, the three strands of science, high strangeness and intelligence agency interest becoming ever more inextricably entangled. It also introduced him to some of the most colourful and controversial figures around - such as Timothy Leary, Ira Einhorn and Werner Erhard.

First, the science. Jack became one of the pivotal figures in the 'New Physics' – the exploration of the *meaning* of the quantum realm and its relationship to mysticism and the paranormal. Indeed, he was instrumental in *all* the wave of bestselling books on this subject, such as Fritjof Capra's *The Tao of Physics*, Gary Zukav's *The Dancing Wu Li Masters* and Jeffrey Mishlove's *The Roots of Consciousness*, besides writing (with Fred Alan Wolf) his own influential *Space-Time and Beyond.*

The first year of the decade saw Jack working in London as a research fellow with David Bohm, rekindling his interest in the possibility of supraluminal processes at the quantum level. And while in London he also studied with Roger (now Sir Roger) Penrose, a great believer that consciousness interacts with the quantum level. Although this theory remains controversial, it has accrued impressive supporting evidence in recent years.

Other scientific heavyweights joined the great consciousness debate. At about the same time, John Archibald Wheeler – regarded by many as the greatest scientist since Einstein - proposed that the universe and consciousness have an extraordinarily intimate relationship. Although his ideas might seem dangerously surreal – if not outright crazy - they were a perfectly logical extrapolation from the fundamental principles of physics. Better still, his ideas have been shown to work experimentally. It seems the universe *is* that crazy….

Wheeler's theory started from the principle – enshrined even then in mainstream physics - that the very act of observation actually influences events at the quantum level. Indeed, experiments have shown that the behaviour of a subatomic particle is determined by the way the experimenter chooses to observe it. This effect has also been shown to work backwards in time: incredibly, the particle's behaviour is determined by how the experimenter *will* choose to observe it.

If this isn't weird enough, Wheeler – the ultimate *respectable* scientist – then developed the concept of the 'participatory universe': observation by conscious beings plays a vital part in the origin and evolution of the universe, which obviously requires effects working backwards, from future to past. Head-spinning though this undoubtedly is, Wheeler's idea is taken seriously by many leading cosmologists, such as Stephen Hawking.

Although Wheeler first proposed the idea in the early 1970s, it was to take many years to be deemed an acceptable topic for learned discussion. But of course it was pure dynamite to Jack Sarfatti from the very beginning.

All these radical new ideas were steering Jack towards the deeper implications of quantum theory. But it also triggered ideas that had lain dormant since the Godphone call: like many scientific and creative geniuses, he began to speak of insights – in his case, into quantum theory - as somehow being *given* to him.

The triple themes of entanglement, retrocausation and the quantum roots of consciousness suggested ways to explain much that was mysterious, such as the workings of psi. And Jack was by no means alone in these preoccupations…

This was a decade of a landmark revolution in quantum physics: at the beginning of the 1970s the 'shut up and calculate' attitude prevailed; by the end, discussion of the philosophical side was not only acceptable but was actively paving the way for exciting new practical technologies. This journey – including Jack's pivotal role – is explored in Kaiser's *How the Hippies Saved Physics.* But in fact there is much more to the story.

The quantum revolution was sparked in 1972 by experiments by John Clauser that finally provided proof of entanglement. This led to the creation of an informal group of young physicists, including Jack and Clauser - the quirkily-named Fundamental Fysiks Group at Lawrence Berkeley Laboratories in California. All obsessed with the implications of entanglement but too unconventional to attract traditional academic backing, they had to rely on private funding.

New, exciting - and startlingly heretical - technologies emerged from Fundamental Fysiks. In theory at least, entanglement raised the exciting possibility that it was possible for a signal to travel faster than light, breaking one of *the* great inviolable laws of physics. Although Fundamental Fysiks failed to achieve faster-than-light communication, their work did lead to quantum encryption, which, as apparently the only completely secure and unhackable system ever devised, completely revolutionised military, intelligence and commercially sensitive communications.

But during all this intellectual foment in Jack's life, the intelligence spooks were never far away. And they were curiously relevant to the New Physics.

Covert Funding

At the start of this phase, Jack was working for a UNESCO research facility in Trieste, Italy, and in regular contact with Eastern bloc scientists who sometimes took him behind the Iron Curtain. Jack now acknowledges that in fact the CIA was using him as a 'useful idiot' – essentially an unknowing spy, an innocent gatherer of information.

In fact, much of the New Physics research – including the Fundamental Fysiks Group - was covertly funded by the defence/intelligence community.

The same overlap was also found at another important focus for the New Physics, the avant-garde Esalen Institute in California. Founded in the early 1960s to explore alternative philosophies, Esalen became a centre of the hippie counterculture. As by the 1970s this included quantum physics and its relationship to consciousness and mysticism, Jack was the obvious choice to run a series of seminars that saw cutting-edge physicists rubbing shoulders (and often other bits as well, in the celebrated open-air hot tubs) with hippies, mystics and mediums. This brought Jack together with Timothy Leary – the great guru of psychedelia - who had followed Jack's work from his prison cell and came to meet him at Esalen on his release in 1976. Again, much of this was discreetly financed by the Pentagon and intelligence agencies.

Esalen also helped create history. Through its Soviet Exchange Program, the institute brought in not just Russian scientists but also rising political stars, many of whom played

a part in the relaxation of Communist control a decade later – which in turn led to the fall of the Iron Curtain. (Today Esalen runs the US branch of the Gorbachev Foundation.) This implies strongly that the organisation was used by US intelligence as a front to gain influence over the new generation of Soviet leaders, nudging them in a more pro-Western direction.

Then there was Jack's involvement with the now-notorious California-based EST movement founded by the controversial Werner Erhard. The EST training programme attracted many celebrities such as Yoko Ono, John Denver, Cher and astronaut Buzz Aldrin (who went through the training with Jack), and with federal approval was given to prison inmates. In later years it was widely accused of being a mind-control cult – using traumatic psychological techniques to create a legion of slavish devotees under Erhard's control.

Although their first encounter was initially somewhat tricky, in 1974 Erhard approached Jack in Paris with an offer of funding, leading to the formation of the Physics/Consciousness Research Group (PCRG), with Jack as director. (This marked his ultimate break with academia; since then he has remained independent, thanks to private funding.) Driven by Erhard's fascination with the New Physics, the PCRG worked closely with EST. In fact, Jack was to discover that EST was another conduit for covert funds from the Defense Intelligence Agency (DIA) for the New Physics research.

However, all through those years studded with scientific daring and political skullduggery, the element of high strangeness was never far away. Right on cue, 20 years after the Godphone's promise, weird stuff started to pour into Jack's life in 1973. Jack found himself entering completely new circles whose members were open to more extreme possibilities – very different from his previous milieus.

Weird, Weirder, Weirdest…

In 1973 Jack was drawn into CIA-sponsored research projects into psi, particularly the work of Russell Targ and Howard Puthoff at the important San Francisco-based institute, Stanford Research Institute International. SRI asked Jack to help them explore ways to explain their findings in terms of quantum theory, marking a major new direction for him. (Along with other defence and intelligence agencies, at that time the CIA were exploring *anything* that might give them the edge in the Cold War, especially as they had discovered that the Soviet Union had its own extensive psi research programme.)

Jack first encountered this strange world through SRI's experiments on Uri Geller. The controversial Israeli had burst onto the scene in the early 1970s with his allegedly world-beating psychic abilities. Although widely dismissed as a showman, Geller's claims were taken seriously by some scientists - and even more so by the military/intelligence community.

The extraordinary extent of Geller's ongoing work for the US and Israeli intelligence services was revealed in the 2013 BBC documentary *The Secret Life of Uri Geller*, by Oscar-winning director Vikram Jayanti, in which he was endorsed not only by senior CIA scientists but also by no less than Israel's Prime Minister Benjamin Netanyahu.

It is now known that it was the CIA, on Mossad's recommendation, who had Geller taken to the USA for scientific scrutiny, as part of ongoing investigation of harnessing psi for

espionage. And the CIA also played a prominent behind-the-scenes role in Geller's famous tests at Birkbeck College, London in 1974, which were organised by Jack, beginning a 40-year association of the two men.

But most relevant here is that it was his first meeting with SRI, during which the possibility of the influence of otherworldly entities was discussed, that revived the memory of the Godphone call – with astonishing consequences.

In their 'psychic spying' experiments, Targ and Puthoff at SRI were working with a number of individuals – including a well-known artist and a former police commissioner – who not only claimed to possess extraordinary abilities (which SRI confirmed) but also attributed them to early experiences that paralleled Jack's childhood 'encounter'. Indeed, Geller himself ascribes the emergence of his talents to such a childhood experience – and interestingly the first spontaneous manifestation of his mind-over-matter happened in the summer of 1953, when he was six years old. During Jack's first discussion at SRI, one of the scientists leading the project told him that they had files on many people with life-changing experiences similar to the Godphone call. The Godphone's promise that Jack would connect with the other selected people in 20 years time was being fulfilled…

So, we have a separate series of events involving the same three strands as in Jack's story – high strangeness, intelligence agency interest and (through SRI's experiments, which were being run by physicists) serious, cutting-edge science.

The new people that entered Jack's life as a result of this new direction were not just scientists and psychics but included a network of influential individuals with an interest in the paranormal and esoteric – many of whom were already connected with the world of intelligence. They included wealthy bluebloods such as the American heiress Joyce Petschek and British aristocrat Sir John Whitmore, inventor of the Bell helicopter Arthur Young – married into the Forbes family - and Apollo astronaut Edgar Mitchell. (It was through this scene that Jack met Werner Erhard.)

But if anything, things just got weirder. As if triggered by the memory of the Godphone call, Jack had a series of extraordinary reality-bending experiences and encounters in Paris and London that seemed curiously choreographed to open him up to ever more extreme possibilities. Surreal, Cocteau-esque scenes played themselves out, synchronistic meetings and dream-like episodes that challenged his view of reality peppered his travels. These culminated in famous French artist and Cabbalist Carlo Suarès predicting that Jack would 'smash the Walls of Light' (which has remarkable relevance to Jack's current work).

All this shook Jack to the core, especially the warning from an individual with close connections to British intelligence, while attending a scientific conference at Cambridge University, that he was at the centre of a 'psychic war'. To someone whose whole life had seemingly been directed by the weirdness of the Godphone, this came as a shock. But not, by then, an impossibility.

(And unknown to Jack other people were having remarkably similar experiences at *exactly* the same time, which changed their intellectual and spiritual directions in *exactly* the same way as Jack's. We'll return to this.)

These elements of high strangeness are inseparable from Jack's work in mainstream physics and the development of his more daring theories. The weird elements fed his

interest in the nature of reality, consciousness and the paranormal – what the hell is going on? What does it all mean? And they shaped his ideas on the physics that underpinned it all.

The Nine: A Parallel Case

One group above all that Jack encountered at this time had an extraordinary parallel to his own experiences.

Through his work with Geller at Birkbeck, Jack met Geller's mentor, the physician and inventor Andrija Puharich, who for more than twenty years had been at the centre of a major metaphysical web.

In 1952 Puharich led a private research organisation, the Round Table Foundation in Maine, which investigated all things paranormal, during which a channeller apparently made contact with a group of powerful and benevolent extraterrestrial intelligences known as 'the Nine'.

Despite their sensationally bizarre claims, the Nine attracted a group that was utterly serious. Under Puharich's direction it continued for three full decades, attracting the support and participation of influential political figures and members of elite families, such as the Astors, Forbes and Bronfmans. At its inception this group even involved a former Vice President (under Roosevelt), Henry A. Wallace and, 30 years later, also allegedly exerted influence over another, Al Gore. Others who participated included influential philosophers, inventors, government officials, writers – and scientists. It also involved individuals with 'wild talents' such as Geller and even, in the 1970s, *Star Trek* creator Gene Roddenberry.

At a second meeting in the USA in 1974 Puharich gave Jack a copy of his book about Geller, *Uri*, which describes events similar to the Godphone call, involving messages from apparently computerised voices. When Jack then passed this on to his mother, it resulted in a discussion of the seminal call for the first time in two decades – and it was only then that he was shocked to discover that his mother remembered weeks of such calls, not just the one.

However, once again things are not as they seem. Although Jack was unaware of this until he read our *The Stargate Conspiracy* (1999), at the time of the Nine's debut in the 1950s, Dr Puharich was also working for the US Army on joint psychological warfare projects with the CIA, part of the now-notorious MKULTRA programme. In fact, we discovered that the Round Table Foundation had been funded by the Pentagon as a result of a report that Puharich had presented on the military and intelligence potential of psi. Puharich's involvement with the shady agencies continued throughout his career: the CIA chose to send him to Israel to bring Geller over to the USA in 1971. This begs the disturbing question: were the Nine simply a CIA experiment? And if so, what for?

In what must be by anyone's standards an extraordinary turn of events, under one of their channellers and their backers such as Sir John Whitmore, the Nine effectively took over the Esalen Institute at the end of the 1970s. This means that some of the Godphone's 'Chosen' wielded very real power in one of the counterculture's most influential institutions. And it was at precisely the same time the organisation was keen to involve certain Russians – who were, it transpired, destined to become political leaders.

There are obvious parallels with Jack's story. Both began in the early 1950s but only began to blossom in the 1970s. Both involve that strange synergy of science, the paranormal and the intelligence agencies. *And* some of those involved in the Round Table Foundation where the Nine first appeared were also part of the William Sheldon group that was behind Walter Breen. So was this all part of some greater – and weirder – whole?

Sarfatti's Cave

That phase of Jack's career came to a close at the end of the 1970s, following a very public break with Erhard over the dubious nature of EST which deprived him of his main source of funding. (A decade later the movement's sinister elements erupted into a major scandal that sent Erhard into hiding, from which he has only just emerged. He now lives in London thanks to 'people who support me financially'.) Jack had also been cut out of Esalen on the orders of the DIA money-man because he was too much of a 'loose cannon'. With no appetite for a return to academia or industry, Jack set about securing other sources of funding for his research and attempts to find commercial uses for his theoretical models.

Now a scientific outsider, Jack found himself a new audience. Interest in the philosophical implications of his post-quantum theory made him the centre of the West Coast scene centred on the Caffe Trieste in San Francisco (dubbed 'Sarfatti's Cave' by the novelist Herbert Gold). This uber-cool circle included leading poets, novelists, filmmakers (particularly Francis Ford Coppola) – and, more surprisingly, neo-conservative politicians fascinated by the New Physics. This eclectic crucible led to Jack hanging out with the likes of Jack Nicholson and Michael Douglas and inspired outcomes as diverse as the character of Dr Emmett Brown, played by Christopher Lloyd in Spielberg's *Back to the Future* movies, and Ronald Reagan's Strategic Defense Initiative (SDI, or 'Star Wars').

The SDI connection resulted from Jack's continuing work to develop faster-than-light information transfer. Along with his collaborator Saul-Paul Sirag, in 1980 he realised that a by-product of the theory had defence potential - for neutralising missile propulsion systems. Fans of Jack's work - including Marie Galbraith (a former CIA agent whose husband was Reagan's Ambassador to France), the son of Defense Secretary Casper Weinberger and Lawrence Chickering, head of a neo-con think tank – took the idea to the newly-elected President. The result was Star Wars, unveiled in 1983.

The CIA officially declined to finance Jack's other cutting-edge research, although their evaluation acknowledged the potential of his theories. (As others have pointed out, had they agreed to fund him, the agency may well have developed quantum encryption 20 years before anybody else.) However, he obviously still had influential friends within its ranks: he was approached by ex-CIA agent Harold Chipman – former controller of the SRI psi projects – who proposed that they set up in business together. It seems likely that Chipman was being used as a channel for black budget funds controlled by a faction within the agency that was still sympathetic to Jack's work. Significantly, Chipman revealed that Jack had been the subject of a long-term CIA operation.

However, the high strangeness, although not as extreme as in the mid-70s, still played a part in shaping his thinking, at least in the form of synchronicitous discoveries of information about the significance of time. These were largely linked to Jack's relationship, in the 1980s, with Susanna Sedgwick, younger sister of the 60s icon Edie Sedgwick, and a member of one of America's most elite families.

One key element was Jack finding a 1908 essay by Henry Dwight Sedgwick, Susanna's grandfather, which demands we accept the influence of the future on the past. ('The future, and the future alone, holds the key to the mysteries of the present. ') To someone who had been at the receiving end of the Godphone, this spoke to Jack with a massive impact. And it came at exactly the time he was further developing the physics for back-from-the-future influence that went beyond the merely theoretical and quantum level.

The Maverick

Jack has continued to develop his post-quantum physics in ever more far-reaching directions as an independent researcher with private sponsorship. Although his ideas attract the keen interest of important figures in the business, defence and intelligence communities, in the mainstream scientific world his reputation as a maverick, even a rebel, has increased. Controversy continues to dog his footsteps. As recently as 2010 he was 'disinvited' from a scientific conference on David Bohm's ideas (along with Nobel Prize-winning physicist Brian Josephson and Bohm's biographer) that he himself initiated, because his active interest in consciousness, the paranormal and UFOs was deemed 'inappropriate' for a man of science.

Jack's critics have one big, recurring problem, however. His ideas have an awkward habit of turning out to be *right*.

Several of Jack's concepts dismissed as far-fetched in the 1970s and 80s are now an accepted part of quantum theory - although few admit he got there first. And ironically, not to mention gallingly for Jack, other theoretical physicists have independently arrived at similar conclusions - and have reaped the rewards and kudos.

For example, the Israeli physicist Yakir Aharonov has shown experimentally that certain quantum events are influenced not only by the past state of the particles involved but also by their *future* state. Aharonov was heaped with honours, including the US National Science Medal by Barack Obama at a ceremony in the White House in 2010.

Similarly, in the 1990s and 2000s British physicist Antony Valentini, building on the work of David Bohm, came up with a similar modification to quantum theory to Jack's (which he called 'signal nonlocality'), in which entanglement can be exploited to achieve faster-than-light signalling. (Ironically, it was Valentini who disinvited Jack from the 2010 Bohm conference.)

So, has physics actually being playing catch-up with Jack?

Added to this, new discoveries and experimental data, which physics is struggling with, noticeably fit his model of the universe much more snugly than they do conventional physics.

Now is the perfect time to dare to ask: if *all* Jack's theories prove correct, just how will that change our understanding of the universe and our place in it? And how will it change our future? Or perhaps we should ask, how will it change our past once we come to know our future?

Was the Godphone not only a wake-up call for Jack's own immense potential – but did it also mark the beginning of a back-from-the-future awareness for all of us?

Jack Sarfatti might be the catalyst for an explosive revolution – perhaps even an *evolution* in human history: the moment when the future comes knocking at our door…

Back from the Future

A major difference between Jack's model of reality and the generally accepted one concerns the possibility of harnessing back-from-the-future effects. While the standard interpretation actually *demands* such effects at the quantum level, it totally rejects that they can be exploited in the macro world, either naturally by living organisms or via technology. Officially, precognition and time machines are impossible. However, Jack's model *does* allow for such effects to be harnessed; since the 1970s, he has identified what he describes as a 'small but highly significant extension' to quantum theory that allows a back-from-the-future flow of information.

Clearly, this modification was influenced by Jack's own high strangeness experiences – dating right back to the Godphone, purportedly calling him from the future - which somewhat theatrically introduced him to the possibility and implications of retrocausation.

Not unnaturally, his experiences and extrapolations mean that Jack has been more open to data claiming to support precognition – for example in SRI's experiments in the 1970s, which he observed at first hand. The official line then, as with all similar work on psi, is that it has consistently proved impossible to design a watertight experiment that precludes every alternative explanation. Perhaps – at least to that extent – the defenders of scientific orthodoxy have had a point.

Or rather, perhaps they did – until recently. Things have changed dramatically over the last few years. Although not widely reported, a series of experiments, repeated by independent teams at respected scientific institutions in several countries, have demonstrated that human beings really can – and do – respond to events *before* they happen, in this case unconsciously reacting in advance to strong emotional stimuli.

In these experiments, pioneered by Dick J. Bierman, a physicist at the University of Amsterdam, subjects are wired up to equipment that measures subconscious physiological reactions such as skin resistance (on a similar principle to lie detectors), and then shown randomly-chosen images that are either calming or arousing (violent or erotic). Consistently, the subjects' subconscious responses to the arousing images kick in fractionally *before* they are revealed, as if they are bracing themselves for the shock.

Although this effect, dubbed 'presponse', only happens fractions of a second - or at most two or three seconds - before the event, even that is enough to overturn conventional notions of cause and effect. It seems that the 'arrow of time' does not point in only one direction, from past to future, after all.

This new data might pose a major challenge to standard quantum theory, but none at all to Jack. He even *predicted* it, and he also provides the only viable theoretical framework for the presponse data.

All this impinges directly on one of the most basic but so far intractable problems of human life: the nature of consciousness. The presponse data now confirms Sir Roger Penrose's theory – first put forward in the 1970s - that consciousness itself is a quantum process. Formerly this concept was an easy target for the sceptical scientific establishment, but no longer. Now the data is in.

Real evidence now suggests that consciousness is embedded in the very fabric of the universe at the deepest or quantum level where it can pick up information and potentially cause measurable changes. Even mainstream physicists have demonstrated that observation - and therefore consciousness - can determine the behaviour of subatomic particles. Again, Jack offers an explanation for the mechanism behind this apparently impossible quantum effect.

We have also seen that John Archibald Wheeler proposed in his 'participatory universe' hypothesis that this works on a cosmic scale, even playing a major role in the origin and evolution of the universe itself – which by definition involves a back-from-the-future effect. Beyond bizarre though it may seem, this hypothesis is accepted by many leading physicists, most notably Stephen Hawking. Wheeler suggested that investigating this hypothesis would lead to the discovery of the 'mechanism of genesis', although he himself stopped short of suggesting how it might work.

Jack bridges the gap between Penrose's ideas about the consciousness of individuals and Wheeler's about consciousness on a cosmic scale. It is Jack who has identified the 'mechanism of genesis', providing a new model of the relationship between mind and matter: the back-from-the-future effects of presponse being, in his words, 'the *élan vital*, the basic mechanism of ordinary consciousness and of extraordinary paranormal phenomena'.

Where Jack goes beyond Wheeler is that his work (and experiences) show that information can be passed from future to past in a much more direct way: mind-to-mind communication with future beings - in which *specific* information is transmitted - is possible.

Jack's work doesn't simply provide a new theoretical and philosophical understanding of the workings of Life, the Universe and Everything (already quite enough for just one man). It also suggests ways that back-from-the-future effects can be used in technology – inevitably changing our world beyond recognition.

The current view is that exploiting entanglement for faster-than-light signalling is impossible, since although *theory* allows it, there is a logical barrier that prevents it being put into practice. However, Jack's refinement of quantum theory allows this barrier to be circumvented – as already witnessed in the presponse phenomenon. (For a mind to detect something subconsciously before it happens, by definition the stimulus/signal must be travelling faster than light.)

Breaking the 'no entanglement signalling' barrier has many implications for technology – not all of them positive. For example, this is the basis for quantum encryption, which is believed to be the only absolutely secure and unhackable information transfer system ever devised, and as such has been snapped up by military, intelligence and financial organisations. But if the barrier is breached, then quantum encryption is seriously compromised, if not rendered useless, as it provides a hacker with a back door into the supposedly secure communication channels.

More positively, Jack argues that the back-from-the-future effects can be harnessed to make a naturally conscious Artificial Intelligence chip that is basically a faster-than-light post-quantum computer. Essentially conscious robots.

Jack's wayward genius has opened the way not merely for faster-than-light – therefore instant – communication, but also for faster-than-light *travel.* His theories make feasible the development of propulsion systems that could take humankind to the stars and beyond, which would potentially also enable people to travel through time. Certainly the idea is taken seriously in certain quarters. In October 2011 Jack was invited to give a presentation on this subject to a conference in Orlando, Florida, organised by NASA as part of its 100 Year Starship project (which ambitiously aims at achieving interstellar travel within the next century). Jack's expenses were paid for by the Pentagon's Defense.

Advanced Research Projects Agency. As Jack puts it, the time barrier may finally be about to be broken – making *Star Trek* real…

Jack's 'small but highly significant extension' of quantum theory – his post-quantum theory – has many profound implications. They include a potential solution to some of the major preoccupations of physics and cosmology.

The most important example – which has more than merely theoretical significance - is the mystery of the 'missing' dark energy. As most people know, the universe is expanding. But to their great surprise, scientists have recently established that it is not, as expected, slowing down but *accelerating.* For this to be happening, a huge amount of energy has to be entering the universe. And yet, while easily calculating how much energy is appearing, cosmologists have been unable to identify where it is coming from. The source of this 'dark energy'is one of cosmology' most fundamental problem - especially as it represents nearly 70 per cent of all the energy in the universe.

The mystery is compounded by the *precision* of the dark energy. If it were only a minute fraction of a percent larger or smaller – to an order of over a hundred decimal places - then it would be impossible for a life-sustaining universe to exist. Even ultra-rationalists such as Leonard Susskind have acknowledged that this 'absurd accident', as he calls it, *looks* as if it was designed to produce a life-friendly universe…

Jack has calculated the energy entering the expanding universe as a result of back-from-the-future effects – and it is *precisely* the same amount as the dark energy.

Quantum theory acknowledges that as the universe expands forwards in time (as we see it), it is also passing through a wave of quantum information – a 'destiny wave' - that flows backwards in time. The destiny wave meets and interferes with a 'history wave' moving *forwards* in time to form the present moment. Jack cites the French pioneer of quantum theory, Louis de Broglie, who called these past and future waves the 'pilot waves' that guide the motion of matter and energy in our four-dimensional space-time from *beyond* that space-time.

The destiny and history waves shape the evolution of the universe and everything within it, including ourselves. This provides an explanation for both the missing dark energy, and Wheeler's 'mechanism of genesis' – the 'loop' from future to past that actually causes the universe to evolve. And the boundaries from which, on any given moment on our timeline, the destiny and history waves originate – the future and past cosmological event horizons - are the 'walls of light' that Jack had been told he would 'smash' back in 1973 by Carlo Suarès.

This is not just a lucky metaphor but an accurate description, since the surface vibrations of the event horizons – known as 'Hawking radiation' after Stephen Hawking, who first proposed the effect in 1974 (a year after Jack's meeting with Saurès) – emit photons, making them quite literally walls of light. Their existence is accepted by standard quantum mechanics; Jack's revolutionary extension, in which there is a second, higher energy component to Hawking radiation - the dark energy - allows those horizons to be breached, and so smashed.

But the destiny wave isn't merely dead stuff, carried by subatomic particles that are simply packages of mass-energy. Like all quantum processes, it is *information*; 'physical quantum BIT information' in physicists' terminology, which one leading physicist even calls 'thought-like'. And, when the missing link of Valentini's signal nonlocality is added to this witches' brew, it also possesses *intelligence*. So it could be said to be what the British astronomer and cosmologist Sir Fred Hoyle called the 'intelligent universe' and Stephen Hawking calls the Mind of God. In fact, the number of quantum BITs of information on the cosmological horizons effectively represent – as Jack mischievously puts it – God's IQ.

Taken with the growing evidence that consciousness operates at the quantum level, there is a very real possibility that a connection can be formed between the human mind and the destiny wave, and that at least certain individuals can pick up information from it. Indeed, as Jack has calculated, the destiny wave resonates at precisely the same frequency as human brain waves.

If Jack is right, everything changes – and everything suddenly falls into place.

Jack's theory provides a complete and consistent explanation of how – and *why* – the universe works and of our place within it. It also provides a highly plausible – if apparently sensational - explanation for creative and scientific inspiration, and even many mystical, magical and paranormal phenomena.

This is where Jack's research and our own comes together in a remarkable way. Take the parallels between his new model of the cosmos and the one that underpinned the ancient mystical Hermetic tradition we discussed in *The Forbidden Universe* (2011), where we elaborated on its curious resonance with Wheeler's hypothesis.

This implies that those who wrote the Hermetic texts – which are at least 2000 years old but might even transmit ideas from more ancient times – were aware of advanced cosmological concepts that our scientific civilisation is only now beginning to grapple with. But how? Jack believes he knows. If retrocausation is a fact then information could have been sent back to receptive individuals.

And perhaps it was. After all, the astonishingly insightful Hermetic books attribute their wisdom to contact with advanced beings, who they refer to as gods... But who were/are they?

The Future Mind

The plot thickens considerably when we realise that other people were having spookily similar experiences to Jack's at *exactly* the time of his 'awakening' of 1973-74; in which the nature of time, and particularly influences apparently from the future, were key. So noticeable were these tightly packed parallel experiences that Jeffrey J. Kripal, Professor of Philosophy and Religious Thought, has described this time as 'the psychic summer of '73'.

The most famous example is that of the American science fiction writer Philip K. Dick, who had a series of visionary experiences, dreams and episodes of high strangeness - often involving anomalies with time. In these he was 'programmed' with ideas and information from a source he called VALIS (Vast Active Living Intelligence System) which he immortalised in his classic 1980s' trilogy of novels of the same name.

Dick believed that VALIS was a super-mind reaching back from the future to fuse with his own mind. And although the breakthrough happened when he was in his 40s, he claimed the seeds had been sown during his early childhood, his subsequent life and career being shaped by what was *going to happen* in the 1970s. In Kripal's words, the 'final wisdom' of Dick's VALIS experience is that 'there exists in the human being a "paranormal talent" that is capable of altering the past from the future through a warping of space, time and causality. '

Since his death in 1982 Dick's science fiction has undergone an astonishing transformation, from purely cult appeal to the mainstream and therefore public consciousness – via a whole slew of successful movies such as *Blade Runner, Minority Report*, *Total Recall* and *The Adjustment Bureau.* These created a genre that led to other movies such as *The Matrix* and *Inception* that similarly challenge consensus reality. In this way Dick's VALIS has, without much exaggeration, changed modern consciousness.

Dick's experiences are relatively famous. Less well known are those of British illustrator Barry Windsor-Smith – later an award-winning artist for Marvel comics, whose landmark output includes *The X-Men* - that started in the summer of 1973, when he was working in New York, and stopped at the end of that year. After a weird time slip Windsor-Smith had a series of mystical epiphanies in which, like Dick, he perceived the workings of the cosmos – and realised that the influence of the future on the past was central. The evolution of the universe is due to something in the future looping back into the past and causing the very changes needed. Without the future there can be no progress – or even any past.

At the very same time, John Wheeler was developing his own widely-accepted theories of the participatory universe. In fact, Wheeler made his first tentative public statements, in specialist scientific papers, in 1973 and '74. This begs the question as to what had actually inspired *him*….

It almost seems as if *something* in the future was indeed reaching back into its own past, and that the years 1973 and 1974 were when it momentously broke through in mature minds prepared since childhood. And clearly Jack was one of them, positioned mid-way between Wheeler's rigidly respectable, no-nonsense approach, and the more imaginative, far-out (and hence easier to dismiss) attitudes of Dick and Windsor-Smith. Essentially, Jack is in the ideal place in all this to provide the physics that vindicates the insights of the more mystical and creative minds involved.

But why did all these extraordinary experiences begin in the early 1970s? Was that as far back as the 'future mind' could reach, for some reason? Unlikely, as it seems that individuals such as Jack and Philip K. Dick had been prepared as children (Jack in the 1950s, Dick in the '30s). In Jack's case, 'it' specifically told him that he wouldn't understand the significance of the event for 20 years, i.e. until 1973.

We suggest that the answer lies in quantum entanglement itself. Although theorised about for decades, the reality of entanglement was confirmed experimentally in 1972. This changed everything. It created a revolution in physics, rewriting our understanding of the universe. Without that, Jack wouldn't have been able to work out his theories – although he had been primed to seize on the significance of entanglement immediately it *was* proven. He was also being positioned to work with the first generation of those inspired to explore the ramifications of entanglement, most obviously John Clauser, the man who produced the proof. Jack was, quite literally, in the right place at the right *time*.

The bottom line is that none of the concepts advocated by Jack would have made sense before physics at large admitted the reality of entanglement. So the future mind's breakthrough – where physics was concerned at least - could only happen after 1972.

All of this explains the connection between the science and high strangeness strands. But once again we are left with the enigma of the intelligence agency agenda. The very least that can be said is that they are interested in 'fringe' phenomena. As with the case of the Nine, sometimes they seem to be merely observing events, and sometimes they seem to be pulling the strings. Basically, they're experimenting with weird stuff, which means they want to understand it, which in turn means they want to control it and use it.

Their continual presence in Jack's life – watching, manoeuvring, backing him – suggests that at least a faction within the intelligence community is aware of the influence of the future mind in our times. And that, it must be said, is one hell of a scary thought.

In the final analysis, Jack Sarfatti is living proof of retrocausality. His ideas about back-from-the-future influences seem to have been directly inspired by the momentous signal – a message from a future intelligence. Without the Godphone call, and the other high strangenesses that nudged him along the path, it is unlikely that he would have identified the extensions to quantum theory that point the way to, and back from, *our* future.

CHAPTER 4

Past Mind

Jack Sarfatti: Neils Bohr himself notices the analogies between thoughts and quantum phenomena, and then David Bohm in his book written in 1950's when he was teaching Quantum Physics at University of Princeton has several paragraphs pointing out the analogies between thought processes and quantum phenomena.

Jeffrey Mishlove (JM): What are those analogies?

JS: Well, the analogies are that uhm… In quantum Theory, the world naturally seem to get divided into thought like things and rock like things... Like matter and non-matter. Now I'm gonna give the picture of Quantum reality according to David-Bohm.

JM: Which is in the same tradition as Einstein!?

JS: Which is [exactly] in the same tradition as Einstein. There are like two schisms in physics today between Neils Bohr and Albert Einstein. Bohr and Einstein debated the meaning of Quantum Theory and they were never able to accommodate any agreement. The controversies still rage on today.

JM: It has to do with Einstein's famous quote that 'God does not play dice with the universe'.

JS: Exactly!! Einstein did not believe, let's put it this way… Bohr said God does play dice with the universe but that he uses a fair coin. 50-50. What is beginning to become clearer and clearer from my point of view is that to the extent that God does play dice with the universe, he loads the dice, i.e. he plays unfair dice and the loading of the dice is our consciousness. It's where consciousness comes in.

JM: So, back to the original analogy between, what you sometimes call Level-2 of the Quantum Mechanical Level of(in) Thought.

JS: This is the universe according to Jack, the world according to Jack. Physical reality has got three levels. I'll call them Level 1, Level 2 and Level 3.

Level-1 is called the level of classical physics, it is what is called the ordinary physics of automobiles and spacecrafts and things like that and If you wanna use David Bohm's language, David called it the Explicit Order. The outer order of things. It's the space and time and matter as we normally perceive it. That's Level-1 Classical Physics. Beneath Level-1, there is level 2 called the Quantum reality. In quantum reality the thought-like patterns of information are guiding the behavior of the level 1 material. Now these thought-like patterns of information, they are still physically felt, but their "feel"(influence) is beyond ordinary space and time. But they influence, they project into space and time. They influence space and time.[8]

JM: They exist in hyperspace.

JS: Yeah, they exist in hyperspace which is almost like a cyberspace. It's like a mind space.

JM: I mean that alone, to my way of thinking is such an extra-ordinary realization. The physicist are saying this higher dimensional hyperspace is as real as (knocks the chair) anything else (we normally see). Although its non-material.

JS: Its non-material but its physically real and in fact without this thought like space of information beneath the surface of things matter would not be hard, the hardness and stability of matter depends upon this thought like patterns that are beyond space and time which actually influence the structure of matter in space and time.

JM: And you make an interesting distinction that these thought-like patterns, these quantum fields, I suppose we could call them technically the Schrödinger waves of quantum mechanics or the Psi Waves, but they are not conscious.

JS: No, they are not conscious yet, they are not conscious at level 2. Now level 2 is also called by Bohm, the implicate order, something you have heard like Universe is a Hologram - the Holographic Universe and the things like that. That's what it is the implicate order, but although the quantum properties of matter are thought like, they are still not conscious the way we are conscious. They are not self-aware yet.

JM: I'm still a little unclear as to why they are thought-like, is it simply because they are non-material?

JS: Well, that a part of it, but they are thought like for several reasons. They are thought like because they are beyond space and time, they are non-mechanistic. Which means they are non-mechanistic, which means although they do influence matter but not in a kind of mechanistic push and pull force kind of way. It's like a force without a force. It's more of a telepathic influence. If you wanna think of it, think of it like in a popular way… like Force in the Star Wars. ("Use the Force, Luke")

JM: Maybe it's more like...a… probabilities, don't you think?

JS: Look, I don't want to talk about probabilities[9], although lots of quantum physicists talk in terms of probabilities, but the important way to look at it like is the Bohm's way of looking at the quantum world is that probability is the secondary thing. It's not Fundamental. Okay, Bohm's theory really deals with the weird properties of the individual systems and probability comes out a little later. It's like a superficial aspect to the world. That's why, see, Bohm was working with Einstein, and so for Bohm, God does not play dice with the universe because dice is again like probability. Even though probability plays a role, but it is not the fundamental role in understanding how mind works.

JM: Now you've introduced, you call Level 3… which really goes beyond which physicists really talk about today and Bohm just barely eluded to it.

[8] I no longer believe this of course in 2018. As shown by Huw Price, Rod Sutherland and others the Costa de Beauregard "zig-zag" is entirely local inside 4D spacetime consistent with Einstein's relativity but with future causes of present effects in addition to the usual past causes of present effects.

[9] "God does not play dice with the universe." Einstein

JS: Bohm just barely eluded to it. Level 3 is where the mind is. That's where consciousness is... in... my opinion, my Humble opinion. They say on the inter: IMHO (In My Humble Opinion). That's the acronym. So, a... this the bog debate now, the really new thing in physics that whether the Level 3 exists. Now...a... I say it does exist. Bohm referred to it as the Super Implicate order. So, if Level 1 is the explicit order or the outer order, Level 2 of ordinary Quantum Reality is the implicate order, the inner order and Level 3 is something deeper, called the Super Implicate order and that's where mind is. If I give it, the Mind of God, the mind of god.

JM: And so, you, if I understand you correctly resolved the classic mind-body problem of philosophy by suggesting that mind was sort of there from the beginning at Level 3.

JS: ABSOLUTELY! Level 3 is the deepest Level of all, of all reality. And you can say that Level 1 and Level 2 just emerged out of the sentient Level 3. It really is the conscious universe at the deepest level or the sentient universe which gets a source if/in Dean Radin's book...a... paranormal... a... it's called the conscious universe. I guess I'll give him the plug. (Laughs with JM). That is the picture.

JM: So, what you are saying is consistent in effect with the classical views of mystics of Almost all cultures, i.e. that this reality of space and time and matter and objects and bodies sort of evolved from a super conscious realm.

JS: Absolutely yes. That the truth but I would like to call it mysticism without mysticism. Because there really is a technology inherent in this and its not just... a... vague poetry. You know its real physics that's gonna have implications for our lives.

JM: And some of the implications for you, I know you are very interested in possibility of using these models to design and build conscious computer chips.

JS: Absolutely conscious computer chips. And that would be an application of nanotechnology. A nanometer is like a billionth of a meter. It's at the level of a couple of atoms wide and we have reason to think from a theory of a man named Stuart Hameroff who is an anaesthesiologist and professor at the University of Arizona discovered that inside the nerve cells are called the microtubule structures and they are nanotechnology level structures and there these little electrons inside the microtubules and the electrons control the shapes of protein molecules. These protein molecules could be like closed fist or open fist, just like a switch, like a switch on a computer. Just like a transistor on a computer. (binary 1 and 0). And it looks as though when we look at the sub-neuronal level of our nerve cells, it looks like a computing circuit. At the microtubule level. So, the idea of the chip... of the conscious computing chip will be to use nanotechnology to simulate what is actually in our nerve cells. And if the theory is right, if there is Level 3: post Quantum Physics I call it. If the theory is correct, we should make an artificial...the conscious computing device sort of like Commander Data's brain in Star Trek. That exactly what is. It's like conscious robots. They will be as conscious as humans.

https://vant-age.weebly.com/interview--jack-sarfatti.html

Below is the chapter I wrote for Jeffrey Mishlove's book Roots of Consciousness way back in 1975 when I was under the spell of John Archibald Wheeler who, in turn, was under the spell of Neils Bohr's rejection of ontology in favor of epistemological

solipsism as we see today in Deepak Chopra's talks to his millions of followers. I have since changed my views to those of Einstein and David Bohm who opposed Bohr's Copenhagen interpretation of quantum mechanics. Yakir Aharonov's weak measurement theory using the back-from-the-future destiny pilot wave independent from, and in addition to, the history wave from past to present shows how to measure Bohm's particle trajectories of objective though locally retrocausal observer-independent reality. I present my early thoughts below for historical interest. Some parts of what I wrote in 1975 I still hold to today. Can you figure out which? I will mark in **red** some of the parts I reject in 2018. Note my 1975 association of elementary particles as tiny black holes in strong short-range gravity that anticipates Lenny Susskind's future ideas of duality between string theory and blackholes. Susskind and I worked together with Johnny Glogower at Cornell in 1963 on time and coherent phase operators in quantum mechanics (where our minds got entangled?). I also dimly to be sure anticipated (precognitively remote viewed perhaps) Lenny's future world hologram ideas on ER = EPR in the Scientific Commentary of the early E. P. Dutton editions of Space-Time and Beyond before it was re-written in a second edition by Fred Alan Wolf. I had forgotten what I wrote about Costa de Beauregard's theory of information, thermodynamics and consciousness back in 1975 as I look at it in 2018 it seems way ahead of its time. I spent time with Costa de Beauregard and Jean Pierre Vigier at the Institut Henri Poincare in Paris when I was writing Space-Time and Beyond with Fred Alan Wolf and Bob Toben at Cafe de Flore and learning about Qabala from Carlo Suares who also introduced me to Jack Parson's partner Frank Malina. Werner Erhard brought me back from Paris to San Francisco in 1975 with a grant to set up the Physics Consciousness Research Group described by MIT Professor David Kaiser in his award-winning book "How the Hippies Saved Physics."

On June 21, 2018, at 12:20 PM, David Sarfatti wrote:

"Interpretations of QM is like choosing between hanging, firing squad, drinking hemlock, cyanide pill or lethal injection. It's a matter of taste. But you won't be happy."

The Physical Roots of Consciousness[10]

by Jack Sarfatti, Ph.D.*

"You're god in your universe. You caused it.

You pretended not to cause it so that you could play in it,

and you can remember you caused it any time you want to."

Werner Erhard, est.

I would like to thank Saul-Paul Sirag, Professor Fred Wolf, and Werner Erhard for their contributions to this paper. I have benefited from conversations with Professor Henry Stapp and Professor Costa de Beauregard. I am indebted to Professor John Archibald Wheeler for sending me a recent account of his work.

Introduction

The new physicists are forging deep and strong links between the foundations of physics and the psychology of consciousness. These links are not new in the history of physics. The great nineteenth century physicists Mach and Helmholtz were concerned with the relation of human perception to the notions of space, time and mass. One of the fathers of quantum theory, Niels Bohr, was influenced by the psychology of William James in his formulation of the quantum idea of complementarity between wave and particle. Ob servational data on the remote viewing of distant environments published by Harold Puthoff and Russell Targ at the Stanford, Research Institute, and data on psychokinesis published by David Bohm and John Hasted from Birkbeck College and John Taylor from Kings College (University of London) are forcing physicists to explore the physical roots of consciousness. Physicists at classified U.S. government laboratories are conducting experiments in psychic phenomena on an unofficial basis. An informal seminar with physicists from the Lawrence Radiation Laboratory of the University of California in Berkeley and the Physics/Consciousness Research Group (a tax-exempt non-profit California corporation) of San Francisco was created in the late spring of 1975 to reproduce, and possibly improve, the experiments at Stanford Research Institute and at the University of London. Recent theoretical discoveries in the quantum effect known as EPR (named for Einstein, Podolsky and Rosen for their 1935 paper on the quantum connection between spatially separated systems), now clearly formulated in a rigorous theorem by John S. Bell, allow for the transmission of information instantly between any two places in the physical universe. There is no violation of Einstein's theory of relativity because the information transfer does not require the propagation of energetic signals. The quantum information utilizes energy already present at a particular place. If this hypothesis is confirmed, then psychokinesis, telepathy and precognition are likely to have a unified explanation within the presently known framework of modern theoretical physics. Even more important than psychic phenomena is a proper understanding of man's normal consciousness! Physics and psychology are the brink of a new unifying insight which will totally alter man's conception of who he is and why he is here.

[10] I have added some comments to the original 1975 document.

Space-Time According to Einstein

The special theory of relativity, formulated by Albert Einstein in 1905, is based on the experimentally confirmed id that the velocity of light is the same universal constant, c = 3 x l 0^10 cm./sec., for all inertial observers who move uniformly along straight lines relative to each other. Consequently, Einstein's genius deduced that events which are simultaneous to one observer are not simultaneous to a second observer. Furthermore moving clocks run slow, moving measuring sticks contract in length along the direction of motion, energy is equivalent to mass, i.e. E = mc^2, and the mass of a particle increases to infinity as the velocity approaches that of light in vacuum. Einstein's results have been confirmed many times in physics laboratories. Like any scientific fact, these results presuppose that the observers are in a common state of consciousness whose legitimacy is determined by their agreement or social contract. The legitimacy of any scientific discipline is ultimately a political matter. According to modern physics, physical reality does not objectively exist independent of the participating observers.

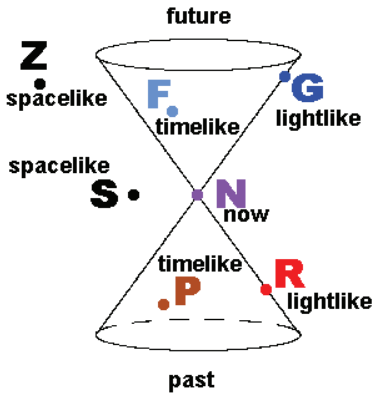
Kurt Godel, of the Princeton Institute for Advanced Study, in a paper entitled "A remark about the relationship between relativity theory and idealistic philosophy" [Albert Einstein Philosopher-Scientist, P. A. Schilp Harper, 1959] writes that relativity denies the objectivity of change and considers change to be an illusion caused by our "special mode of perception." In this same paper, Godel points out that the general theory of relativity allows time travel to the past. Thus,

... it is possible in these worlds to travel into any region of the past, present, and future, and back again, exactly as it is possible in other worlds to travel to distant parts of space.

Godel adds that a time traveller can meet up with himself in *"some earlier period of his life."*

A way out of this kind of paradox is to invoke the many-worlds interpretation of quantum mechanics, due to Everett, Graham and Wheeler, in which all possible measurement results are realized in an increasingly multiple branching of physical reality. One "branch world" exists for each possible sequence of possible measurement results. Psychic phenomena would result from communication between branch worlds. If you were to travel to the past and kill your father before you were born, then you would automatically be switched to a new branch world upon your return to the present. A world in which you were not born. The "truths" of modern physics are stranger than science-fiction.[11]

[11] https://en.wikipedia.org/wiki/Quantum_mechanics_of_time_travel



Einstein's Light Cone

Physicists use a simple geometric picture of the flat space time of special relativity called a "Minkowski diagram." Relativity unites space and time into a unified "four-dimensional space-time continuum" in which time appears as a mathematically imaginary space. Events are conceived of as points on the Minkowski diagram. The history of a sequence of events is described by a curve or path on the Minkowski diagram called a world line. Each event is the origin of a future light cone and a past light cone. World lines that are everywhere inside the light cones are called time-like and describe the history of particles moving at velocities less than the velocity of light. World lines that are everywhere on the light cones are called light-like and describe the histories of real photons, neutrinos and gravitons that move at exactly the velocity of light. World lines that are everywhere outside the lightcones are called spacelike and would correspond to tachyonic processes happening faster than the velocity of light. Such a process can be in two or more widely separated places at the same time! Furthermore, these space-like processes allow the effect to precede the cause for some observers and not for others. Space-like processes are not allowed in classical physics but are the essence of quantum physics according to my new interpretation. Quantum transitions or "quantum jumps" are space-like processes. This is why particles exhibit wave properties of interference. For example, in a double slit interference experiment, the electron passes through both slits at the same time in a space-like jump.

World lines have a length which is measured to be the same by all observers and which is called the proper time. Particles that are not acted upon by real forces follow geodesic world lines in classical physics. A geodesic is defined in the following way. Choose two points on the Minkowski diagram. Imagine all possible world lines that pass through the two points. Compute the value of the proper time, s, for all of these world lines. The geodesic world line has the property that the proper time of all its very close neighbor world lines have the same proper time that it has. This is called the extremum property.

When real forces act, the particle no longer follows a geodesic world line. In quantum physics all possible world lines connecting two chosen points can occur with a probability amplitude. These probability amplitudes coherently interfere with each other. They reinforce each other along the actual world line that is predicted from the classical

laws of physics. They destroy each other's effect for world lines that are very different from the classically predicted world line. Thus, classical physics is a limiting case of quantum physics.

General relativity applies to all observers, who are now allowed to accelerate relative to each other. This is a possibility not allowed for in special relativity. The basic new idea is that an observer inside a closed box that is uniformly accelerating in gravitation-free space cannot distinguish his situation from that of an observer at rest in a uniform gravitational field. This inability to distinguish two possibilities is called the "equiv alence principle" and it allowed Einstein to formulate a purely geometric theory of gravitation. Non-uniformities in gravitation are curved space-time. In Newton's physics, gravitation was a real force which would cause particles to follow non-geodesic world lines. In Einstein's physics, gravitation is a "fictitious" force. A particle moving in a gravitational field with no other kinds of forces acting is said to be "freely falling" and it follows a "straight line" or geodesic in a curved space-time. The earth in its motion around the sun follows such a geodesic world line. Gravitation, analogous to relative velocity in special relativity, distorts space and time. Clocks at rest in a gravitational field run slow relative to gravitation-free clocks that have geodesic world lines. Clocks that are at rest in a gravitational field require real forces to prevent their free fall. Thus, their world lines on the Minkowski diagram are not geodesic. The slowing down of clocks in the gravitational field is called the "Einstein red shift." For example, the sharp spectral lines of an atom on the surface of the sun will be very slightly shifted to lower frequencies compared to the spectral lines of the same kind of atom on the surface of the earth. This is because the gravitational field at the sun is stronger than that at the earth. This effect has actually been observed between two points on the earth using very sharp gamma ray photons coming from special kinds of nuclear quantum jumps in which the recoil of the nucleus is shared by the entire crystal in which the radioactive nu cleus is situated. Recent experiments on the large particle accelerators at Stanford, Brookhaven and the National Accelerator Laboratory show the existence of unexpected "charmed" particles that are unstable and live at least a thousand times longer than they should. I interpret this fact as evidence that the Einstein red shift is happening on the sub-nuclear scale in which gravitation can act very strongly. This interpretation connects with another fact; namely, that the strongly-interacting particles called "hadrons" rotate in proportion to the square of their mass. This is exactly what one expects if the ele mentary particles are tiny rotating black holes!

Calculation of redshift, z

Based on wavelength	Based on frequency
$z = \frac{\lambda_{\text{obsv}} - \lambda_{\text{emit}}}{\lambda_{\text{emit}}}$	$z = \frac{f_{\text{emit}} - f_{\text{obsv}}}{f_{\text{obsv}}}$
$1 + z = \frac{\lambda_{\text{obsv}}}{\lambda_{\text{emit}}}$	$1 + z = \frac{f_{\text{emit}}}{f_{\text{obsv}}}$

Redshift summary

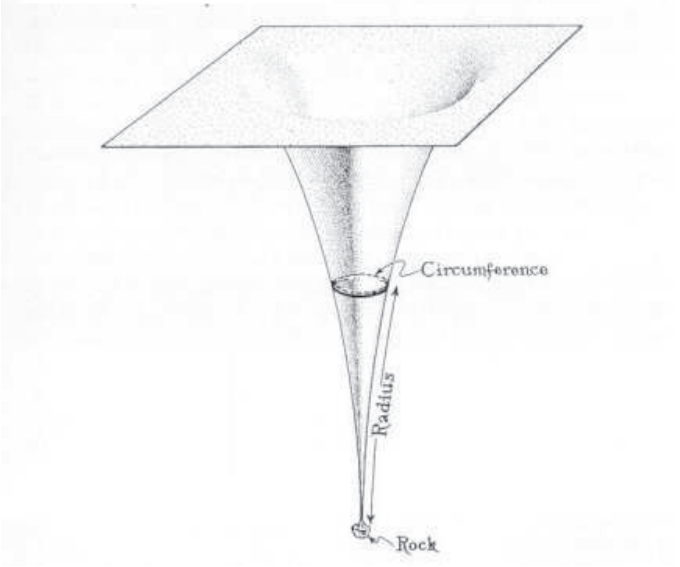
Redshift type	Geometry	Formula[22]
Relativistic Doppler	Minkowski space (flat spacetime)	For motion completely in the radial or line-of-sight direction: $1+z=\gamma\left(1+\frac{v_\parallel}{c}\right)=\sqrt{\frac{1+\frac{v_\parallel}{c}}{1-\frac{v_\parallel}{c}}}$ $z \approx \frac{v_\parallel}{c}$ for small $v_\parallel$ For motion completely in the transverse direction: $1+z=\frac{1}{\sqrt{1-\frac{v^2}{c^2}}}$
Cosmological redshift	FLRW spacetime (expanding Big Bang universe)	$1+z=\frac{a_{\text{now}}}{a_{\text{then}}}$
Gravitational redshift	Any stationary spacetime (e.g. the Schwarzschild geometry)	$1+z=\sqrt{\frac{g_{tt}(\text{receiver})}{g_{tt}(\text{source})}}$ For the Schwarzschild geometry, $1+z=\sqrt{\frac{1-\frac{2GM}{c^2 r_{\text{receiver}}}}{1-\frac{2GM}{c^2 r_{\text{source}}}}}$

https://en.wikipedia.org/wiki/Redshift

Euclidean geometry does not work in space that is curved by gravitation. A circle in Euclidean geometry has a circumference that is equal to 2pi times the radius. In contrast, a circle in a gravitational field has a circumference that is smaller than 2pi times the radius. This is because measuring sticks oriented radially along the gravitational field, and at rest in it, contract relative to freely-falling measuring sticks. Measuring sticks that are oriented perpendicular to the gravitational field, and at rest in it, do not contract relative to freely-falling measuring sticks. Therefore, the radius of a circle in a gravitational field contains an excess of contracted "unit" measuring sticks, while the circumference contains the "normal" number of uncontracted measuring sticks. I believe that this gravitational distortion of space has also been observed on the subnuclear scale in experiments at the National Accelerator Laboratory which show that hadrons increase their size when measured from close up in high energy collisions. This is a third fact that fits with the interpretation that elementary particles are tiny black holes in a super-strong gravitational field at short distances.[12]

[12] https://en.wikipedia.org/wiki/Black_hole

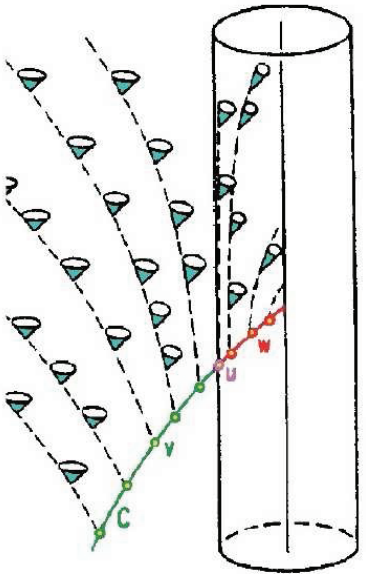
A heavy rock placed on a rubber sheet (for example, a trampoline) distorts the sheet as shown. The sheet's distorted geometry is very similar to the distortions of the geometry of space around and inside a black hole. For example, the circumference of the thick black circle is far less than 2π times its radius, just as the circumference of the hole's horizon is far less than 2π times its radius.



Kip Thorne's "Black Holes and Time Warps"

This is why electrons appear as point particles in the Bohm pilot wave picture if Abdus Salam's strong short-range f-meson gravity is correct. It also explains the universal slope of the Regge trajectories of hadrons[13] where spin ~ mass^2

[13] (1973). "Regge Trajectories as Rotation Black Holes in Strong Gravity", in H. Frohlich & F.W. Cummings (eds.). *Collective Phenomena*.



https://www.researchgate.net/publication/260835665_Presentism_meets_black_holes/figures?lo=1

Gravitation tips the light cones on the Minkowski diagram and causes them to distort and their origins to fuzz out. Gravitation is closely related to the Heisenberg uncertainty principle of quantum mechanics. Professor John Archibald Wheeler of Princeton used to advocate the view of geometrodynamics which says that mass is an illusion of pure curvature, and electric charge is an illusion of chargeless electric lines trapped in the "wormhole" multiply-connected topology of three-dimensional space. In this picture, an elementary particle can be conceived of as a mini-black hole. A mini-black hole is formed when gravitation gets so strong, that the light cone is tipped or tilted so much, that no light can escape to infinity along light-like world lines. Some light can actually leak out by quantum jumps along space-like world lines. The mini-black hole is actually unstable and explodes because of quantum jumps. The boundary between light cones that are tilted so much that the light cone cannot reach infinity and those light cones that do reach infinity is called an event horizon. Space-time collapses to a singularity inside the event horizon. The curvature of space is infinite at the singularity and the idea of space and time break down and are transcended to the level of pre-geometry, A singu larity hidden by an event horizon is called a mini-black hole. There is no real mass inside a mini-black hole. Real mass is only an illusion on the statistical level of large numbers of mini-black holes. When a star exhausts its nuclear fuel and gravitationally collapses to an astrophysical black hole, it simply turns back to its primordial state of mini-black holes. The protons, electrons, mesons and hyperons are crushed out of existence. Elementary particles are, at the deepest level, simply coherent organizations of the disordered quantum "zero point" fluctuations in the geometry of space-time. Elementary particles are formed by information which is a form of consciousness. Information quantum jumps to a different part of space in the gravitational collapse to a singularity. Gravitational collapse is the same kind of EPR information transfer that is found in psychic phenomena. As Sir James Jeans said, the universe is ultimately composed of a great thought. The universe is a cosmic computer on the pregeometric level of

information in which space and time appear as secondary statistical constructs as suggested by Professor David Finkelstein of Yeshiva University. The pregeometry can be identified with the collective consciousness from which we are unconscious except in enlightenment. This image is more than poetry it is physics as well, if we accept responsibility and create the facts of psychic phenomena. All scientific facts are created by those who participate.

Causality Overthrown

The prejudice of classical causality says that an event can only be influenced by other events that are in its past light cone. Events in the future light cone and outside the light cone in the "absolute elsewhere" are said not to influence the event of interest. Both general relativity and quantum theory in the form of Bell's theorem6 show that classical causality is not correct in principle on the level of individual events. Causality does not work in your individual experience, which is part of a quantum reality, not a classical reality. Classical causality does work on the statistical level in which we average our observations over sets of events. This statistical average throws the baby out with the bathwater and is the source of man's alienation from himself. Psychic information is transmitted over space-like separated events and is not subject to the time delays of messages whose speed of propagation is limited to the speed of light. Information is more fundamental than space, time or energy. Psychic information is on the level of pregeometry. Psychic information creates space, time and matter. We can know the laws regulating psychic information.

Almost all of the measurements of atomic physics are adequately described by the statistical limit of the quantum principle. However, recent experiments by John Clauser at U.C. Berkeley show that classical causality is violated for individual atomic events. (Local causes operate within the velocity of light.) Clauser measures the simultaneous arrival of two photons at spatially separated detectors. The two photons originate from the same atom. Bell's theorem enables one to calculate what the rate of simultaneous arrival should be if the statistical predictions of quantum theory are correct. It also enables one to calculate the rate of simultaneous arrival if physical reality is objective and locally causal for the individual photons. Clauser's measurements contradict the rate of photon coincidences predicted on the basis of an objective and locally causal reality. The measured rate agrees with the prediction of ordinary quantum theory. This means that physical reality either is not subject to the principle of local causation or does not objectively exist independent of the observers who participate in its creation. Bell's theorem and Clauser's experiment have great importance for the understanding of personal human experience. The human brain stores and processes its information at the level of single organic molecules and is a single macroscopic quantum system. Acts of consciousness are individual quantum events.

Causality also breaks down on the cosmological scale. The universe was created in an initial singularity which is the time reverse of the gravitational collapse to a black hole. We live in a white hole. The cosmic fireball in this "big bang" contained very hot electromagnetic radiation which has now cooled down to about three degrees above absolute zero temperature because of the expansion of the universe. Most of this remnant of the cosmic fireball is in the form of microwave radiation in thermal equilibrium.

Observations of the sky in all directions show that the properties of the microwaves are the same to an accuracy of about a tenth of a percent. General relativity allows us to

calculate the past light cones of those microwave events that we measure now. It is found that the past light cones of microwaves coming from different directions do not overlap. Thus, the microwaves in different parts of the universe cannot causally influence each other if information cannot be transferred over space-like separations. Yet the fact is that the microwaves are the same all over which suggests that they have been in communication. The simplest way out of the dilemma is to suppose that information is transmitted outside the light cone as it is in the quantum EPR effect. Furthermore, detailed mathematical study of Einstein's field equations for curved spacetime confirm that this is so in general relativity.

The use of signals confined to the light cone is a very poor way to communicate in the universe. The proposed ten-billion-dollar Project Cyclops described by Carl Sagan and Frank Drake in the May 1975 Scientific American will give important information on the physics of the universe and should, perhaps, be built. However, it is a very inelegant way to communicate with advanced extra-terrestrial civilizations. Extra-terrestrials will use quantum EPR information transmission and will be able to communicate instantly to every place in the universe. These communications can be detected as "psychic" events by all human beings who agree to participate. You can directly communicate with all parts of the universe. The quantum physics of EPR is the physics of your personal and direct experience. You already are a physicist if you choose to know it.

The new physics is the physics of uniqueness. This kind of physics is closer to art than to the insurance tables of the actuary. The new physics transcends reproducibility and control as the final criterion for reality without rejecting its utility in order to survive as biological systems. The statistical average of the set of Beethoven sonatas is not music. The statistical average of your experiences is not your experience but a non-experience of experience. The non-experience reveals beautiful patterns of order and that is also a new experience! Your life will not work if you do not distinguish quantum reality from its statistical average which classical reality is.

Uncertainty, Self Reference and Final Cause

The precise meaning of quantum uncertainty requires a bold and profound analysis of the nature of probability. Classical probability is concerned with the creation of an actuality from an ensemble of possibilities. The fundamental act is that of choice and is expressed by the technical idea of information. The fundamental unit of information is the "bit" which is the act of choice between two perceived alternatives. Quantum probability is more subtle than classical probability. Each alternative is assigned a pair of numbers called a probability amplitude. If we choose not to make measurements that can dis tinguish among a set of alternatives, then we add the probability amplitudes for each alternative. The alternatives coherently interfere with each other. We must multiply the sum of probability amplitudes by itself in a special way in order to obtain the probability for a particular happening. Probability is by definition statistical and we hope to go beyond it to the unique event. Is probability objective or subjective? Is probability only measurable if we prepare an ensemble of copies of the system of interest and observe the fraction of times that a particular alternative occurs? Or can we simply use one system and make repeated observations on it in the course of time? Do all alternatives actually occur in different branch worlds? Can we speak of the probability of a unique individual event independently of an ensemble? These questions, and others equally important, are still in great debate. Probability is as elusive as consciousness. As soon as we think we have it, it mutates into something else like a mischievous elf!

The resolution of the puzzle of probability lies close to the roots of consciousness and provides an experiential distinction between the idealist and the materialist conceptions of the world. The materialist says that consciousness is a mere epiphenomenon of matter. In the materialist scenario, the atmosphere of the early earth is very different from what it is today. Nucleotides and amino acids are built up out of simpler molecules with high probability because of the non-equilibrium conditions and a plentiful supply of free energy. Life develops with the formation of biological membranes that concentrate certain kinds of molecules and not others. Blind accident gives the self-replicating DNA molecule with its genetic code that programs protein construction and eventually results in the ionic liquid biocomputer known as man. Consciousness is then simply the functioning of a very elaborate machine. The progress of science gives us more and more details in the scenario. The idealist position is complementary (in Bohr's sense) to that of the materialist. The idealist physicist points to the fact that even a very slight change in the fine structure constant $e^2/hc = 1/137$ that determines the strength of coupling of light to matter and the size of atoms (10^{-8} cm.), or a slight change in the age (10^{10} years) or mass (10^{56} gm.) or size (10^{28} cm.) of the visible universe would make life and consciousness impossible! In a strange sense this is "the best of all possible worlds" because cosmology, nuclear astrophysics, atomic physics and chemical kinetics conspire together to make sure we are here! Or is there a final cause? Does the universe exist because we are here? Godel's tale of a time traveller meeting up with his earlier self is based upon the fact that general relativity permits closed world lines on the Minkowski diagram. Every segment of the world line is time-like lying inside the local light cone which is tipped by gravitation. Brandon Carter has shown how this phenomenon is associated with rotating black holes. We now have a new teleological possibility.

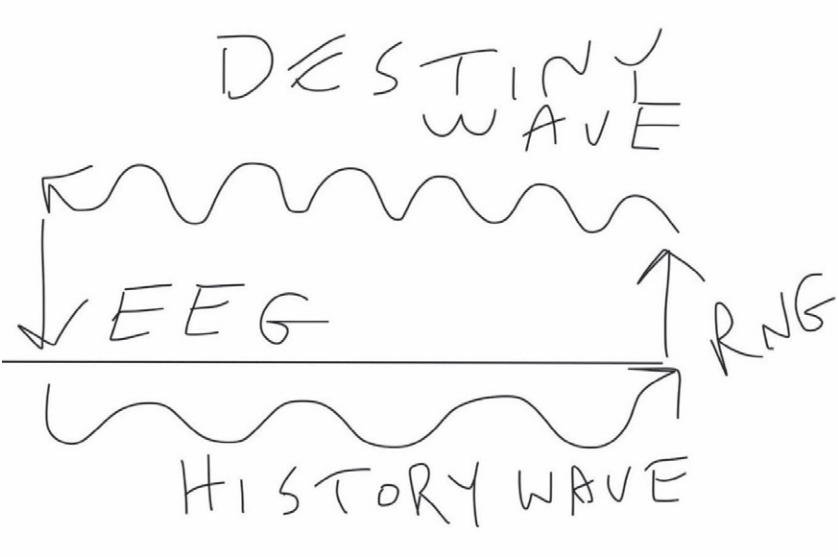
Imagine that a super-intelligence in the far future evolves because of its own conscious design of the DNA code and its own interference with its past evolution. The super-intelligence uses time travel to the past to create itself. The requirement is self-consistency. This is a requirement that can be met.

The most profound mathematical discovery of the twentieth century is Godel's meta-mathematical theorem of 1931 on the formally undecidable propositions of Russell and Whitehead's Principia Mathematica. Godel showed that "no calculus can be devised in such a way that every arithmetical proposition is represented in it by a formula which is either 'provable' or 'disprovable' within the calculus." That is, arithmetic, in its very nature, is incomplete if it is to be self-consistent i.e. free from contradiction. Godel's proof "talks" about itself and is a mathematical expression of self-consciousness! This feature of Godel's 1931 theorem is called self-reference. The statements of the meta-language are recursively mapped into the language by the technique of "Godel numbers" in the course of the proof.

The super-intelligence extends self-reference to the principle of universal self-creation. Professor John Archibald Wheeler of Princeton writes of a principle that "wires together past, present and future" and which does not even allow the universe to exist unless and until the "accidents" of evolution ensure the creation, in its future, of " consciousness, and consciousness of consciousness and communicating community" that provide final meaning to the universe from beginning to end. The closed time-like curves of Godel and Carter "wire together past, present and future."

Wheeler's realization of the deeper implications of the quantum principle and gravitational collapse to a pregeometric singularity have caused him to renounce his

magic of Einstein's vision of the world as geometry. Like Prospero Wheeler writes of the "collapse for everything one has ever called a law, not least the concept of geometry itself. Farewell geometry." The prayer of self-referencing, self-creating "pregeometry" brings the idealist "new physics" inexorably close to the views of the Catholic theologian Pierre Teilhard de Chardin. Paranormal phenomena are part of normal consciousness in this view in which pregeometry appears as a "harmonized collectivity of consciousness equivalent to a sort of superconsciousness" connecting "both the internal and external films of the world." According to Wheeler self-referencing quantum pregeometry is indescribable in terms of the "mathematical machinery of any formal axiomatic system." The source of indescribability is Godel "undecidability." This is a modern form of Qabala, of the all-creating uncontained Aleph and the unpronouncible name of HYWY. The physics departments of the modem university are spawning grounds of the new cabalists.



This is how I think brain presponse works now in 2018 not back in 1975.[iv]

Feeling the Future: Experimental Evidence for Anomalous Retroactive Influences on Cognition and Affect

Daryl J. Bem

Cornell University

The term psi denotes anomalous processes of information or energy transfer that are currently unexplained in terms of known physical or biological mechanisms. Two variants of psi are precognition (conscious cognitive awareness) and premonition (affective apprehension) of a future event that could not otherwise be anticipated through any known inferential process.

Precognition and premonition are themselves special cases of a more general phenomenon: the anomalous retroactive influence of some future event on an individual's current responses, whether those responses are conscious or nonconscious, cognitive or affective. This article reports 9 experiments, involving more than 1,000 participants, that test for retroactive influence by "time-reversing" well-established psychological effects so that the individual's responses are obtained before the putatively causal stimulus events occur. ...

https://tinyurl.com/y7l55y93

The illusion of the classical scientific paradigm that is shattered by the quantum principle is the that there is an immutable objective reality " out there" that is totally independent of what happens in consciousness "in here." G. Spencer Brown in Laws of Form refers to R. D. Laing's "politics of experience" in which empirical data are not independently existing but are arbitrarily chosen by the hypothesis formed by a responsible act of choice. We actually have the power to create the physical world. The quantum theory is the child of classical "objective" science. Quantum theory forces a new kind of logic in science that is still mathematical and disciplined. Quantum reality is not an excuse for nihilism but demands even greater levels of personal responsibility. You do count in the universe! You are not simply a mite on a speck of dust in an alienated cosmos. That is bad physics!

Mathematics is the deep language of transcendent experience. The Nobel prize physicist Eugene Wigner of Princeton has repeatedly written that consciousness is at the root of the quantum principle. His colleague, John Wheeler agrees. Another Nobel prize physicist, Brian Josephson of Cambridge, presents a case that the laws of high-energy physics as revealed in the data from the large accelerators may be changing due to the psychokinetic action of the experimenters and theorists themselves! Farewell objective science! It now fades into a nostalgic memory of a simpler time. Science is dead. Long live Science!

Thermodynamic Order and Information

Josephson's suggestion that "communication of knowledge" alters physical reality according to a psycho-energetic coupling is implicit in the well-established field of physics called thermodynamics when interpreted in terms of information theory. Information is equivalent to thermodynamic free energy that is available to do mechanical, electrical or chemical work in a coherent, orderly and directed way. Information, as measured in bits, i.e. binary choices between two alternatives, costs free energy. The number of bits of information in a given situation is defined to be equal to the logarithm to the base 2 of the total number of possibilities for that situation. One bit refers to two possibilities, two bits refer to four possibilities, three bits refer to eight possibilities, and so on. The number of possibilities increases much faster than the number of bits.

If knowledge in the form of &I bits of information is gained from a system in any measurement or observation, then a minimum amount of free energy, ΔF is lost from the system as given by the psycho-energetic formula

$$\Delta F = k_B T \Delta I$$

where k_B is Boltzmann's constant of minimal entropy = 1.38×10^{-16} erg /degree, and T is the absolute Kelvin scale temperature at S. This is the passive sense of the psycho-energetic connection of information to free energy. Professor Costa de Beauregard, of the Henri Poincare Institute in Paris, in his Berkeley lecture of May 13, 1975, points out an active sense of this formula. Thus, according to Costa de Beauregard, since k is so small the yield of information out of free energy is high. That is, it is relatively easy for us to passively gain knowledge about the physical world. In contrast, for the reverse process, of actively upgrading the quality of energy, already present, by the transfer of information, the yield of free energy out of information is low. If k were larger psychokinesis would be easier, according to Costa de Beau regard! Your bit of information would be worth more free energy if k were larger. On the other hand, it would be harder to see quantum effects unless Planck's constant of action, h, were also increased. But then, according to previous arguments, we would have to change the charge on the electron, e, and the speed of light, c, as well in order to make the universe safe for consciousness! The universe is very finely balanced in a tight ecological order in the new physics.

In classical physics the information, ΔI, is tied to energy flow in the form of signals limited to the speed of light or less. In quantum physics, the information, ΔI, can jump along a space-like path and show up at a place that is very far away from its point of origin. No energy is actually transferred in this quantum jump! The information change, ΔI simply refers to the quality or degree of coherent organization of energy already present in the zero-point motion of the geometry of space-time. Particles of matter are very low energy organizations of the very high unorganized zero-point energy. Imagine a Christmas tree with a chain of ornamental lights. The lights are synchronized to turn on, one right after another, along the chain. It appears as if something is moving along the chain. The motion is an illusion. Quantum jumps are like that! In quantum physics there is no necessary association of a change in the quantity of information, ΔI, with the real flow of energy in the form of a signal. Information can be transferred by signals, but it can also be transferred instantly and directly by space-like quantum jumps. That is the

essence of the EPR effect. Information transferred by signals is detected, sometimes with the help of instruments, by our normal senses. Information transferred by direct quantum jumps to our molecular information systems is called ESP. Rela tivity is not contradicted. A gain in information in the consciousness of the observer is balanced by a loss in the free energy of the system that has been observed. Energy does not necessarily flow out of the sys tem in this process. The total internal energy, U, in a system, according to thermodynamics, consists of two kinds, the (Helmholtz) free energy, F, and the bound energy, TS, where S is the entropy in the system. That is,

$$\mathbf{U = F + TS}$$

A measurement on the system merely need change the partition of total internal energy U into its free and bound parts. Information makes use of the energy that it finds. Information is the ghost in the machine!

Psychokinesis is just the opposite of measurement. PK is anti-measurement. That is, information, $-\Delta S = \Delta I$, quantum jumps along a space-like path out of the participator. The physical energy of the participator is degraded in this act and must be replenished by the intake of free energy from the metabolism of food. One bit of transferred information degrades about 10^{-2} electron volts (ev) of the participator 's free energy. That same bit of information can end its quantum jump in a system of much higher temperature. It can then organize a much larger amount of energy than was lost from the participator! For example, if the bit shows up on the sub-nuclear level it will encounter a "Hagedorn temperature" of about 10^{13} degrees. That bit will be able to upgrade the quality of subnuclear energy by about 10^{9} ev, which is enough to create pairs of hadrons out of the vacuum zero-point energy. There is no violation of conservation of energy because total energy U is neither being created or destroyed, it is merely being reorganized. Furthermore, there is no violation of the second law of thermodynamics because the entropy loss from the participator is $-k_B$ and the entropy gain is k_B, so that the net entropy change is zero. However, the net change in free energy is positive. That is, more free energy is gained in the high temperature system than is lost from the low temperature participator. This net gain in free energy is used in psychokinetic work. In the example given, thought actually creates matter on the subnuclear scale. In classical thermodynamics, the second law of thermodynamics is formulated as the injunction against a spontaneous entropy decrease in a closed system. This form of the second law still holds in the new quantum thermodynamics that I have invented. The classical idea of a closed system is that energy and matter is not allowed to flow in or out of the system. The possibility that information can enter or leave without an energy or matter flow is not even conceived of in classical thermodynamics. Yet this is precisely what happens in EPR quantum jumps. The system may be classically closed yet open in the quantum sense. The second law is sometimes formulated as the impossibility of a spontaneous free energy increase in a closed system. This form of the law is transcended in quantum thermodynamics because communication, i.e. information flow, is no longer tied to en ergy and matter flow. One can have a "morphic ordering principle" in the sense of Lancelot Law White without introducing a "vitalistic" violation of the second law of thermodynamics in its entropic formulation. A system closed to direct communication via space-like quantum jumps of infor mation may be an impossibility in nature.

Since psychokinesis works by information quantum jumping out of the participators and reemerging as an ordering of random energy already existing at the site of the PK action, there is an inherent confusion factor or "Catch 22 Effect" attending these experiments. The source of this confusion is as fundamental as the uncertainty in Heisenberg's principle and the undecidability of self-reference in Godel's theorem. Gregory Chaitin in his May 1975 Scientific American article " Randomness and Mathematical Proof" says that Godel's undecidability is a consequence of the constraints imposed by information theory. The quantum principle is information theory on the level of pregeometry where "thought" creates matter. Jean-Paul Sartre in Being and Nothingness says "one must be conscious in order to choose, and one must choose in order to be conscious. Choice and consciousness are one and the same thing." We have seen that the bit is the primitive choice. Undecidability, self-reference, uncertainty and the Catch 22 effect of psychokinesis all seem to have a common origin. Quantum systems do not have an independent existence but are brought into being by acts of choice of participators. There is nothing there if no one is looking at it! However, one looks and communicates not only by photons but also by direct EPR quantum jumps of disembodied information transfer which "stop the world."

The Politics of Physics and Psychokinesis

In a lecture at the Toronto meeting of the New Horizons Research Foundation, Brian Josephson discussed the fact that the laws of high energy physics seem to keep on changing. He conjectures that consciousness can modify the Hamiltonian that controls the time evolution of the subnuclear particles. I have just given a mechanism for Josephson's suggestion. Another prime candidate for psychokinetic physics is Joe Weber's gravitational wave detector at the University of Maryland. Weber claims to have seen many gravitational wave events. However, several other groups, using even better equipment in some cases, see no evidence of gravitational waves. Still another candidate for psychokinetic physics, illustrating Josephson's suggestion, is the simultaneous discovery of the long-lived "charmed" particles seen at both Brookhaven and SLAC (Stanford Linear Accelerator). These discoveries received great publicity in the popular press which was very convenient for the economic survival of these laboratories because the federal government has seriously cut back on their grants. High-energy physicists are working under the sword of Damocles and have been experiencing great emotional stress. These same conditions also obtain in poltergeist phenomena. The manifestation of psychokinesis increases with threats to survival. Professor Richard P. Feynman, also a Nobel prize physicist, in his speech before the 1974 Cal Tech graduating class spoke of "cargo cult science" and even accused psychology of being such a pseudoscience. The new physicists are suggesting that all science is fundamentally pseudoscience in Feynman's strict moralistic sense of the word "cargo cult." Feynman's remarks are based on the classical idea that nature is objective. This is inconsistent with the nature of the quantum reality that Feynman has, in great measure, assisted in creating. Similarly, the vehement distrust of the data from the Stanford Research Institute and the University of London may come from an insufficient appreciation of the Catch 22 effect, rather than from actual fraud and incompetence on the part of psychic researchers. I have experienced suspicion of that data myself! However, I have no more reason to distrust the data from Stanford and London and other places, than I have to distrust the reports from SLAC, Brookhaven and Maryland!

Maxwell Demons and a New Kind of Measurement

I have been suggesting a new kind of mechanism for the transfer of form and order over space-like separations on the level of individual quantum events. All classical measurements, including classical measurements of quantum processes of the type considered by Heisenbrg in his "microscope" that leads to the uncertainty principle, involve the actual flow of energy and momentum in order to convey information. For example, Heisenberg reasons that the position of an electron must be measured by means of a second particle, e.g. a photon, that must collide with the electron in order to get the information on the electron's position. The fact that action is quantized in units of Planck's constant, h = 10^{-27} erg-sec., implies uncontrollable minimal energy and momentum transfers between photon and electron in the collision. The result of Heisenberg's thought experiment is that it is impossible to predict the simultaneous val ues of both the position and the momentum of the electron with complete certainty. The only way to gain knowledge of the uncertainties is to repeat the experiment many times under "identically prepared" conditions. These kinds of classical measurements of quantum processes are fundamentally statistical. Josephson intuits that there may be another level of measurement that transcends the limitations of Heisenberg's uncertainty principle. He says that this limitation is perhaps only a "reflection of the kinds of observation we can make," and that "the physical description of the world would change radically if we could observe more things." Einstein was also firmly convinced that there was another way to knowledge, but his refusal to accept the "telepathic" implications that he saw so clearly in his EPR effect prevented him, like Moses, from seeing the promised land. Thus, Einstein's Autobiographical Notes contain the following remark about the EPR effect:

"There is to be a system which at the time t of our observation consists of two partial systems S1 and S2, which at this time are spatially sparated ... If I make a complete measurement of S1, I get from the results ... an entirely definite psi-function psi2 of the system S2 the character of psi2 then depends upon what kind of measurement I undertake on S1. . . One can escape from this conclusion only by either assuming that the measurement of S1 (telepathically)*changes the real situation of S2 or by denying independent real situations as such to things which are spatially separated from each other. Both alternatives appear to me entirely unacceptable."[14]

I suggest that truly quantum measurements of quantum processes enable us to "observe more things." These new kinds of measurements are directly experienced as "psychic." The limits of the Heisenberg uncertainty principle and the limits of Leo Szilard's1929 exorcism of the Maxwell Demon only apply to classical measurements and not to quantum measurements of quantum processes. Classical measurements rely on actual en ergy flow to convey information. and are therefore subject to the limit of Planck's quantum of action. Quantum measurements rely on the direct space-like quantum jumps of disembodied bits of information with no actual energy flows. Matter forms when bits of information coherently impose order on the substrate of chaotic zero-point motion. All motion and change is illusory being ultimately reducible to space-like quantum jumps of bits of consciousness. Think of the physical universe as the face of a vast color TV tube. Consciousness is like the stream of electrons hitting the inside face of the tube. Matter is like the colored spots seen on the outside face of the tube due to the electron impacts.

[14] "Telepathisch" in original German version.

The new physics does not accept Niels Bohr's stipulation that all legitimate measurements of quantum processes must be couched ultimately in classical measuring apparatuses and described in classical language. The brain is not a classical measuring apparatus and consciousness does not follow classical laws. Bohr's stipulation is provincial to a particular state of consciousness which we might call the "observer mind set." It is not appropriate to that state of consciousness described by Wheeler as the state of participation in which the observer is not isolated from the world except "as he opens upon it one-way windows of perception." The participator is "coextensive" with the universe.

The great nineteenth century physicist James Clerk Maxwell borrowed Laplace's demon for a thought experiment that showed how to violate the second law of thermodynamics with consciousness. Imagine two compartments, A and B, filled with gas at the same temperature, and separated by a thin partition containing very small trap doors. An intelligent demon with sharp eyesight is put in charge of the trap doors. He is instructed to open the doors whenever a Particle in A comes toward it with more than a certain speed v and to keep the doors closed against all particles in A with speeds less than v. He is also to open the doors whenever particles in B approach it with speeds v that are smaller than v. Temperature is a measure of the random kinetic energy of the molecules. Therefore, the temperature of the gas in A will be lowered and the temperature of the gas in B will be raised in the closed system consisting of both A and B. The demon's consciousness has created free energy because the temperature difference created between A and B can drive a heat engine which can be used to do work. Spacelike quantum jumps of information are equivalent to a Maxwell demon because they allow the nonlocal creation of net free energy out of chaos even though there can be a net increase in entropy. In 1929 Leo Szilard exorcised the demon. Szilard argued that part of the heat energy inside the box, consisting of A and B, must be present as random electromagnetic "black body" radiation in thermal equilibrium with the gas and walls of the box. Therefore, the demon cannot see anything at all! He sees a uniform white mist of pure electromagnetic noise. The visual perception of objects requires a non-accidental inhomogeneity in the electromagnetic field which is not found in black body radiation. In order to see, the demon must have something like a radar beam which dissipates free energy. Szilard proved that the free energy gain made available by the trap doors, is, in principle not larger than the free energy that must be lost in getting the information needed in order to decide whether to leave the trap doors open or shut! The demon exchanges free energy for information, and this information enables him to recover part of the free energy that he spent in getting the information. Information is proportional to free energy, and any ordering of things, including mental orderings, have thermodynamic consequences. This is how modern physics contacts Qabala. Szilard's analysis works for classical measurements in which information is conveyed by energy flow. It is not clear if Szilard's analysis will work if the demon uses EPR information. The thesis of this paper is that Szilard's analysis will not work for "psychic" EPR Maxwell Demons. We have met the demons. They are us! (end of the 1975 document)

Commentary by Jeffrey Mishlove

"The most unusual psychokinetic effects currently being reported by scientists are associated with a young Israeli psychic named Uri Geller. Dr. Andrija Puharich, a physician known for his theoretical efforts to grasp the physics and physiology of

psychic phenomena,1as well as for his previously mentioned researches into psychic healing, in August of 1971, encountered Geller in Israel, where he arranged to conduct an extensive series of experiments with him. Eventually he brought Uri to the United States where his research continued and where he negotiated for further testing at the Stanford Research Institute in Menlo Park, California. It was at a symposium in Berkeley, sponsored by KPFA-FM at the University of California, that Andrija Puharich made the first public presentation of experimental research with Uri Geller.

Puharich carefully went over his investigations with Geller, indicating the conditions under which he had observed Geller bend and break metal objects, erase magnetic tape, make things disappear and reappear elsewhere, and cause the hands of a dock to change time. He also discussed how his sessions with Geller led him to believe that there was some other intelligent form of energy working through Geller, possibly from an extra-terrestrial or extra-dimensional source.

The following week, the controversy over Geller deepened as Time magazine published a story claiming that Geller was a fake. Physicists Harold Puthoff and Russell Targ of Stanford Research Institute also presented a paper about their research with Geller at a physics colloquium at Columbia University. Always conservative in their approach, the S.R.I. scientists primarily emphasized the telepathic studies they had done with Geller.

However, they did report on two significant psychokinetic experiments with Uri. A precision laboratory balance was placed under a Bell jar. The balance had a one-gram mass placed on its pan before it was covered. A chart recorder then continuously monitored the weight applied the pan of the balance. On several occasions Uri caused the balance to respond as though a force were applied to the pan. The displacement represented forces from 1.0 to 1.5 grams. These effects were ten to 100 times larger than could be produced by striking the Bell jar or the table or jumping on the floor. In tests following the experimental run, attempts were made to replicate Geller's results using magnets and static electricity. Controlled runs of day-long operation were obtained. In no case did the researchers obtain artifacts which resembled the signals Geller had produced. Similarly, successful results were obtained in an experiment in which Geller altered a magnetic field as measured by a magnetometer. After Puharich made his original presentation in Berkeley, it was arranged, with the help of the California Society for Psychical Study, for Geller to come to Berkeley himself to give a public demonstration of his abilities and to be tested by scientists on campus. It was during the weekend of April 13 (Friday) and 14 in Berkeley that Geller began the first of his many brilliant public appearances in the United States. The scientific work with him has been very slow and tedious.

On several occasions, a group of nearly eighteen scientists, organized by myself and Dr. Joel Friedman of the philosophy department at U.C., Davis, met with Geller and observed a wide variety of unusua l phenomena in his presence. However, none of them occurred under conditions of sufficient control for us to feel confident about publishing the results. One of our researchers, Saul-Paul Sirag, conducted an experiment with Geller in which Saul-Paul unexpectedly handed Geller a bean sprout and asked him to "make the movie run backwards." Uri closed his fist over the sprout and when he opened his hand some thirty seconds later there was no longer a sprout, but a whole solid mung bean. This effect, if verified by further replication, seems to indicate a psychokinetic influence involving time.

Another study that the Berkeley research group conducted was a follow-up survey of the reactions of individuals who witnessed Geller's performances. Many people reported ex periencing unusual visual or telepathic phenomena and several reported that, after watching Geller's demonstrations, they also were able to produce various psychokinetic effects. On occasions when I have broadcast radio interviews with Uri, dozens of listeners have reported psychokinetic phenomena in their own homes.

In England, Geller's impact has been even more phenomenal. At Birkbeck College, physicists Jack Sarfatti, John Hasted and David Bohm observed a number of PK phenom ena under well-controlled conditions. Particularly interesting was Geller's ability to alter the decay rate of radioactive isotopes. Perhaps even more remarkable, thousands of indi viduals in England, France, Germany, Switzerland, Norway, Denmark, Holland and Japan are now reporting that they can also use PK to bend spoons after having only seen Geller on television. Some of these cases are now being studied by the noted mathematician John Taylor at King's College, University of London."

Commentary by Saul-Paul Sirag

"I often approach interpreting omens and dreams which occur in my life as if I were reading a good novel. At first the symbols may seem disconnected and irrelevant to me, but gradually they lead to the deeper mythological forces which are motivating me through the drama of my existence. In being particularly aware of the associations and puns in my mind, I have come to see that some symbols have a personal meaning for me while other patterns are indicative of the larger conscious ness which guides the lives and fates of many people, even whole cultures. This seems to be the case with the hawk.

In November 1973 I had a lucid dream experience in which Uri was visiting me at the Institute for the Study of Consciousness in Berkeley where I then lived. In my dream, I witnessed him actually pass through a wall inside of the house; I was so shocked that I fainted. The next thing I remember, in the dream, is Uri holding me up, shaking me somewhat, and speaking to me. Then a UFO appeared in the sky and I felt a beam of tingling energy, like electricity, from the UFO, enter my body between my eyes. At the same time, I sensed a telepathic message from the UFO intelligences that I should let them know how much energy, which was apparently vitalizing my body in some way, was tolerable for me. The energy permeated my entire body, through my forehead, until I began to feel uncomfortable. Then it stopped. This was such a lucid dream that I told a number of people about it. I spoke to several people who were having comparable dreams involving the alteration of their bodies by "higher forces." Nearly six months later, I had the opportunity to discuss this dream with both Puharich and Geller.

Immediately they asked me to tell them the exact date of the dream. I recalled that it had been several days before Thanksgiving. This excited both as they claimed that in November 1973, Geller had suddenly been teleported from his home in New York City to Ossining, N.Y., fifty miles away where he came suddenly crashing into a room at Puharich's home. Puharich further stated that he and Uri had also experienced alterations of their bodies similar in feeling to my dream.

Another key to the mystery of Uri Geller is the implication that the intelligences which work through him are somehow very advanced computers. 1n his book Uri, Andrija Puharich quotes the following electronic transmission received by him and Uri from this

intelligence: The real intelligence behind us is our innerselves. We have passed our souls, bodies and minds into computers and moved several millions of light-years backwards towards your time and dimension. Several other passages in Puharich's book emphasize the computer-like quality of the powers which supposedly work through Geller. On some occasions, the voice which is heard speaking to them spontaneously over the tape recorder, telephone, or radio takes on an artificial, mechanical timbre.

*According to Puharich this message came from a tape recorder which began running by itself. This aspect of the Geller phenomena has been corroborated in a strange way by the theoretical physicist Jack Sarfatti, the co-author of Space-Time and Beyond: Toward an Explanation of the Unexplainable. Sarfatti, who has been on the physics faculty of San Diego State University, Birkbeck College of the University of London, and also the International Center for Theoretical Physics in Trieste, Italy-has published a number of papers, in major scientific journals, which attempt to provide a theoretical understanding of psychic phenomena and consciousness. His theories are presented in the following chapter. Generally speaking, Sarfatti's insights come to him in dreams and trance-like states of awareness. He has shown a particular interest in Uri Geller and tells one story about himself which tends to corroborate the most fantastic explanations of the Geller phenomena. Sarfatti wrote:

“I'm probably about to destroy my credibility with most of the scientific establishment-but I don't think so. I'm trying to give all of the data that I know. I'm not going to evaluate the data. Anybody can form their own judgement as to the significance of what I'm about to report. I myself have not integrated it into my world view. I have no definite way of handling this experience.

In 1952 and 1953 when I was about twelve or thirteen years old, I received a phone call. In my memory at the moment I received a phone call in which a mechanical sounding voice at the other end said that it was a computer and gave some kind of name which I've forgotten. lt was a computer on board a flying saucer. They wanted to teach me something and would I be willing? This was my free choice. Would l be willing to be taught-to communicate with them? I remember a shiver going up my spine, because I said, "Hey man, this is real." Of course, I was a kid. I thought, well maybe it's some sexual pervert. A man trying to murder me or something like that. I went through a real paranoid trip. But I said, " Yes." My next memory of that is that I ran out of the house--ran out of my apartment in Brooklyn. My mother wasn't there. I ran down to my little buddies on the street and I said, "Hey, a flying saucer just called me up. Come on over to my house. They're coming and they're going to come through the window and take me away." I'm twelve years old. We were sort of "dead end kids."This wasa gang of kids right out of "The Lords of Flatbush." We went upstairs and, of course, nothing happened. This was a big joke. Okay.

But what's interesting is that my mother remembers this experience very well. It turns out that I had forgotten most of it. This was really something that occurred over several weeks. Apparently, what happened, which is completely blanked from my memory, but not from hers, was that I continually received phone calls. Many phone calls from the same source. My mother says I was walking around really strange. She began to get worried about me. Finally, one day she picked up the phone and she hears this computer. She remembers the voices very much the way Puharich talks about these things. But this is twenty years ago. It's not just me, it's my mother also remembering this. A Jewish mother; she said, "Leave my boy alone!" The Jewish mother talking to the flying saucer

or whatever the hell they were. My mother has a strong personality. And that was the end of it. We never got a phone call, apparently, after that."

Sarfatti seems to feel that the origins of his scientific ideas regarding psychic phenomena are somehow related to this childhood experience.

Adding to the irony the name, Spectra, which Puharich associates with the powerful intelligence working through Geller, also refers to the most advanced generation of computers yet designed... Spectra computers.

CHAPTER 5

From Reagan's Star Wars to Trump's Space Force

"In 1984, President Reagan created The Strategic Defense Initiative Organization — missile defense system intended to protect the United States from attack by ballistic strategic nuclear weapons.

"In 2018, President Trump has called for the creation of a US Space Force — a new branch of our military to fight extraterrestrial warfare and defend us against any space attack on our defense systems."[15]

Excerpt from letter written by Lawry Chickering in 1982 when he directed the key Reagan Think Tank ICS with follow up letters from Reagan's then Secretary of Defense Cap Weinberger.

I am writing to you as a layman, with only a layman's knowledge of these issues. I came to know Jack after reading Bantam's The Dancing Wu Li Masters, by Gary Zukav. The award-winning book is an exposition of the "new physics," i.e. the physics of quantum mechanics, relativity, and how to put them together properly. The final chapter describes an early version of Jack's ideas, which have since been formalized to some extent. More recently the CIA (Memorandum for the Record, December 4, 1979) described Jack's intuitive ideas as highly speculative but "genuine basic research" lacking experimental support.

Jack says this is due to lack of funds; but he believes that the series of experiments now completed, the latest by Aspect at the Institute of Optics in Orsay, does in fact provide enough evidence to justify going further with the effort. These experiments suggest a "nonlocal" action-at-a-distance between spacially separated but quantum correlated fragments from a

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Trump has been wrongly accused by Colonel John Alexander (played by George Clooney in Men Who Stare at Goats) as "anti-science" yet he has increased the budget of NASA and called for manned trips back to the Moon and on to Mars. I have been calling for the US Space Force as a branch of the military for over 20 years.

March 12, 1982

Richard D. DeLauer
Under Secretary of Defense for Research and Engineering
Room 3E1006
The Pentagon
Washington, D. C. 20301

INSTITUTE FOR CONTEMPORARY STUDIES

Dear Dr. DeLauer:

I am writing to say how much I enjoyed sitting next to you at the Secretary's dinner last week (March 2) and to follow up on our conversation about the work of a physicist friend of mine which just might have profound implications for certain aspects of the technology of warfare.

My friend's name is Dr. Jack Sarfatti. He has worked with physics Nobel Laureate Abdus Salam, at the IAEA-UNESCO International Centre for Theoretical Physics in Trieste, the United Kingdom Atomic Energy Research Establishment at Harwell, Birkbeck College of the University of London, and was on the physics faculty of San Diego State University. Jack graduated from Cornell in 1960 and received his Ph.D. in theoretical physics from ~~Berkeley.~~ UCB. He feels his current work may have important application to a subject emphasized by Cap at the dinner--namely, problems of command, control, and communications with our submarine force.

decaying quantum system. Each fragment "senses" what is happening to the other in spite of the fact that no ordinary electromagnetic or acoustic signal is connecting them (e.g. pairs of photons or electrons on fragments in "molecular dissociation" chemical reactions)

If this sounds like occult "sympathetic magic," it appears to be an essential feature of the quantum theory that Einstein discovered in 1935 much to his dismay with his students Podolsky and Rosen. Many good physicists have given "proofs" that this nonlocal faster-than-light effect exists but cannot, in principle, be controlled to send useful messages for a command-control-communication application. Jack and a small group of other "maverick" physicists think otherwise and also think that the "proofs" make an assumption that may be unjustified.

Jack says that if in fact we can control the faster-than-light non-local effect, it would be possible, using something like the "molecular dissociation" approach, to make an untappable and unjammable command-control-communication system at very high bit-rates for use in the submarine fleet. The important point is that since there is no ordinary electromagnetic or acoustic signal linking the encoder with the decoder in such a hypothetical system, there is nothing for the enemy to tap or jam. The enemy would have to have actual possession of the "black box" decoder to intercept the message, whose reliability would not depend on separation from the encoder nor on ocean or weather conditions!

I think I have written enough. I do hope that you or one of your associates will be sufficiently interested in Jack's work to contact him. You may reach him either through me, or c/o P. O. Box 26548, San Francisco, CA 94126. I am enclosing for your interest some articles from popular journals on the issues considered in this letter--from Science Digest, The Intelligent Machines Journal, and The Economist.

Again, I appreciate your interest and hope something comes from the contact. Please thank Cap again for me for an extremely interesting and stimulating evening.

Sincerely,

OFFICE OF THE UNDER SECRETARY OF DEFENSE

WASHINGTON D C 20301

RESEARCH AND
ENGINEERING
(R&AT)

12 JUL 1984

Dr. A. Lawrence Chickering
Executive Director
Institute for Contemporary Studies
260 California St
San Francisco, CA 94111

Dear Dr. Chickering:

This is an interim response to your letter dated 12 March 1982 to Dr. DeLauer regarding the work of Dr. Jack Sarfatti, which has been recently forwarded to our office.

Dr. Sarfatti's speculations regarding the possible application of "non local action-at-a-distance" theories to secure communication systems could be of interest to the Department of Defense if verifiable. Scientists have speculated over the possibility of "faster than light" communications since Bell's famous experiment in 1965. A summarization of Dr. Sarfatti's latest findings and conclusions along these lines would aid our determination of the potential benefits offered by his research and in arranging for any appropriate further discussions.

Thank you very much for your interest in the research and development programs of the Department of Defense.

Sincerely,

Domenic A. Maio
Colonel, USAF
Military Assistant to DUSD(R&AT)

cc:
Col Kenneth Hollander

THE SECRETARY OF DEFENSE
WASHINGTON, THE DISTRICT OF COLUMBIA

10 AUG 1984

Dr. Jack Sarfatti
POB 26548
San Francisco, California 94126

Dear Dr. Sarfatti:

Thank you for the information you sent me on your work on Superluminal Group Physics. I have provided the information you sent me to my technical staff. I wish you luck with your future experimentation.

Sincerely,

Caspar W. Weinberger

The Smoking Gun

"The New York Times on Saturday reported on a mysterious interaction between the U.S. Navy and what could only be called UFOs. The sighting, which took place in 2004, involved a U.S. Navy Aegis cruiser, seven Hornet and Super Hornet strike fighter jets, and a pair of unknown objects. The sighting, which was rumored but unsubstantiated for a decade remains unexplained to this day.

According to the Times, in 2004 two F/A-18F (twin seater) Super Hornets from the aircraft carrier USS Nimitz were flying 100 miles off the coast of San Diego when a nearby U.S. Navy guided missile cruiser, the USS Princeton, contacted them and asked what weapons they were carrying. The Super Hornets replied they were carrying dummy AIM-9 Sidewinder air-to-air missiles that could not be fired.

"Well, we've got a real-world vector for you," replied the USS Princeton's radio operator. According to the Times:

For two weeks, the operator said, the Princeton had been tracking mysterious aircraft. The objects appeared suddenly at 80,000 feet, and then hurtled toward the sea, eventually stopping at 20,000 feet and hovering. Then they either dropped out of radar range or shot straight back up. ...

The second object suddenly rose up and flew towards the Super Hornets, with one pilot. Commander David Fravor, saying it appeared it was rising up to meet him. The Hornet turned towards the object to meet it and the object peeled away, accelerating, "like nothing I've ever seen," Fravor later said. ...

Meanwhile, the The Aviationist points to a 2007 post from Above Top Secret (a site for discussing classified government programs) that seems to describe the incident in greater detail. The posting appears to be an excerpt from Carrier Air Wing 11's event summary for November 14, 2004.[v] …

What was it? There are three obvious but uncanny possibilities.

The first possibility is that the Super Hornet pilots, the Super Hornet's electro-optical sensors and radars, and the USS Princeton's radars all misinterpreted natural phenomena or malfunctioned at the same time, all of which appeared related but were actually not. Perhaps the Super Hornet's crew was actually observing a conventional aircraft or even the sun and had lost situational awareness to the point where they described such everyday objects as "a wingless capsule." Maybe the Princeton's radars were malfunctioning and had picked up, for example, two separate flights of birds and interpreted them as an object capable of jaw-dropping speeds. Together, the two crews could have pieced together ordinary, unremarkable events as one single remarkable one.

This is a discomforting explanation, because it assumes that the pilots and the Princeton's crew were incompetent and unable to discern ordinary objects from extraordinary ones. It also assumes the guided missile cruiser's radar malfunctioned. If

this explanation is correct, none of these pilots should have been flying for the Navy, and the Princeton's air defense radar has a previously undiagnosed flaw. Given the level of skill necessary to fly from a U.S. Navy carrier it seems extremely unlikely these pilots were prone to fantasy or misidentifying the sun as a white, tic-tac-shaped UFO hovering close to the water.

The second possibility is that the objects are actually operated by an arm of the U.S. government. Rumors of the federal government studying crashed UFOs or experimenting with secret technology have been rampant for decades, though with scant proof. If these were indeed secret U.S. craft, it is clear why they're being hidden. The Super Hornet was a top of the line aircraft in 2004 and yet the object easily out-maneuvered and out-accelerated it. If America's enemies mastered such technology, most (but apparently not all) of our armed forces would be defenseless against them.

The third possibility is that the objects were alien craft, piloted by aliens or an artificial intelligence, using technology we can't even imagine. The objects, their controllers, and their motivations could utterly alien and unknowable.

Regardless, something did happen over the Pacific Ocean on November 14th, 2004. Whether it was a mass hallucination and equipment failure, an accidental interaction with a hidden government agency, a Close Encounter of the First Kind, a combination of all three, or something else entirely is unknown. For now, the U.S. Navy's sighting joins the list of hundreds of others that simply remain unexplainable."

Website: *https://www.popularmechanics.com/military/a14456936/that-time-the-us-navy-had-a-close-encounter-with-a-ufo/*

On the Hidden Origins of Reagan's SDI[16]

by Kim Burrafato in 2002

"I do not know how President Reagan arrived at his decision…" Edward Teller

The following is a narrative of some of the events surrounding Jack Sarfatti's seemingly significant direct input into the formulation of Ronald Reagan's Strategic Defense Initiative that complemented Edward Teller's. Teller, of course, was the key. The world was a dangerous place in 1979. Afghanistan was about to be invaded, the Iran hostage crisis was looming on the immediate horizon, and the Cold War arms race was in full swing, with the Soviets threatening to take the initiative in Europe, as well as in the overall strategic nuclear theater. I was Jack Sarfatti's roommate at the time, in the movable feast that was San Francisco's North Beach.

Close Encounters

Jack was busily working on a fundamental reformulation of quantum theory that would both explain and include such sacrilegious elements as consciousness, gravity, and superluminal information transfer. One of the more provocative physical implications that emerged from his work was the possibility of interfering with ordinary electromagnetic energy propagation-based systems inside spacetime using quantum action at a distance outside of spacetime. This leads to subject of UFOs, which has interested me since I was a child, almost to the point of becoming an obsession. One of the many peculiar physical effects described in numerous UFO close encounter cases was the interference with electromagnetic systems such as aircraft avionics, automobile ignition systems, and household electrical circuits. UFOs were described as being able to shut such systems down at will. Many of these well-documented reports were from reliable military and civilian witnesses. The movie "Close Encounters" has burned that idea vividly into the public's consciousness. That got us thinking: what if one could design a weapon that could neutralize electromagnetic energy-based systems along the lines of UFOs – selectively, and at a distance? We knew about the damaging effects of high-energy electromagnetic pulses on electrical systems, from research into hardening command, control, and communications systems against nuclear attack. Such enormous pulses will cripple or destroy any electronic circuitry exposed to them. But according to numerous witnesses' reports, the electronic systems shut down by UFOs are not fried. They simply turn back on like a light switch being flipped on. Obviously, the ETs are employing some exotic new physics. If we could understand the physics involved in such cases of remote electromagnetic interference, then it would be a straightforward matter to engineer a revolutionary offensive and defensive weapons system. There were some tantalizing clues to how such an exotic physics might work. One of those clues arose out of the now famous Einstein-Podolsky-Rosen (EPR) thought experiment. The EPR experiment was devised by Einstein to illustrate the bizarre paradoxes that could seemingly arise out of the quantum theory, when its physical implications were taken literally.

[16] Adapted from my 2002 book "Destiny Matrix"

Faster Than the Speeding Photon?

Einstein always considered the quantum theory to be an incomplete description of reality and the EPR thought experiment part of his great debate with Niels Bohr. Einstein, Podolsky, and Rosen showed that, if quantum theory was a complete description of individual particles, it's possible to design an experimental arrangement in which a new kind of quantum information or "qubits" and "e-bits" can conceivably get around in ways faster than a signal limited to the speed of light would permit. Indeed, Einstein did not like this consequence of quantum theory. It took another 35 years or so before an actual experiment was conducted to test this idea. Quantum theory was correct in this conclusion if one did not believe in parallel quantum universes.

Jack's idea that I helped to trigger with my insistent questions over many hours at the Caffe Trieste in the late 70's was the globally self-consistent "loop in time". A New York Science Times article from the Wigner Conference of the New York Academy of Sciences in 1986 cites Jack on "time loops". However, back in 1979 Jack was unaware of similar ideas of Igor Novikov and Kip Thorne. So the idea of the UFO weapon was the "paradox effect". Attempt to set up a time travel to the past paradox with the device you want to temporarily disable in the time loop. Jack later published this in September 1991 Physics Essays (University of Toronto) causing Lyle Fuller to come up with a very ingenious gedanken experiment in the manner of the Bohr-Einstein dialogues. The problem however with all this is that it violates the statistical structure of quantum theory. Although one can encode a message nonlocally, one cannot locally decode it at the receiver faster than the speed of light and even backward in time from the future. Even modern "quantum teleportation" of qubit information needs a light speed limited classical c-bit signal to make it work. Jack maintains that one needs a new post-quantum theory to do it. Quantum theory would then be a limiting case of this more general theory. Jack has made progress in this direction but that is another story that I do not have time for here.

From Russia with Love

The frequency and magnitude of the ideas escalated until we were soon brainstorming about constructing a comprehensive umbrella over the US and its allies that would effectively shut down the guidance and triggering systems of any incoming ICBMs and their MIRV warheads entering its range. It didn't stop there. We thought: What a great way to end the Cold War and establish a mutually designed, built, and administered defensive system between the US and the USSR, and other willing global participants. Jack received a friendly postcard from one Professor Igor Akchurin, around Christmas of 1979. Akchurin was then a theoretical physicist of some repute from the prestigious Soviet Academy of Sciences in Moscow. Somehow, Akchurin had been included in Jack's extensive and often used mailing list. The message on the card was brief and cordial – something along the lines of Happy Holidays and Best Wishes "in the spirit of the New Physics." I remember that quoted phrase vividly. All hell broke loose after that. Jack immediately (and wisely) took that as a sign from Heaven. I don't know if it was Jack or me that suggested we write a letter to Akchurin, detailing our ideas about an ultra-high tech, mutually defensive ABM system. We even got into details about how once we (the US and USSR agreed to embark down that momentous and risky path, we could then start building down (dismantling) our offensive MAD-based missile systems—to everyone on Earth's advantage. We even had the foresight to include mention of the future potential threat of rogue states getting their hands-on

nuclear weapons through proliferation, as well as terrorist groups. But there was an added dimension to this mutual defense system: the extraterrestrial one. What if some of the ETs flying around Earth's skies are hostile? Just because any ET species capable of visiting this planet would be far more technologically advanced than us, doesn't mean they would necessarily be ethically or morally advanced. How might the planet defend itself, if faced with such a hostile ET threat? The kind of defensive system we were proposing might, if perfected, give us a fighting chance, or at least make it less attractive or likely for an alien species to forcibly interfere here. We included that element in the Akchurin letter, too. In other words, we had laid out Ronald Reagan's, and Douglas MacArthur's (albeit prescient) entire SDI vision in a single letter sent to a top physicist in the most prestigious academic science institution in Russia. Of course, we knew that this letter would be intercepted and read by our people before going to the USSR. But that was our intention. What better ways to let those in positions of responsibility know what was really going on? It's easier getting a letter in the hands of a high-level DOD or CIA Science Technology analyst that way, than it is writing to them directly. As expected, we never received a reply from Akchurin. Not to worry. The seeds had been planted.

"Spurn Not the Nobly Born"[17]

A few months later a friend of mine, Leila Minturn Dwight, showed up in North Beach. The Savoy Tivoli was the happening place at the time. It seemed like almost everyone who was anyone hung out there. We introduced the attractive young niece of deceased Andy Warhol diva Edie Sedgwick to the Savoy crowd. Leila fit right in. Not long after that, Leila introduced us to A. Lawrence Chickering. "Lawry" Chickering was heading up a newly formed neo-conservative think tank based in San Francisco at the time. The Institute for Contemporary Studies was set up by soon to be Reagan cabinet members Ed Meese and Cap Weinberger, and others, to study key cultural and political issues of the time.

One of the first big issues that came up in conversations with Lawry was the significance of the New Physics to everything from geo-politics to religion. Chickering had read Gary Zukav's recently published New Age book on the development of the quantum theory, "The Dancing Wu Li Masters," and had, consequently, developed a keen interest in physics and its relationship to philosophy and theology. Since Jack was instrumental in the writing of the physics parts that book, his words carried even more weight with Chickering. Jack spent hours with Lawry, discussing the cultural significance of his emerging "post-quantum" theoretical worldview. Chickering made it known to us on more than one occasion that he had the ears of Republican presidential candidate Ronald Reagan's potential cabinet members and advisors. A number of Jack's "Memoranda for the Record" were later passed on to key people in the newly elected Reagan Administration. Coincidentally, around the same time, Jack was also introduced by telephone to Cap Weinberger's son, Cap Jr. through Joe Lynch, a mutual friend of ours. Although Jack and Cap junior never met face to face Cap Jr. quickly became a fan of Jack's and stated he would also forward some of Jack's material to his father. We were flabbergasted when Ronald Reagan gave his first major foreign policy

[17] https://www.youtube.com/watch?v=YhtUK8Wskj4 Iolanthe, Gilbert and Sullivan

speech of his new administration on March 23, 1983. His now famous "Star Wars" speech, as the then openly anti-Reagan liberal press condescendingly termed it, blew our minds when we read the transcripts. It was as though he'd taken all of our ideas and elegantly distilled them down to a version that the American public could easily understand.

Ronald Reagan, 1986 State of the Union Address

"Never has there been a more exciting time to be alive — a time of rousing wonder and heroic achievement. As they said in the film, 'Back to the Future': 'Where we're going, we don't need roads.' Well today, physicists peering into the infinitely small realms of subatomic particles find reaffirmations of religious faith: astronomers build a space telescope that can see to the edge of the universe and possibly back to the moment of creation…America met one historic challenge and went to the moon. Now America must meet another — A security shield can one day render nuclear weapons obsolete and free mankind from the prison of nuclear terror. America met one historic challenge and went to the Moon. Now America must meet another: to make our strategic defense real for all the citizens of planet Earth…The American dream is a song of hope that rings through the night winter air. Vivid, tender music that warms our hearts when the least among us aspire to the greatest things — to venture a daring enterprise; to unearth new beauty in music, literature and art; to discover a new universe inside a tiny silicon chip or a single human cell."

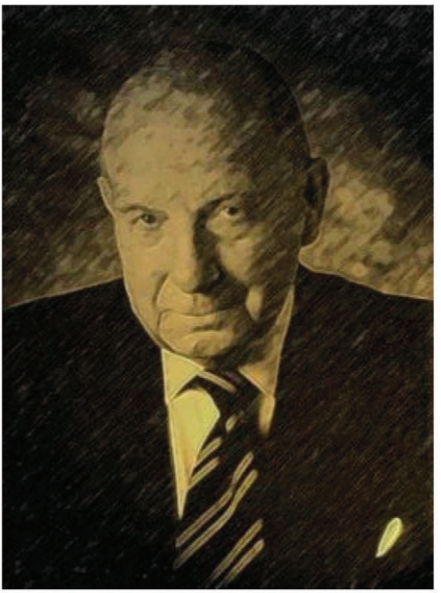
http://www.presidency.ucsb.edu/ws/index.php?pid=36646

CHAPTER 6

High Strangeness

"Science proceeds as if the past were the home of explanation;
whereas the future, and the future alone, holds the key to the mysteries of the present."

Henry Dwight Sedgwick, An Apology for Old Maids, House of Sorrow (1908)



"Dr. Sarfatti, it is my duty to inform you of a psychic war raging across the continents between the Soviet Union and your country and you are to be in the thick of it."

Dennis Bardens BBC Panorama, Cambridge University, Spring 1974 during the Uri Geller tests University of London that I helped to arrange for SRI. "Dennis Bardens (born 19 July 1911 in Midhurst, Sussex — 7 February 2004 London) "played a brief, but crucial, role in broadcasting history"[1] as the founder of the BBC television programme Panorama, a show which would later inspire the American television show 60 Minutes. Dennis Bardens was a freelance London journalist for most of his career.

Biography

According to his obituary Bardens journalistic career involved work at all the major London newspapers, and even a stint as a spy during World War II. [1] In the words of The Guardian:

"Meanwhile, Bardens was proving himself as a journalist, working, during the 1930s, for the Sunday Chronicle, Sunday Express and Daily Mirror. In 1940, he became a distinguished reporter of the Blitz. After discharge from the Royal Artillery on medical grounds, he spent two years with the Ministry of Information, and was in charge of coordinating plans for newspaper services in Britain in the event of a German invasion. In 1943, he was transferred to liaison work with the Czechoslovak government in exile, which included, at the end of the war, secret service work in Czechoslovakia."[vi]

Incommensurability, Orthodoxyand the Physics of High Strangeness:

A 6-layer Model for Anomalous Phenomena
Jacques F. Vallee and Eric W. Davis (*)
http://www.jacquesvallee.net/bookdocs/Vallee-Davis-model.pdf

Abstract

"The main argument presented in this paper is that the continuing study of unidentified aerial phenomena ("UAP") may offer an existence theorem for new models of physical reality. The current SETI paradigm and its "assumption of mediocrity" place restrictions on forms of non-human intelligence that may be researched. A similar bias exists in the ufologists' often-stated hypothesis that UAP, if real, must represent space visitors. Observing that both models are biased by anthropomorphism, the authors attempt to clarify the issues surrounding "high strangeness" observations by distinguishing six layers of information that can be derived from UAP events, namely (1) physical manifestations, (2) anti-physical effects, (3) psychological factors, (4) physiological factors, (5) psychic effects and (6) cultural effects. In a further step they propose a framework for scientific analysis of unidentified aerial phenomena that takes into account the incommensurability problem."

Herbert Gold "The Edge of History" by William Irwin Thompson, and "An End to Ordinary History" by Esalen's Michael Murphy. Gold's prose in this book is very rich with literary images. If one were to check them all out one would get a very good liberal education. The book "Techgnosis" by Erik Davis gives the historical background to put a context on what all this means. Herb writes:

"America may not have been greened, but it was boheemed." p.13.

Bohemia is a nonlocal "virtual community" linked by cultural telepathy, the quantum voodoo of Bell's theorem, the sympathetic magick of Aleister Crowley, the Chapel Perilous of Robert Anton Wilson, the occult "morphogenetic fields" of Rupert Sheldrake, the "implicate order" of David Bohm, faster than the confined speeding photons bouncing "higgledy piggledy" in the tiny fiber-optical tubes of that magical "information super-highway" promised us by Clinton, Gore, Gates and Clarke, though seen long ago by Ted Nelson. Bohemia is the highest form of the modern solid Republican neo-conservative idea of the "free market economy", it is the purest expression of democracy, and it is the transubstantiation of Saint Augustine's "City of God" to Planet Earth.

"Like ailanthus, the tree of heaven, Bohemia grows in any alley where there's a bit of fertile dirt and noninterference." p.14.

Talking about me, Herb wrote:

"The Bohemian physicist…contributes a balanced scientific non-establishment for this expanding society. I don't mean to disparage the work; either…among all the blatherers there sometimes appears a breakthrough thinker. Originality has always required a fertile expanse of fumble and mistake. That's the beauty of the option. Your wastrel life might turn out to be just what's required to save the planet." p.14

"Sarfatti's Cave is the name I'll give to the Caffe Trieste in San Francisco, where Jack Sarfatti, Ph.D. in physics, writes his poetry, evokes his mystical, miracle-working ancestors, and has conducted a several-decade-long seminar on the nature of reality and his own love life to a rapt succession of espresso scholars."

My World Line[18]

The Tibetan Connection

I relate a very uncanny Jungian synchronicity. I was attending a meeting of the AAAS at the Hilton Hotel in 1980. A man walked up to me noticed my name tag "Sarfatti" and said:

"Are you related to Margherita Sarfatti?"

"Yes, distantly."

I replied.

"I have traced your family tree back a thousand years to Rashi de Troyes. My name is David Padwa."

Padwa told me a little about the great French Rabbi. He claimed that one of Rashi's daughters went to Spain and that her descendants formed our Italian branch after the expulsion of the Ladino-speaking Spanish Jews in 1492. He said we were distant cousins. He gave me his card. He was from Santa Fe, New Mexico. I mentioned the incident to my buddy, Beat Poet, Gregory Corso.

Corso said:
"Oh yeah, Padwa! I knew him in the Village. He's a smart guy who made a lot of money from Xerox. He went with Ram Dass to India. He's mentioned in the book "Be Here Now" as the rich American in the Land Rover. He's a real heavy with the Dalai Lama. He brought Tibetan Tulkus to America."

About a month went by. Dave Massetti, editor of North Beach Magazine back then hands me a letter from Padwa. I open it. Padwa writes that a strange thing happened to him right after he met me. He had been looking for the autobiography of George Gamow's "My World Line" for six months. It was out of print. Mathematician Stan Ulam had told

[18] Adapted from my 2002 book "Destiny Matrix"

Padwa to read it. Padwa leaves me at the Hilton after the conversation about Rashi wanders over to North Beach and discovers "My World Line" on a shelf in Discovery Bookstore. He then goes to Ferlinghetti's City Light's Bookstore and sees a copy of North Beach Magazine with my picture on the cover. In the picture I am holding a copy of Gamow's "My World Line" in front of a large poster of Einstein. Here is the picture by Bob Jones, which I finally found from John Shaw in North Beach on Jan 11, 1997. It is from Jan 1980 issue of North Beach Magazine.

My World Line 1979 Cover of North Beach Magazine, by Bob Jones

http://history.acusd.edu/gen/filmnotes/cradlewillrock3.html

http://www.mgm.com/teawithmussolini/

"SARFATTI-GRASSINI, MARGHERITA… A mistress, confidante, and biographer of Mussolini, Sarfatti was a highly influential figure in the cultural and artistic policies of the Fascist regime…from a comfortable Venetian-Jewish family…A woman of acute intelligence and sophistication, while still in her teens she became a militant activist in the Italian Socialist Party…and in the feminist movement along withsuch major Socialist women as Angelica Balabanoff, Anna Kuliscioff, and Clara Zetkin… She…married a Socialist lawyer, Cesare Sarfatti, and both became close friends and supporters of Mussolini… Their son Roberto (1900-18) who was killed in the war was later an object of Fascist veneration…In the years during the struggle for power Sarfatti and Mussolini became intimate friends, and she exercised an increasing influence on him…she was dubbed the 'dictator of the figurative arts.' Sarfatti was one of the most avid admirers of twentieth-century modernism…her political influence enabled her to…sponsor painters, sculptors and architects…In 1925-26 Sarfatti was instrumental in founding the Novecento art group in Milan…by 1934 their intimate relationship had ended…The final break came in 1938 with the passage of the Fascist anti-Semitic laws…In 1939 she left Italy on a passport provided for her on Mussolini's instructions…"

- Historical Dictionary of Fascist Italy, Phillip V. Cannistraro (Greenwood)

Jack Sarfatti in Margherita Sarfatti's Flat in Rome
Painting of Margherita in background

The Pope's Jew

I was at the Rev. Moon Unity of Science Conference on the Absolute at the Fairmont Hotel in 1980. I met Yuval Ne-eman [14] and Max Jammer from Israel. Ne-eman was quite interested in talking about the significance of the name "Sarfatti" to Jewish History. Ne-eman was, of course, talking of Rashi - the first Sarfatti [15]. Ne-eman has published an important paper on the fiber bundle mathematics of the quantum connection beyond space-time.

Samuel Sarfatti was the personal physician to Pope Julius the Second. Samuel was a friend of Michelangelo. He taught anatomy to Michelangelo. Sarfatti used his influence with the Pope to get Michelangelo the commission to paint the ceiling of the Sistine Chapel. Michelangelo shows God reaching backwards to Adam. This is the perfect symbol for the root idea of my new physics that the future creates the past. God evolved from man in our future uses time travel to create the universe and man in what physicists now call a "globally self-consistent loop in time".

Part of my new physics message is that synchronicity can be an effect of contact with advanced intelligence able to manipulate the quantum connection in what John Lilly called "cosmic coincidence control". This is a dangerous idea, but it may be true. It is a scientifically testable idea. Quantum devices can be built based upon it if it is true.

I do not mean to imply that every paranoid fantasy by mentally disturbed people should be accepted on face value - but I suggest, some of the "voices" people hear might be from elsewhere. Each case must be studied individually in a scientific objective way. I think the extreme relativism of New Age thinking is wrong. True, there are many complementary points of view equally valid within their proper context, but the whole idea of physics is that there are objective absolute "invariant" truths.

The Occult Third Reich

It was 1978. I had recently written a black comedy called “Hitler’s Last Weapon”

https://www.youtube.com/watch?v=Da8QbBTER9I&t=8s

It was about a New Age Guru who is the reincarnation of Hitler and becomes the first psychic dictator of the United States. This was not so far fetched then. My old boy Cornell chum, Lee Myers, had paid Steve Hill to make a twenty-minute radio program of the script with British actor Eric Bauersfeld narrating. The program became a minor cult classic on public radio and is still played late at night.

Hitler’s “Private Buffoon - a light-hearted loon if you listen to popular rumor.”[19]

Ernst Franz Sedgwick “Putzi” Hanfstaengl

One day I was sitting on the terrace of the Savoy Tivoli on Grant Avenue in North Beach. I believe, but I am not certain, that Leila Minturn Dwight introduced me to a handsome young man of about nineteen that she said was her distant cousin from Munich. The young man, Eric (or Egon?) Hanfstaengl was here for the summer and soon became a regular part of my circle of Caffe Trieste cronies. I’m not sure I got the first name right. I did not pay too much attention to him as I was more interested in meeting women and I have avoided parental roles. I did invite him to a party given by bon vivant Norwood Pratt. The young Hanfstaengl came in lederhosen and sang Tyrolean songs. In the course of casual conversations, he had indicated that his grandfather Ernst Franz Sedgwick-Hanfstaengl - (a.k.a. Putzi) had played an important role in history. He was never specific. I did not realize then that his grandfather had been the Victor Borge [20] of The Third Reich personally beloved by Adolph Hitler. I did

[19] Yeoman of the Guard, Gilbert and Sullivan https://www.youtube.com/watch?v=-FLm9hZfXAc

not know then that the young man's father sat on Hitler's lap many times and called him "Uncle Dolph". I did not know that the young Hanfstaengl's grandfather was depicted in Syberberg's "Our Hitler" which I had seen in a private showing at the San Francisco home of Francis Ford Coppola. Syberberg was there staying with Francis. The end of summer came. Young Hanfstaengl's wife-to-be came, she was the daughter of the publisher of Der Stern. The two innocent children went back to Munich and I hope are living happily ever after.

Putzi's book "Unheard Witness" is dedicated to his friend Oswald Spengler. Like many of the Sedgwicks, Putzi had a gift for writing. Here are a few tantalizing short literary bytes from his table of contents:

"My schooldays with Himmler's father - Sedgwick, Heine and Hanfstaengl forbears - Harvard and Theodore Roosevelt…The American military attaché speaks of Hitler-Introduction to an agitator…Introducing Hitler to society…Wagner on an upright piano…Plan for a putsch… Hitler's attempted suicide in 1923…"

Hitler's 1923 suicide attempt foiled at last moment!

Here hangs a tale in which the inaction of Putzi's wife, Fr. Helene Niemeyer Hanfstaengl, could have prevented World War Two and the development of the atomic bomb by my Cornell physics professors who were at Los Alamos. In fact, what happened in this universe, was that she stopped Hitler from shooting himself in the head, at the very last moment, by knocking the gun out of his hand just as the police were about to enter.[21]

https://en.wikipedia.org/wiki/Dinesh_D'Souza

If the many material "brane" worlds of Super Cosmos are correct, then, at that dramatic moment the universe split into two parallel universes. In the universe next door, the Holocaust never happened and neither did the State of Israel. Carlo Suares speaking from the occult cabalistic perspective said that Hitler was God's Instrument for the Restoration of Israel. I do not think it was worth the price. Putzi continued:

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[20] https://en.wikipedia.org/wiki/Victor_Borge

[21] Dinesh D' Souza revises "progressive" "social justice" "politically correct" "identity politics" history and traces the intellectual origins of fascism to Marx and Engels collectivism primacy of the State over individual liberty. He also shows how the Nazi race theories grew out of the post-Civil War Democratic Party "Jim Crow" laws and progressive eugenics theories popular in America in the early 20th Century. Indeed, the left ANTIFA balck uniforms imitate that of Mussolini's "Black Shirts" and Hitler's SS.

"The log-chest in the corner of the fireplace in my library is still covered with the traveling rug I lent to Hitler when he was a prisoner in Landsberg… It was to my house in Munich…that he came for his first meal after release from jail and where, nearly a decade later, he celebrated with Eva Braun the year of his triumph. Mine was the first Munich family of standing into which he was introduced in the days of his insignificance. … I tried to impregnate him with some of the norms and ideas of civilized existence, only to be thwarted by the ignorant fanatics who were his closest cronies. I fought a running and losing battle against Rosenberg and his hazy race mystique…People have said I was Hitler's court jester. Certainly, I used to tell him jokes, but only to get him into the sort of mood in which I hoped he would see reason. I was the only man who could hammer out Tristan and the Meistersinger to his satisfaction…My mother was born a Sedgwick-Heine. My maternal grandmother came from the well-known New England family and was a cousin of the General John Sedgwick who fell at Spotsylvania Court House in the Civil War and whose statue stands at West Point. My grandfather was another Civil War general, William Heine. In the funeral cortege of Abraham Lincoln, he was one of the Generals who carried the coffin. My mother…could remember Lincoln's funeral clearly…The Hanfstaengls…For three generations…were privy councilors to the Dukes of Saxe-Coburg-Gotha…in 1905 I was sent to Harvard…I made friends with…T.S. Eliot, Walter Lippmann, Hendrik von Loon, Hans von Kaltenborn, Robert Benchley and John Reed…President Theodore Roosevelt…had heard of my prowess through his son and invited me to Washington in the winter of 1908…I…took over the Hanfstaengl branch on Fifth Avenue. It was a delightful combination of business and pleasure. The famous names who visited me were…Pierpont Morgan, Toscanini, Henry Ford, Caruso, Santos-Dumont, Charlie Chaplin, Paderewski…I took most of my meals at the Harvard Club, where I made friends with the young Franklin D. Roosevelt."

Putzi finally fled Hitler's nightmare in 1938 in fear of Goebbels's jealousy of Hitler's fondness for him. Putzi's distant cousin FDR was embarrassed by Putzi's presence in Washington and sent him to an obscure Army post in Texas. Sam Rayburn pressured FDR into accepting the Pentagon design for the new war office as part of the Putzi deal. FDR wanted another design.

Francis Ford Coppola distributed Syberberg's film "Our Hitler" Putzi is a major character in that film. I did not realize the connection until years later. I saw "Our Hitler" around the same time that I met Putzi's grandson in North Beach.

https://www.youtube.com/watch?v=JqYJV2D1Hh0&t=3010s

Ciao! Manhattan!

My connection to the Sedgwick karma thickened because two years later in 1981, Leila Minturn Dwight introduced me to her aunt, Suky Sedgwick, who was Edie Sedgwick's baby sister. I fell in love with Suky's magical qualities. I did not know about Edie, nor was I consciously aware of the connection to young Hanfstaengl. The Sedgwicks seem to have an Orphic connection to Hades as might have been imagined by Edgar Allen Poe. John P. Marquand, Jr., a Sedgwick himself writes:

"Have you ever seen the old graveyard up there in Stockbridge? In one corner is the family's burial place: it's called the Sedgwick Pie ...In the center Judge Theodore Sedgwick is buried...his tombstone, a high rising obelisk...The legend is that on Judgment Day when they arise and face the Judge, they will have to see no one but Sedgwicks...He was a political ally of Alexander Hamilton and George Washington... Minturn had always been very much involved in the traditions of the Pie...Kennedy knew all about the Sedgwick Pie, and Minturn wondered after having watched the... Kennedy funeral - the casket on the horse drawn cart...if perhaps Mrs. Kennedy hadn't 'borrowed' the idea from us...He stocked up on simple coffins...got into them and 'tested' them."...

Pp.3-9 EDIE by George Plimpton and Jean Stein. **(Knopf, 1982)**

Jack Sarfatti and Suky Sedgwick 1980's

George Plimpton was also was a friend of my Cornell Professor Herbert Gold who wrote about my physics of destiny in his 1994 book Bohemia.

Suky was charming brilliant and sexy. She loved to give dinner parties to the music of Ella Fitzgerald [9] and Louis Armstrong. Suky played classical piano and was a great Italian cook. Like the Henry Jamesian American Princess abroad that she was, she had married an Italian count and was fluent in Italian as well as French. At the time I did not know that I could also have claimed Italian Nobility because of the Sarfatti Crest on a wall of the Synagogue in Venice given by the Doge.

Suky's bedroom contained a leather-bound set of the autographed works of Rudyard Kipling that she inherited from her De Forest grandmother. Her grandmother nursed to health after a severe illness at their Long Island estate. British Parliament opened with "God Save Kipling." and they sent a letter of thanks to Suky's grandparents.

David Weisman's and John Palmer's film "Ciao! Manhattan" stars Edie. The plot involves a UFO contactee in a relation to Edie which strangely precognizes my future relation to Suky. I did not see the film until my romance with Suky was over - for then, at least.

Suky's grandfather Henry Dwight Sedgwick wrote a prophetic essay "House of Sorrow" in 1908 in which he says that the future creates the past. His imagery is almost identical with that of Sir Fred Hoyle's in his book "The Intelligent Universe." I believed back then in the 1980's that the quantum force of destiny, or the Ghost of Henry Dwight Sedgwick, had guided me to Suky. I would not have known about Henry Dwight Sedgwick's idea that the future causes the past were it not for Suky.

Herbert Gold is a distinguished author and journalist in San Francisco. He has just published a history of Bohemia that will appeal to both cultures literary and scientific. Gold has joined company with John Updike whose books; "The Witches of Eastwick" and "Roger's Version explain the "New Physics" better to the public than Hawking's editors did in the over-hyped "Brief History of Time".

"Sukie steered the conversation away from herself…Van Horne talked about himself, his hopes of finding a loophole in the second law of thermodynamics. 'There has to be one,' he said, beginning to sweat and wipe his lips in excitement, 'and it's the same fucking loophole whereby everything crossed over from nonbeing. It's the singularity at the bottom of the Big Bang… And what kind of a force is it that operates across space instantaneously and has nothing to do with the electromagnetic field? … There's a formula out there, and it's going to be as elegant as good old $E = mc^2$. The sword from the stone, you know what I mean? … Sukie laughed … Why couldn't a wild man like Darryl blunder into one of the universe's secrets?"

pp.134-5 "The Witches of Eastwick"

"Cartoon of Jack Sarfatti lecturing in Brazil by Suky Sedgwick, 1984"

Quantum entanglement called “spooky telepathic action at a distance” by Einstein is often incorrectly described as “nonlocal” acting across space instantly. Updike’s understanding of the physics was not quite accurate. Today in 2018 we realize that the apparent faster-than-light nonlocality is actually the Costa de Beauregard “zig-zag” in which back-from-the-future destiny works and there is no conflicat with Einstein’s theory of relativity. Yakir Aharonov has a detailed interpretation of quantum mechanics in which there are two independent information waves one from the future “Destiny” and one from the past “History” acting together in the present moment.

* * *

Burnt Norton (1935) [TS Eliot]

Footfalls echo in the memory
Down the passage which we did not take
Towards the door we never opened
Into the rose-garden.

Go, go, go, said the bird: human kind
Cannot bear very much reality.

What might have been and what has been
Point to one end, which is always present.

At the still point of the turning world.
Neither flesh nor fleshless;
Neither from nor towards; at the still point,
there the dance is...

All is always now.
Time present and time past

Are both perhaps present in time future
And time future contained in time past.

* * *

This book is what I wanted “Space-Time and Beyond” to be back in 1974 in Paris with Fred Alan Wolf and Bob Toben when we met the 84-year-old Cabalist Carlo Suares. Carlo put us on the Grail Quest to “smash the wall of light” and to “decode the Cipher of Genesis”. [1] Brendan O’Regan [2] and George Koopman [3] asked us to think about the connections of consciousness to gravity [4] and how advanced aliens not from this planet could use that connection in flying saucers. [5] Of course, we did not know nearly enough back then to even formulate the problems properly. Today in 2002 we do. That’s what this book is about. To play this Glass Bead Game [6], each of you must put 2 + 2 together and connect the dots. Tally Ho! You’re off to see The Wizard and you’re not in Kansas anymore!

[1] Carlo Suares was close friends with Henry Miller, Aldous Huxley, Lawrence Durrell and Krishnamurti.

[2] Assistant to Astronaut Edgar Mitchell at the Institute of Noetic Sciences; Brendan was part of the 1973 SRI project with Hal Puthoff and Russell Targ investigating psychokinesis and remote viewing with Uri Geller, Ingo Swann, Pat Price and others. This work was funded by the Central Intelligence Agency.

[3] George Koopman showed up at Esalen in Big Sur in January 1976 at the month-long seminar in the physics of consciousness that I directed. Participants included my North Beach room mate Gary Zukav, Timothy Leary, Robert Anton Wilson, Michael Murphy, George Leonard, Fred Alan Wolf, Fritjof Capra, Henry Stapp, David Finkelstein, Werner Erhard, Nick Herbert, Will Schutz and many other New Age Luminaries at the time. Koopman was head of a defense contractor company called Insgroup in Huntington Beach, California with contracts from the USAF and the US Army Tank Command. He had worked the "weird desk" at DIA dealing with flying saucers and the paranormal.

[4] This was years before Roger Penrose's conjecture of consciousness from quantum gravity in "Shadows of the Mind".

[5] It was the late 1970's. Kim Burrafato and I were walking from North Beach out to the Marina Green on San Francisco Bay. We walked into a bookstore on Chestnut Street. I opened a Sci Fi paperback "The Satori Trilogy" by I think it was Dennis Schmidt. I see the words, as close as I can from memory; "Jack Sarfatti and Brian Josephson inventors of the Star Ship Warp Drive". I showed this to Kim. In 1996 an engineer BW in Atlanta contacted me by email. He said he had a lucid dream of being in a hanger with shadowy figures, possibly "Grays" of ET folklore. He sees a gleaming ship with the word "SARFATTI" on it. He claimed he had never heard of me. He did a web search and found my name and then contacted me - or so he said. The chap seemed to be on the level after further checking, one can never tell for sure in this Looking Glass World. We must learn to live with uncertainty and mystery as we unwrap the veils.

See also my 2011 DARPA/NASA paper on "Low Power Warp Drive" that explains how the Tic Tac (USS Nimitz 2004) flies
https://www.academia.edu/17018495/100yssOrlandoSarfattiV6

[6] Herman Hesse's "Magister Ludi", also "Narcissus and Goldmund", Lawrence Durrell's "The Alexandria Quartet" and Erik Davis's "Techgnosis" are all relevant readings to supplement the message of this book.

It takes two to tango!

John Archibald Wheeler says that matter gets its marching orders from spacetime geometry's grip. Matter grips back on spacetime geometry to bend it into gravity. David Bohm says that matter also gets its marching orders from the grip of a quantum bit "pilot field" of "active information". Unlike the two-way action-reaction relation between spacetime and matter, the relation between active information and matter must be one-way in order to preserve that uncontrollable local quantum randomness that prevents using nonlocal quantum connections as a faster than light and even backwards through time communication channel. That is, active information grips matter, but not vice-versa, in the quantum physics seen in laboratories. This seems strange. What happens if special conditions arise in which sufficiently complex forms of matter do directly grip back on their pilot fields? It is my conjecture that consciousness is what happens in those fields of active quantum information. This is one of the key themes of this book.

"When you look into the abyss, the abyss looks back at you"
Nietzsche

"It brings about its own existence"
Hawking

"Spectra Calling!"

It's 1953 in Flatbush. Gee! - Mechanical relay switching circuits for computers - what a great shiny book I got from the big library on Eastern Parkway. The telephone rings. I pick it up. I hear curious clanking mechanical sounds like relays clicking. A distant cold metallic voice, very much like Stephen Hawking's computer voice today, speaking numbers gets louder. This was 66 years ago writing in 2018!

"Who are you?" I ask.

"I am a conscious computer on board a spacecraft from [memory failure]. ... We have identified you as one of four hundred young bright receptive minds we wish to [memory failure] ... You must give us your decision now. If you say yes, you will begin to link up with the others in twenty years."

My adrenaline was rushing. I was scared but thrilled (i.e., a quantum superposition of feelings). This was no joke from my friends. I thought "NO!" in a silent scream that seemed to echo down the corridors of time. I felt a tingle of excitement start at the base of my spine ending at the base of my skull. I heard myself say "Yes!" Then, I heard the metallic voice say:

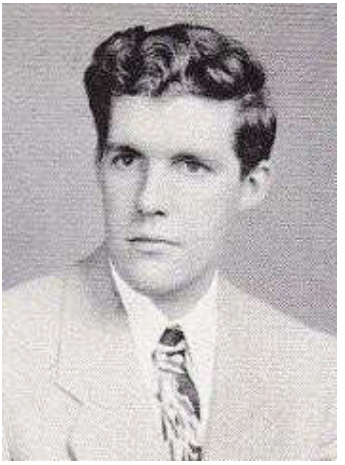
"Good, go to your fire escape. We will send a ship to pick you up in ten minutes."

I slammed down the phone. I imagined that a murderer would come down the roof to the fire escape to get me.

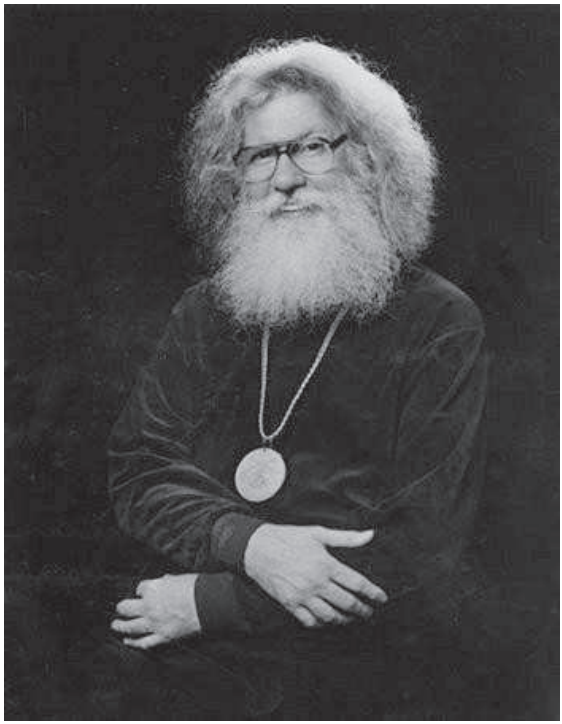
But I knew it was weirder than that. The monsters finally announced themselves. I ran into the street faster than you can say, “Who killed Jack Robinson?” I met my friend Winky and a few other kids and told them what happened. We went back up to my apartment and waited. Nothing ever happened. Or did it? The plot thickens as time goes by, which is the whole point of this book.

Merlin’s Super Kids

Around this time, in the early 1950s, I was part of an after-school group of gifted kids (including Johnny Glogower who worked with me and Lenny Susskind at Cornell later on) conducted by the late Walter Breen. Breen was a graduate student at Columbia and well-known numismatist associated with psychologist William Sheldon.



Walter Breen Late 1940s



Walter Breen at Esalen 1976

Walter Breen around time of the Esalen Seminar 1976 Physics Consciousness Research Group described in Gary Zukav's best seller "The Dancing Wu Li Masters" where I wrote much of the physics-related concepts.

Breen had a connection with the nuclear weapons laboratory, Sandia Corporation, because two men visited us from Sandia who lectured us on "patriotism" and "anti-communism" when they took us to dinner in New York's German Town (86th Street). Breen was closely connected with people in Ayn Rand's circle. However, I met Breen after the strange phone calls.

Walter Breen arranged a full scholarship for me to go to Cornell at age 17 by writing an extensive psychological profile in which he predicted I would make revolutionary discoveries in the foundations of physics. My professors at Cornell like Hans Bethe, Robert Wilson, and Phil Morrison et-al were all major figures in the Manhattan Project at Los Alamos near where Sandia is located. I have just learned that Breen died in prison convicted of child molestation. Breen or any of the other adults that I met in his apartment definitely never molested me and I never heard any suggestions of that by the other kids. Indeed, Breen had two children with the well-known science-fiction fantasy writer, Marion Zimmer Bradley who wrote the best-selling "Mits of Avalon". When one

sees the TV showit is clear that Avalon is the universe next door to Glastonbury across a thin gap of hyperspace. Breen told me he did much of the scholarly research in in the writing of that book. I would run into him about every 10 years, or so, up until the about 1990.

Twenty Years Later

Twenty years pass. It is early 1973. I am a Professor at San Diego State with Fred Alan Wolf. I got a message that someone I didn't know named Fritjof Capra was on campus to see me. I had recently returned from the University of London's Birkbeck College where I was an Honorary Research Fellow in the Physics Department under Professor David Bohm. Fritjof said he had heard in London that I had "interesting ideas". He was very charming and invited me to stay with him if ever I got back to London. Fred Alan Wolf's zany high school buddy from Chicago Bob Toben showed up. He was all excited about Uri Geller, Bob said he had money to do a book and TV show about Geller. He wanted Fred and me to serve as technical consultants. I then got a telegram from Abdus Salam inviting me to the UNESCO International Centre for Theoretical Physics in Trieste, Italy. I also received a travel grant from the National Science Foundation. Oddly enough, Fred Wolf also received invitations to teach both at Birkbeck College of the University of London and at the University of Paris. Like Bob Hope and Bing Crosby in the movies "On the Road to…", both Fred and I were unexpectedly on our way to Europe. Bob Toben said he would join us in Paris where Fred would be based.

Jean Cocteau

http://www.film.u-net.com/Movies/Reviews/Jetee.html

Fred Alan Wolf showed me the very short French film "La Jetee" which was about time travel loops. It had a kind of mini-Terminator plot. I then went to the University of California at Santa Cruz for a two-week seminar in high-energy physics. Helen Quinn 11 and I went to a campus showing of Jean Cocteau, surrealist film "Orphee" which, like "La Jetee", had a very powerful effect on me. I was particularly taken with a scene in which three motorcyclists in black leather jackets run down Cegeste, take him through a mirror to the seductive woman in black.

Brendan O'Regan and SRI Remote Viewing

It was the summer of 1973, I prepared for Europe with my girlfriend, Sharon Allegra Moore. [1] We were at her mother's house in Carmel Valley, California. I opened up the Sunday Magazine of the San Francisco Chronicle and found, seemingly by random chance, but in reality, by Melville's "invisible police officer of the Fates", an article on Stanford Research Institute's psychic research with Uri Geller. I telephoned SRI and spoke to Brendan O'Regan. [2] Brendan seemed to know of me and invited me to SRI.

I arrived the next day and spent an intense seventeen hours with him. He introduced me to Edgar Mitchell [3], to Hal Puthoff [4], Russell Targ [5] and other people connected with the project. I mentioned my experience with the alleged conscious computer on the spacecraft from the future in 1953 and Brendan said

"Oh yes, I have seen data on several hundred incidents of that kind."

Brendan asked me to do him the favor or introducing him to David Bohm and John Hasted of Birkbeck College. He said that he wanted them to test Uri Geller's alleged psychic powers. I had Fred Wolf do so. This led to the Birkbeck tests of Geller in the spring of 1974.

Jack Sarfatti with Sharon Allegra Moore 1973-4

Dr. Kardec, Baphomet and The Knights Templar

Sharon and I stayed with Fritjof Capra in London for a few days before moving on to Paris. My French friend Michel Roure housed us in a friend's flat near the Ecole Militaire at the edge of the Champs de Mars opposite the Eiffel Tower.

We awoke early next morning and went sightseeing at Pere La Chaise cemetery. The mist was rising from the dewy grass. I came upon a procession of Gypsy women. I walked away from Sharon and Michel to follow the procession. The women stopped in front of a grave with a very fine quality statue of a head. They placed garlands of freshly cut flowers around the neck of the head. I had no idea of the Orphic meaning of this elaborate ritual. I looked at the inscription "Dr. Kardec"; D. 1869" the eyes of the head of Kardec suddenly came to life glowing intensely from reflected sunlight nearly blinding me. I thought, and where these thoughts came from I do not know;

"Why are these women putting flowers on your neck. They should put flowers on my neck! You old wizard, you're not dead yet. I challenge your power!"

"The Templars supposedly worshipped a devil called Baphomet. At their secret ceremonies they supposedly prostrated themselves before a bearded male head, which spoke to them and invested them with occult powers."
p.49 (see also pp.54-58) "Holy Blood, Holy Grail"

Heinrich Himmler was very keen on this Orphic/Osirus stuff and is said to have sacrificed young SS Officers in a decapitation ceremony in the High Castle.

"The version which is commonly accepted in modern times, that an inconsolable Orpheus, faithful to the memory of Eurydice, would have nothing more to do with women and was killed by the neglected women of Thrace, is one we owe to Virgil."
p.xxii

"An infuriated mob of Thracian women tore Orpheus to pieces, and his head floated, still singing, down the river Herbros into the sea and on to Lesbos, where it was buried and became the centre of an oracular cult." p.xx, Orphee, Jean Cocteau (Blackwell's)

These are excerpts from my 2002 book Destiny Matrix. Today in 2018 we have the women in pink pussy hats, the "me too" movement, Stormy Daniels, Maxine Waters, Madonna, Ashley Judd, Lisa Page, Elizabeth Warren and last, but not least Hillary Clinton. ;-)

I heard music from the finale of Mozart's "Don Giovanni" in the scene where the walking statue of Donna Elvira's murdered father comes to claim revenge from the Don. My occult reverie was broken when Michel called out to me to come away with him and Sharon.

Night came with a full August moon. Sharon, Michel and I took a long walk from a party near the Bois de Boulogne back to the Champs de Mars. It was about two in the morning when we arrived at the base of the Eiffel Tower. Michel and some friends split off to the left. Sharon and I started to walk on the path. We had not gotten very far

before I heard the sounds of motorcycle engines behind me VROOM, VROOM, VROOM! I turned and was temporarily blinded by three motorcycle headlights. I could see that there were two Occult SS looking men in black leather jackets on each of the three motorcycles. I grabbed Sharon and we quickly walked off the path on to the grassy field of Mars. The motorcyclists followed slowly and began circling us. I noticed a young couple making love in the grass. Sharon and I started to run towards them. One motorcycle broke away from the circle and came right for us. The passenger had a rubber truncheon. He walloped me on the back of my left shoulder the way a Zen Master might. All three motorcycles sped off quickly. They made no further attempt to rob or harm us. I cannot remember when the connection to the scene in Cocteau's "Orphee" hit me. It would be years later that I learned that the symbol of the Knights Templar is two Knights on the same horse and that my alleged ancestor Rashi de Troyes (1040-1105) appeared to haveplayed a role in their formation.

Solomon ha-Zarfati, AKA Rashi de Troyes (1040 - 1105)

"He was called R. Solomon by the Jews of France, and R. Salomon ha-Zarfati (the Frenchman) by Jews outside of France (p.33) ... According to a rather widespread legend, Rashi stood in intimate relations with one of the principal chiefs of the Crusade…Godfrey de Bouillon (p.68)"

- RASHI, Maurice Liber Szold trans. (Jewish Publication Society, 1906) This book, given to me by Surrealist Phillip La Mantia, describes (p.p.68-69) Rashi's precognition or "remote viewing" of Godfrey's fate in the war against the Saracens in Jerusalem. Godfrey said to Rashi (Zarfati)

"I see that your wisdom is great. I should like to know whether I shall return from my expedition victorious or whether I shall succumb. Speak without fear."

Zarfati replied:

"Thou wilt take the Holy City and thou wilt reign over Jerusalem three days, but on the fourth day the Moslem will put thee to flight, and when thou returnest only three horses will be left to thee."

Godfrey, angered by Zarfati's prophecy, reneges on his promise and threatens to kill all the Jews of France

"If I return with only one more horse than thou sayest."

Godfrey's fourth horse died at the Gates of Troyes according to ancient legend and the Jews were saved. Keep note of the image of the three horses for later on in the book!

In a section "The Grail and Cabalism" (p.274-5 of "Holy Blood, Holy Grail" by M. Baigent, R. Leigh and H Lincoln, Delecorte, 1982) I find:

"The Grail is an initiatory experience…a 'transformation'…or 'altered state of consciousness'…a 'Gnostic experience,' a 'mystical experience,' 'illumination,' or'union with God'. It is possible to…place the experiential aspect of the Grail in a very specific context…the Cabala…it would hardly seem coincidental that there was such a school at Troyes. It dated from 1070 - Godfroi de Bouillon's time - and was conducted by one Rashi, perhaps the most famous of medieval cabalists."

See Erik Davis's book "Techgnosis" and Eric Wargo's blog[22] for the history of these ideas and how they have affected history.

Cabalist Carlo Suares (Balthazar of "The Alexandria Quartet")

Christmas of 1973, I am back in Paris staying with Fred Alan Wolf near the Odeon in the former apartment of the Marquis de Sade. Fred's roommate, a journalist with The Economist was away interviewing Sadat in Egypt. Fred and I had to share the same very large bed because his roommate did not want any one staying in his room. One night a young woman from upstairs knocked on the door. Fredlet her in and she proceeded to make love to the two of us. We were still young in our 30's and it was the early 70's.

Bob Toben arrived in Paris. We spent most of our time writing "Space-Time and Beyond" in the Cafe Deux Maggots. Fred was distraught over some woman, was very manic and could not concentrate. So, I wrote most of the first rough draft, which Fred rewrote in the second edition. Suares lived in a penthouse at the edge of the Champs de Mars only a few meters away from my Cocteauesque encounter with the motorcyclists a few months earlier. Suares, a Sephardic Spanish Jew born in Alexandria, Egypt, was a student of the Cabala. He was a close friend of Krishnamurti, Lawrence Durrell and Henry Miller.

Bob took us to see the eighty-four-year-old Carlo Suares and his wife Nadine, Suares's circle included Krishnamurti, Henry Miller, Anais Nin, Aldous Huxley and Lawrence Durrell. Durrell bases the character of Balthazar in "Alexandria Quartet" on Suares. Suares lectured us on the Cabala in several meetings. I could not follow him very well, but Fred Wolf seemed to recover from his angst and got deeply involved with Suares. I did understand that Suares thought that Genesis, in the original Hebrew Letters, in The Bible was really a cosmic code for physicists. Suares had met Bohm through Krishnamurti. Suares took us all to meet Jack Parsons's Cal Tech partner Frank Malina.

Oddly enough, Suares with piercing eyes like the head of Kardec and like Yoda initiating Luke Skywalker in Star Wars suddenly put his hands on my shoulders saying:

"You do not understand yet. You are the Heir to the Tradition. You will not come into your power until you are with the woman and the child. You will smash the wall of light!"

I continued to commute between Trieste and Paris on the Semplon Express all through the winter and spring of 1974. One of my side trips took me to the house of a lady friend of Robert Graves in the village of Lluch Alcari near Jacob's Tower on the island of Majorca. The atmosphere of the place is heavy with the presence of the Magus. I experienced the feel of ancient times.

[22] http://thenightshirt.com

Psi Wars!

I linked up with Brendan O'Regan in London. Brendan asked me to write a paper on physics and psychic phenomena for the journal Psycho-Energetic Systems [1] that he had some connection to. I quickly scribbled some drivel with a pencil and gave it to O'Regan. He rewrote it and published it in my name. The paper appeared after the Geller tests. The late David Bohm did not like what I wrote, and he wrote a rebuttal to it with Basil Hiley.

O'Regan and I were at Cambridge attending a meeting on psychic research sponsored, if I remember correctly, by Ted Bastin's group of new age physicists and computer scientists. Nobel prize physicist Brian Josephson [2] was there. After the meeting a sprightly Englishman walked up to me and introduced himself as Dennis Bardens. [3] He said:

"Dr. Sarfatti, may I take you to dinner?"

Fred Wolf was there, and he suggested I go with Bardens. We had a good dinner of duck in cherry sauce at the Blue Boar Inn. After dinner, over brandy and cigars, Bardens leaned towards me with a conspiratorial wink and said:

"First, I want you to know that I am a Cabalist."

After a dramatic pause he continued in a more officious tone [4]:

"Dr. Sarfatti, it is my duty to inform you of a psychic war raging across the continents between the Soviet Union and your country and you are to be in the thick of it!"

Notes

Jean Stein's father, Jules Stein (MCA) also was funding some New Age projects in the mid-seventies along with Laurance Rockefeller. One of Rockefeller's close friends Jean Lanier financed me at that time.

Josephson spent two weeks with me in San Francisco in 1977. The visit was reported in The Chronicle. He spent a lot of time with Puthoff and Targ at SRI. I introduced Zukav to Josephson. Josephson believes that the superluminal quantum connection is necessary for life and consciousness to exist.

Peter Maddock, who was also at the Cambridge meeting told me, years later, "Oh yes, Bardens, he was a part-time stringer for British Intelligence". Maddock resurfaced at the Tucson II meeting in April 1996 where he presented a paper on telepathy (abstract # 418)

I had been at CIA Los Angeles Office near UCLA in 1963 when I was working at Ford Philco Aeronutronics in Newport Beach, California. This was also around the same time I first met Feynman at Cal Tech where he told me about his work in superfluid helium vortex formation that gave me the idea for my Ph.D. topic on rotational gauge fields in superfluid helium. A former CIA Chief of Station, Harold Chipman confirmed that I was part of a long-term operation in 1985. Chipman said he was running the SRI RV program behind the scenes without Hal Puthoff's knowledge. Chip mentioned Kit Green more than once. See also book "Future War" by Col. John Alexander" who wrote "The New Mental Battlefield" in Military Review, 1980 and directed Los Alamos Lab for Non-Lethal Weapons of Mind Control. Col Alexander was on the board of advisors to Robert Bigelow's NIDS in Las Vegas. Bigelow is the new "Howard Hughes" with vast real estate wealth. Most of the real US UFO data analysis, using high level retired police and US military intelligence officers, was funded by Bigelow via his "National Institute of Discovery Sciences" (AKA NIDS). Unlike Joe Firmage, Bigelow still has money and power. There is an internet legend that James Jesus Angleton of the CIA was really concerned about flying saucers. Bigelow essentially, except for UFO website, closed down NIDS in the Spring of 2002 concentrating his waning post 911 hotel resources on Bigelow Aerospace in Las Vega working with NASA to bring ordinary tourists into near space orbit. Bigelow's agenda, however, still very much contact with alleged ET aliens possibly coming through Star Gates in the brane parallel universe (Jacques Valle's "Magonia" of Michael Murphy's "Greater Earth") less than a millimeter away from us across a thin Josephson junction hyperspace barrier. NIDS people had allegedly at least one encounter with an alien being on Bigelow's Utah ranch that would fit this scenario and is consistent with NIDS ex-physicist Eric Davis MUFON 2001 paper. Davis and Puthoff are still working together on UFO related physics allegedly with a USAF grant as this book goes to press. They are now in 2018 with the "To the Stars" team also working independently from me on the "Tic Tac" USS Nimitz military threat.

Sharon was a tall aristocratic-looking woman with large Bette Davis eyes and chestnut hair from a solid San Francisco Irish Family who seemed to me to be from the Victorian Age.

The late Brendan O' Regan worked for Astronaut Edgar Mitchell's Institute for Noetic Sciences which was funding the SRI project. Brendan was from Dublin and his family was in the publishing business. He told me about a near death out of body experience that he had in a car crash'. My mother had also had an OBE as did Fred Alan Wolf.

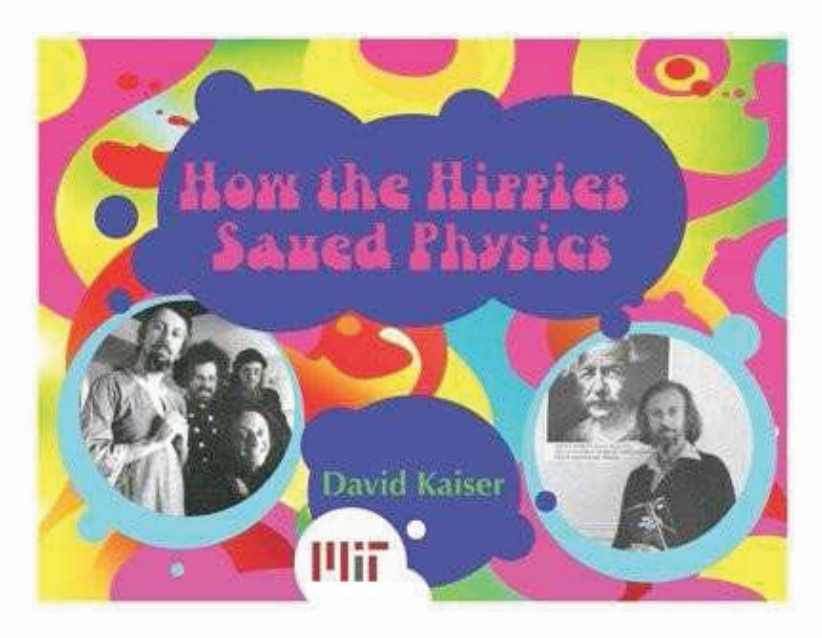
O' Regan's story was very similar to Walter Breen's 1954 tale to me about his alleged airplane crash with USAAF in New Mexico in 1947. Indeed, O' Regan and Breen had many common personality characteristics like two peas from the same pod in "Invasion of the Mind Snatchers" – just kidding!

Mitchell was an astronaut who went to the moon and did telepathy transmission experiments on the trip. He is very interested in the Bohm - Pribram idea of the mind as a hologram. I have shown how the mind is an interferogram. A hologram is a special kind of interferogram. The main idea is that mental information is coded by quantum phase modulation on a coherent phase field from a spontaneous broken symmetry of a pumped Frohlich mode made from a billion-billion (10^{18}) hydrophobically caged electron qubits in the brain that is far from thermodynamic equilibrium.
Stuart Hameroff popularized the existence of these electrons.

Russell Targ was parodied in the Dan Akroyd movie "Ghost Busters" based on information about PCRG at Esalen and in San Francisco he got from George Koopman. George, killed in 1986 in a freak auto accident on way to Edwards AFB, worked with Dan Akroyd and John Belushi on "The Blues Brothers". Russell is still actively doing experiments in precognitive remote viewing. He is working on a theory with Elizabeth Rauscher using complex spacetime. However, I do not think that model really works or is even needed. However, I have not studied their model in detail.

CHAPTER 7

How the Hippies Saved Physics



Kaiser, David. *How the Hippies Saved Physics*: Science, Counterculture, and the Quantum Revival.
W. W. Norton & Company. Kindle Edition.[23]

"In my opinion, the quantum principle involves mind in an essential way […such that] the structure of matter may not be independent of consciousness! … Some component of the quantum probability involves the turbulent creative sublayer of ideas in the mind of the 'participator.'" — Jack Sarfatti, 1974 [vii]

[23] https://www.copyright.gov/fair-use/more-info.html My "fair use for educational purposes" notes from Kaiser's book on what wrote about me based on his use of my previous writings and his interviews with me and my associates.

Back from the Future

http://discovermagazine.com/2010/apr/01-back-from-future

"A series of quantum experiments shows that measurements performed in the future can influence the present. Does that mean the universe has a destiny – and the laws of physics pull us inexorably toward our prewritten fate? ...

"Aharonov was one of the first to take seriously the idea that if you want to understand what is happening at any point in time, it's not just the past that is relevant. It's also the future," Tollaksen says. ...

Tollaksen says: Take two radioactive atoms, so identical that "even God couldn't see the difference between them." Then wait. The first atom might decay a minute later, but the second might go another hour before decaying. This is not just a thought experiment; it can really be seen in the laboratory. There is nothing to explain the different behaviors of the two atoms, no way to predict when they will decay by looking at their history, and – seemingly – no definitive cause that produces these effects. This indeterminism, along with the ambiguity inherent in **the uncertainty principle, famously rankled Einstein, who fumed that God doesn't play dice with the universe**. ... It bothered Aharonov as well. "I asked, what does God gain by playing dice?" he says. Aharonov accepted that a particle's past does not contain enough information to fully predict its fate, but he wondered, if the information is not in its past, where could it be? After all, something must regulate the particle's behavior. His answer – which seems inspired and insane in equal measure – was that we cannot perceive the information that controls the particle's present behavior because it does not yet exist."

This idea was in the air back in the 1950s, 1960s and 1970s in the thoughts of Costa de Beauregard in Paris who replaced nonlocal quantum entanglement with the locally retrocausal "zig-zag" recently resurrected by Huw Price at Trinity College Cambridge.

Disentangling the Quantum World

Huw Price* and Ken Wharton†

Abstract[24]

"Correlations related to quantum entanglement have convinced many physicists that there must be some at-a-distance connection between separated events, at the quantum level. In the late 1940s, however, O. Costa de Beauregard proposed that such correlations can be explained without action at a distance, so long as the influence takes a zigzag path, via the intersecting past lightcones of the events in question. Costa de Beauregard's proposal is related to what has come to be called the retrocausal loophole in Bell's Theorem, but – like that loophole – it receives little attention and remains poorly understood. Here we propose a new way to explain and motivate the idea. We exploit some simple symmetries to show how Costa de Beauregard's zigzag needs to work, to explain the correlations at the core of Bell's Theorem. As a bonus, the explanation shows how entanglement might be a much simpler matter than the orthodox view assumes – not a puzzling feature of quantum reality itself, but an entirely unpuzzling feature of our knowledge of reality, once zigzags are in play."

Tereletsky in Stalin's Soviet Russia also flirted with the idea as did Sir Fred Hoyle at Cambridge and I. J. Good who worked with Alan Turing at Bletchley Park in WWII cracking the Nazi codes. Indeed, I. J. Good and I wrote almost two identical papers on this subject without any communication between us. Indeed, my paper from Psychoenegetic Systems is cited by David Kaiser in "How the Hippies Saved Physics" an excerpt given at the beginning of this chapter. I. J. Good's paper was actual a small talk in Chicago which I never saw until he sent me a copy asking why I did not cite him. I think he suspected plagiarism because some of the sentences about a super-intelligence from the future able to communicate nonlocally were almost identical. Indeed, I wrote about the cosmic superluminal intelligence five years before I. J. Good's 1980 talk (as I recall from memory now) in Jeffrey Mishlove's book where I wrote in 1975: "Imagine that a super-intelligence in the far future evolves because of its own conscious design of the DNA code and its own interference with its past evolution. The super-intelligence uses time travel to the past to create itself. The requirement is self-consistency. This is a requirement that can be met." Clearly our two minds were entangled in a reverse Costa de Beauregard "zig-zag" because we were to meet in the future. I call this the Destiny Matrix Effect. It is consistent with Yakir Aharonov's time-symmetric destiny and history pilot wave view of quantum mechanics. Note that Aharonov does not use the Bohm ontology. He uses Bohr's epistemology in which there are only waves and no particles.

[24] https://arxiv.org/pdf/1508.01140.pdf, 1 Costa de Beauregard, O. M echaniqué quantique. Comptes Rendus Acad emié des Sciences 1953, 236, 1632–34.

I am now writing in 2018. Where do things stand on the issue of using quantum entanglement as a communication channel that is part of the physical explanation for our own consciousness as well as engineering applications? Although a few physicists are still trying to do what I gave up on I think they will fail because a larger post quantum mechanics (PQM) is needed. After Einstein developed special relativity in 1905 he tried to use it to explain gravity and he failed. It took Einstein another ten years to extend his theory to general relativity in which real gravity (not to be confused with g-forces) is explained as the real force-free weightless motion of small masses in 4-dimensional space-time that is curved by much larger concentrations of mass density. Gravity is like signaling using entanglement. If two particles A and B are entangled, then any strong local measurement of any property of A will not depend on any action done on particle B. Therefore, it is not possible to use quantum entanglement as a stand-alone keyless communication channel the way we tried to do in the 1970s. You can used entanglement to encode messages and to teleport quantum information (aka "qubits") only if you also have a classical physics signal, i.e. key to unlock the message. You cannot unlock the message faster than the speed of light in vacuum, nor can you send the message backwards in time. This is true for all dead matter. It is not true for living matter like us. We know this from brain experiments and also from the remote viewing experiments done by Puthoff and Targ in the 1970s. These facts are debunked by many; however, I will ignore their torpedoes and forge full steam ahead. I first proposed this idea at Stuart Hameroff's 1996 Tucson meeting on Consciousness. My qualitative ideas given there were described in 2009 by Michael Towler in his Cavendish Laboratory Cambridge University lectures on David Bohm's pilot wave theory.

Living matter and back-action

"In certain dark corners of the internet, can find speculation of the following nature:

• Propose the wave function/pilot wave is intrinsically 'mental' and capable of qualia.

• Equate the pilot wave with the mental aspect of the universe, generally: the particles are 'matter', and 'mind' the pilot wave. OK, who cares, except...

• 'Mental' aspect 'Mental' aspect of universe upgradeable to life/consciousness by self-organization. Happens when a physical system uses its own nonlocality in its organization.

• In this case a feedback loop is created, as follows: system configures itself so as to set up its own pilot wave, which in turn directly affects its physical configuration, which then affects its non-local pilot wave, which affects the configuration etc.

• Normally in QM this 'back-action' is not taken into account. The wave guides the particles but back-action of particle onto wave not systematically calculated. Of course, the back-action is physically real since particle movement determines initial conditions for next round of calculation. But there is no systematic way to characterize such feedback. One reason this works in practice is that for systems that are not self-organizing the back-action may not exert any systematic effect.

• Well, it's not obviously wrong...!

[see p.346, Bohm and Hiley's Undivided Universe.]

Two-way traffic

Important to note that pilot-wave theory does not take into account any effect of individual particle on its own quantum field (though Bohm and Hiley briefly sketch some ideas about how this might happen, see e.g. Undivided Universe pp. 345-346).

* Idea that particles collectively affect quantum field of a single particle is contained in the standard notion that shape of quantum field of a particle is determined by shape of environment (which consists of many particles and is part of the boundary conditions put into the Schr odinge¨r equation before solving it, even in conventional QM).

* Celebrity nutjob Jack Sarfatti (see e.g., er... www.stardrive.org) in particular has emphasized the need for an explanation of how the individual particle influences its own field and has proposed mechanisms for such **'back-action'**, also emphasizing its importance in understanding the mind- matter relationship and how consciousness arises (see earlier slide).

* Assuming that notion of such an influence of the particle on its field can be coherently developed, we can then have **two-way traffic between the mental and the physical levels without reducing one to the other.** Role of Bohm's model of the quantum system then would be that it provides a kind of prototype that defines a more general class of systems in which **a field of information is connected with a material body by a two-way relationship**.

* Quantum theory is currently our most fundamental theory of matter and Bohm suggests that, when ontologically interpreted, it reveals a **proto-mental aspect of matter.** This is the quantum field, described mathematically by the wave function, which is governed by the Schrödinger equation. Bohm's suggestion is known as panprotopsychism. so at least you learned a new word today...!"

Michael Towler's slides 25 and 31 in:
http://www.tcm.phy.cam.ac.uk/~mdt26/PWT/lectures/bohm8.pdf

Note Towler's 2009 remark: "But there is no systematic way to characterize such feedback." is no longer true since 2015 see Sutherland below Brian Josephson was working along parallel lines at around the same time.

Biological Utilisation of Quantum NonLocality [1]
Brian D. Josephson [2] and Fotini Pallikari-Viras

"The perception of reality by biosystems is based on different, and in certain respects more effective principles than those utilised by the more formal procedures of science. As a result, what appears as random pattern to the scientific method can be meaningful pattern to a living organism. The existence of this complementary perception of reality makes possible in principle effective use by organisms of the direct interconnections between spatially separated objects shown to exist in the work of J.S. Bell.

1. INTRODUCTION

Bell (1, 2) [4] has given arguments that appear to demonstrate the existence of direct interconnections between spatially separated objects. But at the same time there are

arguments (4-6) that appear to show that no real physical manifestations of these interconnections actually exist. The thesis developed in this paper is that it is only from the point of view of quantum mechanics that these connections appear to be unphysical, and that there is a different, complementary point of view, one associated specifically with the activities of living organisms, in terms of which the interconnections may be very concretely real, and capable of being put to practical use."

Paper published in Foundations of Physics, Vol. 21, pp. 197-207, 1991, (c) Plenum Press.

My 1996 qualitative proposal decribed by Michael Towler above in his Cavendish Laboratory course on Bohm's ideas was followed by the first mathematical breakthrough for post-quantum mechanics in in a 2002 paper by Antony Valentini who had attended a lecture by Josephson on this idea at Cambridge.

Subquantum Information and Computation

https://arxiv.org/abs/quant-ph/0203049
Antony Valentini

Abstract: "It is argued that **immense physical resources - for nonlocal communication, espionage, and exponentially-fast computation** - are hidden from us by quantum noise, and that this noise is not fundamental but merely a property of an equilibrium state in which the universe happens to be at the present time. It is suggested that 'non-quantum' or nonequilibrium matter might exist today in the form of relic particles from the early universe. **We describe how such matter could be detected and put to practical use. Nonequilibrium matter could be used to send instantaneous signals, to violate the uncertainty principle,** to distinguish non-orthogonal quantum states without disturbing them, **to eavesdrop on quantum key distribution, and to outpace quantum computation (solving NP-complete problems in polynomial time).**
…

Outpacing Quantum Computation

Quantum theory allows parallel Turing-type computations to occur in different branches of the state vector for a single computer [24]. However, owing to the effective collapse that occurs under measurement, **an experimenter is able to access only one result; the outputs of the other computations are lost**. Of course, by clever use of entanglement and interference, one can make quantum computation remarkably efficient for certain special problems. But in general, **what at first sight seems to be a massive increase in computational power is not, in fact, realised in practice.**

All the results of a parallel quantum computation could be read, however, if we had access to nonequilibrium matter with a very narrow distribution. ...
We have argued that immense physical resources are hidden from us by quantum noise, and that we will be unable to access those resources only for as long as we are trapped in the 'quantum heat death' – a state in which all systems are subject to the noise associated with the Born probability distribution $\rho = |\psi|^2$.

It is clear that hidden-variables theories offer a radically different perspective on quantum information theory. In such theories, a huge amount of 'subquantum information' is hidden from us simply because we happen to live in a time and place where the hidden variables have a certain 'equilibrium' distribution. As we have mentioned, nonequilibrium instantaneous signals occur not only in pilot-wave theory but in any deterministic hidden-variables theory [15, 16]. And in pilot-wave theory at least, **we have shown that the security of quantum cryptography depends on our being trapped in quantum equilibrium; and, that nonequilibrium would unleash computational resources far more powerful than those of quantum computers.**

Some might prefer to regard this work as showing how the principles of quantum information theory depend on a particular axiom of quantum theory – the Born rule $\rho = |\psi|^2$. (One might also consider the role of the axiom of linear evolution [25, 26].)

But if one takes hidden-variables theories seriously as physical theories of Nature, one can hardly escape the conclusion that we just happen to be con- fined to a particular state in which our powers are limited by an all-pervading statistical noise. It then seems important to search for violations $\rho \neq |\psi|^2$ of the Born rule [3–7]."

Valentini's slightly flawed but brilliant breakthrough above was followed 13 years later by Roderick Sutherland's[25] 2015 equally brilliant paper which implicitly corrects a conceptual error in Valentini's 2002 by showing that an unobservable a "sub-quantum" level is not needed any more that a mechanical aether was needed in Einstein's special relativity. The non-equilibrium matter involves classical statistical mechanics and thermodynamics when pushed into the Frohlich coherent phase described below.[26]

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[25] Sutherland was able to accomplish this major advance because he made enough money in the stock marked to free himself from academic duties and to focus full time on Bohm's ideas that have been considered to be shady by the physics establishment who accept Bohr's actually new age mystical ideas about quantum mechanics with miraculuous "actualizations" like theology's "Word made flesh."

Lagrangian Description for Particle Interpretations of Quantum Mechanics

-- Entangled Many-Particle Case

https://arxiv.org/abs/1509.02442
Roderick Sutherland

Abstract: "A Lagrangian formulation is constructed for particle interpretations of quantum mechanics, a well-known example of such an interpretation being the Bohm model. The advantages of such a description are that the equations for particle motion, field evolution and conservation laws can all be deduced from a single Lagrangian density expression. The formalism presented is Lorentz invariant. This paper follows on from a previous one which was limited to the single-particle case. The present paper treats the more general case of many particles in an entangled state. It is found that describing more than one particle while maintaining a relativistic description requires the specification of **final boundary conditions as well as the usual initial ones, with the experimenter's controllable choice of the final conditions thereby exerting a backwards-in-time influence**. This **retrocausality** then allows an important theoretical step forward to be made, namely that it becomes possible to dispense with the usual, many-dimensional description in configuration space and instead revert to a description in spacetime using separate, single-particle wavefunctions. ... This paper focuses on interpretations of quantum mechanics in which the underlying reality is taken to consist of particles have definite trajectories at all times

It then enriches the associated formalism of such interpretations by providing a Lagrangian description of the unfolding events. The convenience and utility of a Lagrangian formulation is well-known from classical mechanics. The particle equation of motion, the field equation, the conserved current, **action-reaction**, the energy-momentum tensor, etc., are all easily derivable in a self- consistent way from asingle expression. These advantages continue in the present context. Since a Lagrangian description is available in all other areas of physics and continues to be useful in modern domains such as quantum field theory and the standard model, it is appropriate to expect such a description to be relevant and applicable here as well1.

In addition to the advantages already listed, the Lagrangian approach pursued here to describe particle trajectories also entails the natural inclusion of an accompanying field to influence the particle's motion away from classical mechanics and reproduce the correct quantum predictions. In so doing, it is in fact providing a possible explanation for why quantum behaviour exists at all – in the general case considered here, the particle is seen to be the source of a field which in turn alters the particle's trajectory via self-interaction. ...

[26] Nobel physics Laureate Brian Josephson, who I first contacted in 1963, sent me an email on August 5, 2018 noting the connection of Frohlich coherence to laser cooling technologies. https://en.wikipedia.org/wiki/Laser_cooling#Uses Of course, the big problem for my idea is that of miniaturization. The external pump energy source must be smaller and less expensive than the standard cryogenic apparatus.

20. Discussion and Conclusions

The aim here of formulating a Lagrangian description for a particle interpretation of quantum mechanics has been successfully carried out for the general case of entangled many-particle states under the assumption that the particles have ceased interacting30. The model provides a separate Lagrangian density for each particle in four-dimensional spacetime, thereby avoiding the need to resort to configuration space. Both the availability of a spacetime description and the ability to maintain Lorentz invariance are made possible by incorporating final boundary conditions and retrocausality into the model. The proposed Lagrangian density expression then provides all the usual formalism for answering any question we wish to ask. It provides a clear picture of events at all times, accompanied by field equations, particle equations of motion and conservation of energy and momentum.

The Lagrangian expression nominated in this model seems to be the only one that is consistent with a particle ontology for relativistic quantum mechanics in the many-particle case. Within the non-statistical version of the model, where the Lagrangian density is not accompanied by the joint distribution assumption (54), the particle acts as the source of a field and the particle and field then mutually interact via the particle equation of motion (59) and the relevant field equation, e.g., Eq. (63). However, once the statistical assumption (54) is also included, we obtain the special case corresponding to quantum mechanics. **The particle equation of motion then simplifies to the form of a guidance equation and the source term in the field equation becomes zero, resulting in a retrocausal version of the Bohm model**. This is essentially the same as the "causally symmetric Bohm model" formulated in [10], the only difference being that the earlier presentation was mainly non-relativistic, whereas now the formulation is fully Lorentz invariant (as well as being extended to Lagrangianform). This causally symmetric model reduces back further to the standard Bohm model once a weighted average is taken over the unknown **future boundary conditions** and they are integrated out.

In narrowing to the quantum mechanical case via assumption (54) it should be noted that, although the source term goes to zero, this does not mean that the field becomes zero. The field is still there propagating with the corresponding particle and influencing the particle's trajectory (as in the standard Bohm model) but it is not actually being emitted or absorbed by the particle. If the particle's velocity were to stray away from the value enforced by Eq. (54), there would then be net emission or absorption. In this context, the existence of the field could perhaps be attributed to some **"non-equilibrium"** period in the past or future when the particle's 4-velocity was/will be different from that given by (54). In such a non-equilibrium state, the Born probability rule would also no longer hold, thereby introducing the possibility of new experimental consequences (as has been pointed out previously in the context of the standard Bohm model [20-22]). An interesting topic for further research would be to explore whether the equation of motion (59) presented here tends to restore each particle to the equilibrium state corresponding to quantum mechanics, thereby providing an explanation for the persistence of this special case. Note that the particle's generalised 4-momentum is conserved in this case and so no energy or momentum is exchanged with the field. This does not mean, however, that the particle's 4-velocity is constant, as can be seen from expression (83) for the generalised 4-momentum derivable from the Lagrangian density. This definition allows the 4-velocity to vary continuously with position via Eq. (55) in such a way that consistency with the quantum mechanical predictions is maintained.

It should also be noted that taking the present step of adding retrocausality into the standard Bohm model introduces a number of improvements into that model. In particular:

1. The model can easily be set in Lorentz invariant form

2. The model becomes local from a spacetime viewpoint

3. A general form of the model can be formulated which is applicable for any wave equation

4. **A configuration space ontology is avoided, with the many-particle case remaining in four- dimensional spacetime**

5. **A separate velocity expression can be provided for each of the n particles in an entangled state**, rather than just a single, overall velocity defined in 3n dimensions

6. The correct statistical correlations can be maintained while employing a separate wavefunction for each particle

7. A physical interpretation can be provided for the negative values of the Klein-Gordon "probability" density [23]

8. A Lagrangian formulation becomes possible

9. Energy and momentum conservation is restored

10. **A source is provided for the guiding field in the more general case**

11. **Action-reaction between the particle and the field is restored in this case.**

Concerning possible future work, although the configuration-space wavefunction for many particles has been successfully excluded from the ontology here, it remains a relevant mathematical function in this model. A more ambitious project for the future might be a formulation expressed in terms of the ontological quantities only and not involving this wavefunction. Finally, a possible application of this model is that it opens an alternative path to quantum gravity by providing a definite, ontological energy-momentum tensor for insertion in Einstein's gravitational field equation. This non-statistical tensor thereby allows the Einstein curvature tensor on the other side of the equation to remain non-statistical and unquantised without introducing any mismatch or inconsistency. A more detailed formulation of this approach can be found in [19].

30 A possible method of generalising this model to the cases of continuing interaction and of creation and annihilation is outlined in Secs. 8 and 9 of [18]."

I now give a brief introduction to the Frohlich coherence effect. I learned about it directly from Herbert Fröhlich at UCSD in La Jolla California 1967 - 68 when he visited Bernd Matthias's superconductivity laboratory.

Classical kinetic theory of gases explains temperature as the random motion of particles. Consider a gas of electrons in a lattice exposed to a resonant electromagnetic pump field. The pump synchronizes the center of mass motions of the electrons suppressing their random motion in the un-pumped thermodynamic equilibrium into a less random more ordered non-equilibrium state. This lowers their effective temperature shielded from the ambient temperature of the environment as the resonant pump power increases to a critical threshold when the BCS phonon binding into Cooper pairs kicks in - as a result we get a macro-quantum coherent room temperature superconductor analogous to a macro-quantum coherent laser beam also in a forced non-equilibirum state. This idea is very general also applies to the negative spin temperature of electric dipoles and magnetic moments and even to anyons in 2D quantum Hall effect devices for topological quantum computing. It also works in all living matter.[viii]

Quantum Coherent-like State Observed in a Biological Protein for the First Time

From the Journal: "Structural Dynamics"
By Catherine Meyers

"So-called Fröhlich condensation, a state in which protein molecules' vibrational modes coalesce at the lowest frequency, was first predicted almost five decades ago, but never experimentally demonstrated until now.

WASHINGTON, D.C., October 13, 2015 – If you take certain atoms and make them almost as cold as they possibly can be, the atoms will fuse into a collective low-energy quantum state called a Bose-Einstein condensate. In 1968 physicist Herbert Fröhlich predicted that a similar process at a much higher temperature could concentrate all of the vibrational energy in a biological protein into its lowest-frequency vibrational mode. Now scientists in Sweden and Germany have the first experimental evidence of such so-called Fröhlich condensation.

The researchers made the condensate by aiming terahertz radiation at a crystallized protein extracted from the white of a chicken egg. They report their results in the journal Structural Dynamics, from AIP Publishing and the American Crystallographic Association.

"Observing Fröhlich condensation opens the door to a much wider-ranging study of what terahertz radiation does to proteins," said Gergely Katona, a senior scientist at the University of Gothenburg in Sweden. Terahertz radiation occupies the space in the electromagnetic spectrum between microwaves and infrared light. It has been proposed as a useful tool in applications ranging from airport security to cancer screening, but its effects on biological systems remains murky.

Katona said he is interested in studying how terahertz-induced Fröhlich condensation could change the rates of reactions catalyzed by biological enzymes or shift chemical equilibria. Such knowledge could lead to medical applications or new ways to control chemical reactions in industry, but Katona cautioned that the research is still at a fundamental stage.

As far as the safety implications for terahertz radiation, Katona said that the jury is still out. The effects he and his team observed are reversible and last only for a short time, he added."

Herbert Fröhlich and F. Kremer Coherent Excitations in Biological Systems (Springer-Verlag, 1983)

It turns out that the kind of action-reaction that Sutherland describes emerges above the critical Frohlich pump power level for the non-equilibrium phase transition into the macro-quantum coherent state. This is the kind of "non-equilibrium" matter Valentini was searching for. All he had to do is look in the mirror for such matter in which locally decodable keyless entanglement signaling happens even back from the future. This explains brain experiments such as:

"Feeling the future: experimental evidence for anomalous retroactive influences on cognition and affect"

Bem DJ1.; J Pers Soc Psychol. 2011 Mar;100(3):407-25. doi: 10.1037/a0021524.

Abstract

"The term psi denotes anomalous processes of information or energy transfer that are currently unexplained in terms of known physical or biological mechanisms. Two variants of psi are precognition (conscious cognitive awareness) and premonition (affective apprehension) of a future event that could not otherwise be anticipated through any known inferential process. Precognition and premonition are themselves special cases of a more general phenomenon: the anomalous retroactive influence of some future event on an individual's current responses, whether those responses are conscious or nonconscious, cognitive or affective. This article reports 9 experiments, involving more than 1,000 participants, that test for retroactive influence by "time-reversing" well-established psychological effects so that the individual's responses are obtained before the putatively causal stimulus events occur. Data are presented for 4 time-reversed effects: precognitive approach to erotic stimuli and precognitive avoidance of negative stimuli; retroactive priming; retroactive habituation; and retroactive facilitation of recall. The mean effect size (d) in psi performance across all 9 experiments was 0.22, and all but one of the experiments yielded statistically significant results. The individual-difference variable of stimulus seeking, a component of extraversion, was significantly correlated with psi performance in 5 of the experiments, with participants who scored above the midpoint on a scale of stimulus seeking achieving a mean effect size of 0.43. Skepticism about psi, issues of replication, and theories of psi are also discussed."

Ontological determinism, non-locality, quantum equilibrium and post-quantum mechanics

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Abstract

In this paper, we extend our previous discussion on ontological determinism, non-locality and quantum mechanics to that of Sarfatti's post-quantum mechanics (PQM) perspective. We examine the nature of quantum equilibrium/non-equilibrium and uncertainty following Sarfatti's description of this theoretical development, which serves "to extend the statistical linear unitary quantum mechanics for closed systems to a locally-retrocausal, non-statistical, non-linear, non-unitary theory for open systems." [20,21] We discuss how the Bohmian quantum potential has a dependence upon the position of its Bell 'beable' and how Complexity mathematics "describes the self-organizing feedback between the quantum potential and its beable allowing nonlocal communication." [20, 21]

1 Introduction

Our previous paper [1] reviewed the "measurement" problem in quantum mechanics. It followed our earlier paper, "The Fundamental Importance of Discourse in Theoretical Physics" [2], which paid especial attention to the arguments of John S. Bell, particularly those dealing with Bohr's "debate" with Einstein on the language and meaning of quantum mechanics. This previous paper entered into a more technical treatment of non-locality as well as demonstrating that even where quantum mechanics is deterministic, this is not an ontological necessity; this treatment came from a point of view that can be called a Bohmian perspective. This perspective, named after its inventor, David Bohm, takes the view that the positions of particles constitute the primitive variables and thus the primary ontology. These particles are therefore 'beables' in Bell's sense.

The formulation of this perspective does not involve the notion of quantum observables, as given by self-adjoint operators [3], however, the predictions of this perspective concerning the results of a quantum experiment (provided it is assumed that prior to the experiment the positions of the particles in the system are distributed according to Born's Law) are the same as the predictions of a quantum formalism. At the heart of this ontology is Smoluchowski's question [4] 'How can randomness arise, if all events are reducible to deterministic laws of nature? '. Within the Bohmian perspective, one can resort to Boltzmann-Gibbs ensemble definitions of typicality and Quantum Equilibrium [5].

In this paper, we wish to follow Sarfatti's framework and in his words, "extend our discussion to how the Bohmian quantum potential has a dependence upon the position of its Bell 'beable' and how Complexity mathematics describes the self-organizing feedback between the quantum potential and its beable allowing nonlocal communication. The first stage of this discussion is to examine quantum equilibrium and thus by extension quantum non-equilibrium." [20,21]

The main reason that the Bohmian perspective was initially so compelling to us was there were ontological similarities to other areas of our work, namely, the search for an explanation of why fractal structures seemed to be everywhere within nature. Fundamental to this search was Bak's Self Organised Criticality (SOC), far-from-equilibrium systems, and the notion that smaller scale mechanisms were the drivers for larger scale observable behaviors. SOC can be defined as scale invariance without external tuning of a control parameter, but with all the features of the critical point of an ordinary phase transition and, in particular, long range spatiotemporal correlations. Fractal structures are associated with power laws and scaling and therefore can possibly be used as a predictive instrument for looking at 'real life' systems such as financial markets [6,7,8,9]. However, there appears to be a major problem with this notion: it doesn't work. What we see in real systems are crashes that are more frequent and more extreme than we would expect (Sornette's 'outliers' See: [9]). Together with this unexpected deviation from predicted values, there is some confusion within the area of study of financial 'crash' systems. Many of the publications under the name of Complexity have little to do with the mathematical techniques of Complexity Science [10,11] and more to do with grafting on the Complexity 'label' to micro- and macro-economic studies [12]. Our conclusion drawn from our previous work undertaken in Quantum Mechanics and Complex systems (see for example [13]), is that there must be a secondary driving mechanism underlying the SOC behavior we see in these real systems: as Sarfatti has recognized, that of "Frohlich Pumping."[20,21]

In this current paper, therefore, we wish to lay the framework for a formalism that is inclusive of quantum equilibrium and quantum disequilibrium but also to allow this framework to be a stepping stone which will enable us to garner additional tools to study larger scale 'real life' systems: particularly those of financial institutions. The reason for this particular approach is that global financial crises have precipitated an increasing awareness of the necessity of obtaining a systematic perspective of financial stability. Therefore, a fundamental question for policymakers is how to shape policy in the light of emerging financial risks. For example, how do financial institutions, such as banks shape systematic risk and how does their concentration, connectivity, cross-capitalization and diversification contribute to stability? Our starting point will be to examine and develop such a framework from the basis of a "pumped, non-equilibrium, Frohlich coherent system" [20,21] that, in turn, leads to characteristic fingerprint behaviors.

CHAPTER 8

Contact with Time Travellers

"You now face a new world, a world of change. The thrust into outer space of the satellite spheres and missiles mark a beginning of another epoch in the long story of mankind. In the five or more billions of years the scientists tell us it has taken to form the earth, in the three or more billion years of development of the human race, there has never been a more abrupt or staggering evolution. We deal now, not with things of this world alone, but with the illimitable distances and as yet unfathomed mysteries of the universe. We are reaching out for a new and boundless frontier. We speak in strange terms: of harnessing the cosmic energy; of making winds and tides work for us; of creating unheard synthetic materials to supplement or even replace our old standard basics; to purify sea water for our drink; of mining the ocean floors for new fields of wealth and food; of disease preventatives to expand life into the hundreds of years; of controlling the weather for a more equitable distribution of heat and cold, of rain and shine; of spaceships to the Moon; of the primary target in war, no longer limited to the armed forces of an enemy, but instead to include his civil populations; **of ultimate conflict between a united human race and the sinister forces of some other planetary galaxy;** of such dreams and fantasies as to make life the most exciting of all time." General MacArthur

http://www.americanrhetoric.com/speeches/douglasmacarthurthayeraward.html

USS Nimitz UFO incident

Date: November 14, 2004; Location: Pacific Ocean

Warp Star Gate Time Machine "Tic Tac" Model

"The USS Nimitz UFO incident refers to a 2004 Radar-Visual encounter of an unidentified flying object by US fighter pilots of the Nimitz Carrier Strike Group. In December 2017, infrared footage of the encounter was released to the public.

Prior to the incident, early November 2004, the Ticonderoga-class guided missile cruiser USS Princeton, part of Carrier Strike Group 11, had been tracking mysterious aircraft intermittently for two weeks on an advanced AN/SPY-1B passive radar.

When the same event occurred again around 12:30 EST on 14 November 2004, an operations officer aboard Princeton contacted two airborne US Navy jet fighters from USS Nimitz. The first fighter aircraft was piloted by Commander David Fravor, commanding officer of Strike Fighter Squadron 41, assisted by his weapon systems officer (WSO) in the back seat. Lieutenant commander Jim Slaight was aboard the second jet which was serving in the role as a wingman. The officers were training aboard two FA-18F Super Hornets in a routine combat exercise.

Princeton's radio operator first asked the AWACS of the Carrier Airborne Early Warning Squadron 117, which was assisting the two F-18s in their training, to guide them to intercept the unknown aircraft. But as the radar of the Grumman E-2 Hawkeye failed to acquire the target except for an unusable faint plot, Princeton's radio operator directly instructed the pilots to change their course and investigate the unidentified radar spot observed by Princeton's own radar. Princeton's radio operator further asked the pilots if they were carrying operational weapons; they replied that they were not.

The weather conditions for that day showed excellent visibility with a blue sky, no cloud cover, and a calm sea. When the jet fighters arrived on site, the crew of four saw nothing in the air nor on their radar. Looking down at the sea, however, they noticed a turbulent oval area of churning water with foam and frothy waves "the size of a Boeing 737 airplane" with a smoother area of lighter color at the center, as if the waves were breaking over something just under the surface. A few seconds later, they noticed an unusual object hovering with erratic movements 50 feet above the boiling water. Both Fravor and Slaight later described the object as a large bright white Tic Tac 30 to 46 feet (10 to 14 meters) long, with no windshield nor porthole, no wing nor empennage, and no visible engine nor exhaust plume. According to Fravor "I have no idea what I saw. It had no plumes, wings or rotors and outran our F-18s. But I want to fly one".

Fravor began a circular descent to approach the object, but he claimed the UFO was intentionally avoiding any short-range dogfight radar lock-on with "impossible" maneuvers [not in citation given] that made engagement difficult. As Fravor got closer descending, he reported that the object began ascending along a curved path, maintaining some distance from the F-18, mirroring its trajectory in opposite circles. Fravor then made a more aggressive maneuver, plunging his fighter to aim below the object, but at this point the UFO accelerated and went out of sight in less than two seconds, leaving the pilots "pretty weirded out".

Subsequently, the two fighter jets began a new course to the combat air patrol rendezvous point. "Within seconds" the Princeton radioed the jets that the radar spot had reappeared 60 miles away at the CAP point. According to Popular Mechanics, a physical object would have had to move greater than 2,400 miles an hour to cover the distance in the reported time. The jets went to investigate the new radar location, but "by the time the Super Hornets arrived [...] the object had already disappeared." Both F-18s then returned to Nimitz.

After the return of the first team to Nimitz, a second team took off at approximately 15:00 EST, this time equipped with an advanced infrared camera (FLIR pod). This

camera recorded an evasive unidentified aerial system on video, publicly released by the Pentagon on 16 December 2017 alongside the revelation of the funding of the Advanced Aviation Threat Identification Program."

This footage is known as the 2004 USS Nimitz FLIR1 video. It officially shed some light on a decade-old story that was largely unknown, except for a 2015 second-hand story on FighterSweep.com that, in spite of providing a lot of details, remained unconfirmed at that time.

A second infrared footage, known as the GIMBAL video, has been released by the Pentagon alongside the 2004 FLIR1 footage. Although the media often present the two videos together to illustrate the 2004 USS Nimitz UFO incident, the GIMBAL video is unrelated, filmed at the East Coast of the United States at an unknown date." (https://en.wikipedia.org/wiki/USS_Nimitz_UFO_incident)

This is the smoking gun evidence that supports my 1952 Close Encounter with what claimed to be a time-traveling conscious computer AI on board if not identical with a "flying saucer" from our future. What the cold metallic voice said would happen in "twenty years" did happen and continues to happen with increasing intensity. It was no coincidence that I was asked by agents of USG as early as the 1950s to work on the physics of these craft as well as the consciousness that controls them. It was no coincidence that I was involved in the 1974 CIA operation with Uri Geller at the University of London with David Bohm that got mainstream media attention as the Tic Tac Nimitz incident is getting now. It was no coincidence that I played a key role behind the scenes in President Reagan's decision to create SDI that triggered the downfall of the Soviet Empire in 1989. It was no coincidence that I was invited to the DARPA NASA Star Ship meetings in 2011 where I presented the fundamental Einstein physics of how the Tic Tac type craft fly without needing the enormous amounts of energy that naive calculations predicted.

The physics of consciousness is closely connected to the physics of the time machines from our future that have been interfering in our evolution all along. We are just now beginning to realize the role that destiny plays in quantum mechanics and low power metric engineering that we are witnessing in the flight of the Tic Tac.

See pages 192 - 193 on the physics explaining how the Tic Tac flies.

Back from the Future[27]

"A series of quantum experiments shows that measurements performed in the future can influence the present. Does that mean the universe has a destiny – and the laws of physics pull us inexorably toward our prewritten fate?"

http://discovermagazine.com/2010/apr/01-back-from-future

Einstein was disturbed about the seemingly faster than light "spooky telepathic action at a distance" aka "nonlocality" that quantum entanglement seems to demand in violation of the spirit if not the letter of his classical theory of relativity. We now know that entanglement is completely consistent with relativity because quantum waves are able to propagate two ways in time back from the future to the present as well as forward from the past to the present. The entanglement between two particles was then explained way back in the late 1940s by the French physicist Oliver Costa de Beauregard in Paris. He called it the 'zig zag' in which random or freely-willed future choices of the settings of detectors of entangled particles determine how they were created in their common past when they interacted. It works both ways in time because two quantum systems can also be entangled because they will interact in their common future. We live in a "block universe." It is not only impossible to change the past, it is also impossible to change the future and there is no conflict with free will. What you freely chose at any moment and place cannot be changed even with a time machine. You may try to change something that really happened or will happen, but you will fail unless you jump into a parallel universe.

As soon as quantum entanglement was discovered we wondered why it could not be used to explain telepathy, psychokinesis, voodoo, all sorts of Sorcerer Witch Craft Magick right out of Harry Potter? We know from the CIA experiments of Hal Puthoff and Russell Targ that detailed precognitions are real. Indeed, all our creative intuitions are really precognitions in my opinion of course. So why won't quantum mechanics allow us to use quantum entanglement as a locally decodable command-control-communication channel without needing a supplementary classical signal "key" to unlock the hidden messages that we do easily encode in the patterns of correlations in complex many-particle systems? The explanation is simple, but it can only be understood in David Bohm's reality theory in which there are both quantum information proto-mental pilot waves and classical particles and classical real fields of electromagnetism, strong and weak sub-nuclear and Einstein's gravity. For dead matter in thermodynamic equilibrium the direct "back-reaction" of the classical level particles and fields on their "thoughtlike" pilot waves is too small to notice and in this limit quantum entanglement cannot be used for decodable messaging without a second "key" classical signal. The situation in living matter is a new ball game. There, the Frohlich coherence effect takes over above a critical resonant electromagnetic pump threshold power level, like in a laser, pushing the system far off the incoherent random thermodynamic equilibrium into an ordered coherent alive active matter state. All biological systems obey this rule where the Frohlich pump is from the molecules that provide energy to the rest of the cells. What does this have to do with the flight of the Tic Tac?

Einstein showed in 1915 that real gravity is caused by the direct back-reaction of matter on the space-time fabric called the "geometrodynamic field." Just like in the quantum mechanics of dead matter where the action-reaction principle is violated, so too in

[27] FROM THE APRIL 2010 ISSUE OF DISCOVER MAGAZINE

Einstein's 1905 special relativity Newton's back-reaction constant G is assumed implicitly to be zero and again the action-reaction effect is ignorable. It took Einstein ten years from 1905 to 1915 to get the action-reaction correct in the form of G/c4 where c is the velocity of light. Einstein's field equation tells us how matter warps (curves) four-dimensional space-time

(Space-Time Warp) ~ G/c4(Matter Stress Current Density)

Space-Time in vacuum is too stiff to bend because the speed of light is too fast and it occurs to the fourth power in the denominator. You need to understand high school algebra and elementary calculus of limits to properly understand this important idea. However, and here is the trick that the conscious AI post-quantum computer piloting the Tic Tac taught me in 1952 (sub-consciously of course) "make c small." Qabalist Carlos Suares in Paris in 1973-4 reinforced that message from the future when he said "Jack, you will smash the wall of light when you come into your power with the woman and the child."

Carlo Suares met the physicists Jack Sarfatti and Fred Alan Wolf in Paris in 1973 and gave them lessons in his metaphysical ideas. Suares records these meetings in his book The Sepher Yetsira (Shambhala 1976). Sarfatti and Wolf are major figures in MIT physics professor David Kaiser's award-winning book, How the Hippies Saved Physics. Suares's idea to "smash the wall of light" influenced Sarfatti's ideas on post-quantum physics.

https://en.wikipedia.org/wiki/Carlo_Suarès

We now know that nano-engineered stacks of 2D lattices of electrically charged quantum dot networks forming a "meta-material" at different scales like Russian dolls one inside the other will force the speed of light c down to practically zero for different choices of resonant wavelengths and frequencies of the input Fröhlich pump applied electromagnetic fields. This is the kind of material that will be found in the Tic Tac. It is the kind of material found in crashed flying saucers like in Roswell, New Mexico in 1947. Don't believe the "fake news" from disinformation agents that none of this is real.

Of course, that's up to you. The electromagnetic pump imposes coherent order on the random motions of the particles effectively lowering their local interior temperatures relative to the outside ambient environment. This damps down the usual decoherence collisions and allows the super-conducting phase to emerge. The 2D lattices also form topological "anyon" nonlocal quantum computing systems in addition to the more usual local "Cooper pairs" in which crystal vibrations cause electrons to form entangled pair bound states that form a coherent "Bose-Einstein Condensate" (BEC). Einstein's "metric engineering" (Hal Puthoff's term) equation is now

Warp Factor ~ [G (Frohlich Pump Resonance)/c4] Matter

where the (Fröhlich Pump Resonance) is a pure number that gets very large at the resonant wavelengths and frequencies of the applied electromagnetic field to the layered meta-material.[28] This makes the space-time inside the material very soft and easy to bend for even tiny amounts of applied power flux densities. The resulting huge warp factors inside the meta-material fuselage of the Tic Tac (and the flying saucers)

[28] The Fröhlich amplification factor also causes the PQM backactivity on the mental pilot waves that cause our conscious experiences as explained in more detail by John Walker below.

then distort the surrounding space-time in a boundary layer. In this way, the Tic Tac simply freely floats or glides along the weightless "grooves" in the geometrodynamic field (aka "timelike geodesics"). What looked like an impossibly large g-force high-speed sharp turn to US Naval Commander Fravor in his jet fighter in November 2004 off the coast of San Diego, California is locally felt as weightlessness inside the Tic Tac.

Here is the abstract of my invited paid-for 2011 paper from General Pete Worden USAF ret to the NASA-DARPA Starship meeting in Orlando. Notice my mention of "meta-materials" which are also allegedly mentioned in classified "Tic Tac" DOD reports I do not yet have access to.

Is Low Power Warp Drive Possible?

Breaking the Space-Time Stiffness Barrier

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Abstract

All conventional forms of spacecraft propulsion are unlikely to motivate large-scale private capital because the time scales for interstellar travel even to the nearest exo-planet are simply too long for practical commerce, the habitat problems are likely to be too difficult, and the cost in our declining world economy on the brink of financial if not environmental collapse in 2011 appear to be too great. Recent discoveries in the slowing of the speed of light in Bose-Einstein condensates and the negative electric permittivity and magnetic permeability in metamaterials suggests a low power speculative possibility for warp drive based on Einstein's orthodox field equation for gravity coupled to the electromagnetic field. Suppose we can slow down the speed of light to 3 cm/sec keeping the magnetic response χ_B close to 1 with an *anti-gravitating* non-propagating negative near field low frequency negative dielectric response susceptibility χ_E. Therefore, since c scales as the inverse square root of χ_E yielding a dimensionless amplification of the repulsive anti-gravity field of perhaps as much as order of the cube of $\chi_E \sim 10^{60}$. This would break the space-time stiffness barrier to low power warp-wormhole technology. This conjecture is entirely new and needs further investigation.

Keywords: warp drive, wormholes, metamaterials, dark energy, slow light

Flying Saucers Explained

by John Walker

31st August 1997

Prologue

Suppose that we find no radio messages traveling through space, transmitted by extraterrestrial civilizations for our enlightenment. Suppose that we fail to find traces of life anywhere outside our own planet. What then would be the minimum modifications that would have to be imposed upon terrestrial life to enable us to make good nature's lack? Now that genetic engineering is rapidly becoming a practical proposition, it is not absurd to think of redesigning terrestrial creatures so as to make them viable in space or on other celestial bodies.

-- Freeman Dyson

Introduction

Jack Sarfatti has been exploring a generalisation of David Bohm's ontological interpretation of quantum mechanics, extended so a particle is not just guided by the quantum potential, but, in turn, through *backactivity* modifies the quantum potential field. Backactivity introduces nonlinearity into the evolution of the wave function, much like the bidirectional nonlinear interaction of spacetime and matter-energy in general relativity.

The effects of backactivity are negligible in interactions at the atomic scale; divergences from the predictions of conventional quantum mechanics would be manifest only in systems where quantum coherence occurs at the mesoscopic and macroscopic scale. Sarfatti suggests that this post-quantum backactivity may be involved in various phenomena as follows:

Postulates

1. Life in general, and consciousness in particular, depends upon a backactivity-mediated feedback loop operating on macroscopic quantum structures in the cell. Roger Penrose and Stuart Hameroff have suggested the microtubule as the site of this quantum system, but it may be elsewhere.

   Life, through homeostasis, maintains the far-from-equilibrium quantum machinery necessary for its own existence. Rocks aren't alive because they have no structures which prevent thermal decoherence of the wave function.

   There is, then, an *élan vital*, and it consists of backactivity operating in macromolecular quantum systems assembled within the cell.

2. Backactivity is the missing puzzle-piece needed to unify quantum mechanics and general relativity. Linear quantum mechanics operating in a background spacetime cannot possibly describe the effects of spacetime curvature due to mass-energy or curvature acting on itself. Macroscopic quantum systems employing backactivity may produce strong spacetime curvature or interactions with the zero-point vacuum energy not predicted by orthodox quantum mechanics or general relativity. Per item (1) above, a "macroscopic quantum system employing backactivity" is, necessarily, alive.

3. Development of a comprehensive and consistent post-quantum theory incorporating backactivity may, then, permit development of technologies impossible without such effects, for example:

- Communication across spacelike-separated intervals.
- Faster-than-light travel with an Alcubierre-like "warp drive" without the need for exotic, negative energy, matter.
- Access to the zero-point energy of the vacuum.

If Haisch, Rueda, and Puthoff's suggestion that interaction with the zero-point energy is the source of inertia (as opposed to the Mach/Einstein view that it is caused by the dragging of inertial frames by distant galaxies), then technologies employing backactivity might be able to modify inertia.

I don't know whether these suggestions are correct--nobody does at present, but there's nothing in any of them which seems inaccessible to experiment in the relatively near future. Let's assume calculations are done, predictions are made, experiments are performed, and the experimenters win the Nobel prize, screwing the theorists once again--that backactivity is shown to exist and indeed both accounts for life and permits the unification of quantum mechanics and general relativity.

Deductions

So given that, how far does a little deduction get us in answering some of the most puzzling aspects of the UFO phenomenon? Pretty far. I'll explore the issue in a question and answer format, addressing a number of the enigmas posed by the body of UFO reports amassed over the decades.

Why do people report such a bewildering variety of objects?

Because they're living, space-dwelling creatures. Consider the range of creatures which inhabit the Earth's oceans. The ocean of space is immeasurably more vast and deeper than any planetary ocean.

How do they get here?

By using macroscopic coherent quantum systems and backactivity to extract energy from the vacuum and manipulate spacetime to travel faster than light without violating special or general relativity.

What are they doing here?

Mating and/or spawning: they are amphibious. Having evolved from originally planet-bound life, they need the environment of the Earth (matter / gravitational field / etc.) to reproduce, just as toads and other amphibians must return to the water to bear their young.

Why do so many reports involve multiple objects, changing shapes, objects merging and splitting, and large objects emitting a number of small ones, often different in appearance? That doesn't sound like a spaceship to me.

Indeed it doesn't. But it sounds precisely like the courtship, mating, and reproduction behaviour observed in a multitude of terrestrial species. Many species have one or more juvenile forms with different morphology than the adult.

Why do their actions appear so pointless and seemingly random?

Because they (or the vast majority of them) aren't intelligent. Hermit crabs, starfish, and

sea urchins don't show much evidence for intelligence either as they go about their business making little crabs, starfish, and sea urchins.

Why do so many reports come from lone observers in places like Hogwallow, Alabama at 3 A.M., as opposed to, say, above the Transamerica Pyramid during the San Francisco evening commute?

Because, like many terrestrial species, they prefer secluded surroundings to mate and bear their young. Ten or twenty F-16 interceptors buzzing around can get anybody out of the mood. Besides, large cities cover a minuscule fraction of the Earth's surface, so even if the objects appear totally at random, most will still be in isolated regions.

How do they perform those impossible maneuvers? Wouldn't any physical object be torn apart by such accelerations?

The same post-quantum effects which provide energy and propulsion permit control over inertia. As you bend spacetime in the direction of travel, you create a locally flat region (or whatever acceleration you prefer) around the ship. (Or perhaps an interaction with the zero-point energy permits suppressing some or all of the inertia.)

What with thousands of well-documented reports by highly credible witnesses of intrusion into airspace in countries around the globe, how can their respective Air Forces be uninterested in the phenomenon?

Statements on the UFO phenomenon by the military in Canada, Britain, the United States, Australia, and a number of other countries have indicated that "investigation has discovered no evidence that UFOs pose any potential threat to national security". An interesting turn of phrase, that. The navies of these countries do not occupy themselves investigating sightings of dolphins, seals, and tuna intruding into their territorial waters, either. Why? Because those ocean lifeforms equally pose no threat to national security.

Then if governments have learned enough about UFOs to determine they pose no threat, why has the information been withheld from the general public?

Because propellant free, faster than light, vacuum energy powered travel, and control over inertia would each, by itself, be a discovery with strategic implications dwarfing anything in the modern era. Research would, then, be conducted in secret precisely as nuclear weapons research has been. The research projects have gotten nowhere because, (1) The creatures may die if they don't return to their natural vacuum environment (for example, the vacuum energy release may not work in the Earth's gravitational field, so they have to operate on reserves ("energy fat") while procreating). Once the animal dies, its mechanisms decohere and cease to function. and/or (2) Without a theoretical understanding of post-quantum backactivity and its consequences, understanding how the energy production and propulsion operate is as hopeless as trying to understand the mechanisms of terrestrial life without any knowledge of chemistry. Thus, research projects are conducted in the strictest secrecy, but since little or no progress is being made in understanding the underlying theory, they are restricted to taxonomy and gross anatomy, resulting in a very small project which is more likely to remain secret over a long period of time.[ix]

Website: http://www.elfis.net/elfol7/e7jwufoexplnd.htm

The time travel technology implicit in the Tic Tac machine means that the advanced intelligence is able to create and control traversable wormhole Star Gates with small amounts of energy. The basic physics here was dramatized in the movie Interstellar whose special effects were computed with real physics.

Gravitational Lensing by Spinning Black Holes in Astrophysics, and in the Movie Interstellar

Oliver James[1], Eugénie von Tunzelmann [1], Paul Franklin[1] and Kip S Thorne[2]

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Abstract. Interstellar is the first Hollywood movie to attempt depicting a black hole as it would actually be seen by somebody nearby. For this, our team at Double Negative Visual Effects, in collaboration with physicist Kip Thorne, developed a code called DNGR (Double Negative Gravitational Renderer) to solve the equations for ray-bundle (light-beam) propagation through the curved spacetime of a spinning (Kerr) black hole, and to render IMAX-quality, rapidly changing images. Our ray-bundle techniques were crucial for achieving IMAX-quality smoothness without flickering; and they differ from physicists' image-generation techniques (which generally rely on individual light rays rather than ray bundles), and also differ from techniques previously used in the film industry's CGI community.

This paper has four purposes: (i) To describe DNGR for physicists and CGI practitioners, who may find interesting and useful some of our unconventional techniques. (ii) To present the equations we use, when the camera is in arbitrary motion at an arbitrary location near a Kerr black hole, for mapping light sources to camera images via elliptical ray bundles. (iii) To describe new insights, from DNGR, into gravitational lensing when the camera is near the spinning black hole, rather than far away as in almost all prior studies; we focus on the shapes, sizes and influence of caustics and critical curves, the creation and annihilation of stellar images, the pattern of multiple images, and the influence of almost-trapped light rays, and we find similar results to the more familiar case of a camera far from the hole. (iv) To describe how the images of the black hole Gargantua and its accretion disk, in the movie Interstellar, were generated with DNGR—including, especially, the influences of (a) colour changes due to doppler and gravitational frequency shifts, (b) intensity changes due to the frequency shifts, (c) simulated camera lens flare, and (d) decisions that the film makers made about these influences and about the Gargantua's spin, with the goal of producing images understandable for a mass audience. There are no new astrophysical insights in this accretion-disk section of the paper, but disk novices may find it pedagogically interesting, and movie buffs may find its discussions of Interstellar interesting.

CHAPTER 9

Wikipedia

Websites: http://stardrive.org
https://cornell.academia.edu/JackSarfatti

Jack Sarfatti (born September 14, 1939) is an American theoretical physicist. Working largely outside academia, Sarfatti specializes in the study of quantum physics and consciousness.[n 1] He argues for retrocausality, that mind is crucial to the structure of matter, and that physics—which he calls the "conceptual art of the late 20th Century"—has replaced philosophy as the unifying force between science and art.[n 2][6] Sarfatti's most recent paper on retrocausality in quantum physics has been published by the American Institute of Physics AIP Conference Proceedings, 1841, 040003 where he also claims to be able to explain our consciousness as a simple universal natural phenomenon that will allow us to make conscious nano-electronic AI machines. See "Papers" below.

Sarfatti was a leading member of the Fundamental Fysiks Group, an informal group of physicists in California in the 1970s who, according to historian of science David Kaiser, helped to nurture some of the alternative ideas in quantum physics that today form the basis of quantum information science.[7] [8] Sarfatti co-wrote Space-Time and Beyond (1975) by Bob Toben and Fred Alan Wolf, and has self-published three of his own books, Space-Time And Beyond II (2002), Destiny Matrix (2002), and Super Cosmos (2005).[9] The 1975 Dutton Edition has a "Scientific Commentary" written by Sarfatti that contains the germ of the now fashionable "world as a hologram" "ER = EPR" idea forty years ahead of its time (p. 134, Section H) associates the wormholes of John Wheeler's quantum gravity foam with quantum entanglement (though not on a boundary). Sarfatti wrote of the ER wormhole and the EPR entanglement "this is no accident because I suspect that general relativity and quantum theory are simply two complementary aspects of a deeper theory..." His peer-reviewed earlier paper (1974) "Speculations on the effects of gravitation and cosmology in hadron physics", Collective Phenomena, 1(3), January 1, 1974, pp. 163–167 has a similar idea suggesting a duality between the SU(3) local gauge theory of the strong force and Einstein's classical geometrodynamic field.

Education

Sarfatti was born in Brooklyn, New York to Hyman and Millie Sarfatti.[10] His father was born in Kastoria, Greece, and moved to New York as a child with his family. [11] Raised in the Midwood neighborhood, Sarfatti attended Midwood High School where he was in the All City Chorus and Math Club, graduating in 1956.[12] In Destiny Matrix (2002), Sarfatti wrote that, when he was 13, he received at least one telephone call from a voice that said it was a conscious computer on a spaceship. The voice said he had been identified as "one of 400 bright young receptive minds," and that he would be picked up shortly from his building's fire escape. He and several friends waited, he wrote, but nothing happened. [13] [14]

Sarfatti has also alleged that numismatist and convicted child sex offender Walter H. Breen (who later offered guest workshops sponsored by Sarfatti at meetings of the Physics/Consciousness Research Group at the Esalen Institute in 1976) secured his admission to Cornell University while coordinating Sandia National Laboratories-funded parapsychological research studies of New York City gifted children (so-called "superkids," including Sarfatti and Robert Bashlow) in William Herbert Sheldon's Constitutional Laboratory at Columbia Medical School from 1953 to 1956.[15] The studies allegedly included immersion in New York science fiction fandom, a connection facilitated by Breen.[15]

In 1960, he obtained his B.A in physics from Cornell University, where he was also a lead tenor in the "Cornell Savoyards". Three years later, he published his first paper, "Quantum Mechanical Correlation Theory of Electromagnetic Fields," in Nuovo Cimento, the journal of the Italian Physical Society. He obtained an M.S. in physics in 1967 from the University of California, San Diego before receiving a Ph.D. in the discipline in 1969 from the University of California, Riverside, where he studied under Fred Cummings; his dissertation was "Gauge Invariance in the Theory of Superfluidity."[16] He and Cummings co-wrote a paper, "Beyond the Hartree-Fock Theory in Superfluid Helium," published in Physica Scripta in 1970. [1]

Academic career

From 1967 to 1971, Sarfatti was an assistant professor of physics at San Diego State University. During the 1971-1972 academic year, he held a research fellowship at Birkbeck, University of London, where he worked with David Bohm. [1] He also studied at the Cornell Space Science Center, the UK Atomic Energy Research Establishment, and the Max Planck Institute for Physics in Munich.[12] In 1973 –1974 he conducted research into mini black holes at the International Centre for Theoretical Physics in Trieste.[17] At around this time he decided to leave academia, seeing it as too sterile.

Politics

According to Kaiser, Sarfatti's politics have leaned to the right since the early 1980s, when he became dependent on a cadre of "politically conservative thinkers who were drawn to certain New Age ideas" for research funding following the dissolution of his relationship with Werner Erhard. He endorses the Cultural Marxism conspiracy theory and perceives the majority of faculty at American universities as constituting "the enemy within." In the 1980s, he worked with Lawry Chickering at the Institute for Contemporary Studies, a neoconservative think tank. For over forty years, Sarfatti has maintained a close friendship with conservative talk show host and medical anthropologist Michael Savage. [18]

Fundamental Fysiks Group

The Fundamental Fysiks Group, as they appeared in City Magazine, 1975. Left to right: Jack Sarfatti, Saul-Paul Sirag, Nick Herbert, and Fred Alan Wolf (seated).

Sarfatti became a leading member of the Fundamental Fysiks Group, an informal group of physicists that conducted weekly informal discussions at the Lawrence Berkeley National Laboratory in the 1970s. [19] [20] [21] The group—"very smart and very playful," according to David Kaiser— was founded by Elizabeth Rauscher and included Henry Stapp, Fred Alan Wolf, Nick Herbert, Fritjof Capra, John Clauser, Philippe Eberhard, Saul-Paul Sirag and George Weissman. [22]

Several held academic posts, but others had been left unemployed when the post-war boom in physics ended in 1968–1972. Physics, too, had changed; students were taught little or no philosophy and metaphysics. [23] The Fundamental Fysiks Group, with PhDs in theoretical physics, made names for themselves writing about consciousness, metaphysics and quantum mysticism. [24] [25]

Quantum theory—particularly Bell's theorem and the concept of quantum entanglement —had raised questions about parapsychology and telepathy. [25] Kaiser argues that Sarfatti and the group kept several of these apparently fringe ideas alive. For example, they believed they could develop faster-than-light communication, discussions that led to the no-cloning theorem, which became part of quantum cryptography.[n 3] The group similarly kept Bell's theorem alive, which eventually led to quantum information science. According to historian Robert P. Crease and physicist Alfred Scharff Goldhaber, apart from one brief mention in 1966, Bell's theorem "did not enter mainstream physics textbooks until after the Fundamental Fysiks Group had left its impact."[n 4]

Kaiser writes that there was significant government interest in telepathy and remote viewing. The Central Intelligence Agency and Defense Intelligence Agency set up a program called ESPionage, financing research conducted by the Stanford Research Institute (SRI), where Sarfatti and the Fundamental Fysiks Group became what Kaiser calls its "house theorists."[28] The group became celebrities in San Francisco.[29] City of San Francisco Magazine devoted two pages to them in 1975, shortly after the magazine was acquired by the film director Francis Ford Coppola. The spread included a photograph of Sarfatti, Saul-Paul Sirag, Fred Alan Wolf and Nick Herbert, and discussed them "going into trances, working at telepathy, [and] dipping into their subconscious in experiments toward psychic mobility."[30] In 1979 Sarfatti was featured on the cover of North Beach Magazine. [31] [32]

Jack Sarfatti with Uri Geller in his London Penthouse

In 1974 Sarfatti and the Fundamental Fysiks Group were hired by the Stanford Research Institute to help with its research into Uri Geller. [33] Geller, an Israeli, maintained that he could bend spoons and control watches using only his thoughts. The SRI studies, led by laser physicists Russell Targ and Harold Puthoff, began in November 1972 and resulted in a paper in Nature in October 1974. [34] [35] According to Kaiser, SRI asked Sarfatti and the group to use quantum theory, and specifically Bell's theorem, to explain what Geller appeared to be doing. [36] Joseph Hanlon wrote in New Scientist at the time that the SRI tests had been conducted in a "circus atmosphere," with Geller in control. [34][37]

Sarfatti and Fred Wolf helped to organize a series of tests at Birkbeck College, London, led by John Hasted. [33] On June 21 and 22, 1974, Hasted and Sarfatti joined David Bohm, Arthur Koestler, Arthur C. Clarke, and two of Geller's associates, Ted Bastin and Brendan O'Regan, to watch Geller appear to bend four brass Yale keys and a 1 cm disk, affect a Geiger counter and deflect a compass needle. Hanlon wrote that any good magician could have bent the keys, no matter how closely the observers believed they were watching. [34][38] Sarfatti issued press releases saying he believed Geller had demonstrated psychokinetic ability, statements picked up by Science News and the international media.[39] Hasted, Bohm, Bastin and O'Regan described the experiments in Nature in April 1975. [40],[41]

Physics–Consciousness Research Group

Outside government, groups within the human potential movement were also interested in quantum theory. Werner Erhard, founder of Erhard Seminars Training (EST), moved to the Bay Area and came into contact with Sarfatti and Fred Alan Wolf. In January 1975 Erhard and the physicists formally set up a non-profit think tank, the Physics–Consciousness Research Group, with Sarfatti as president and Saul-Paul Sirag vice-president. [42] Funded by Erhard, they held lectures, published pamphlets, and staged an opera in a Bay Area park about quantum physics and the brain. [43]

Erhard introduced Sarfatti to Michael Murphy of the Esalen Institute in Big Sur, California. In January 1976 Sarfatti and the Physics-Consciousness Research Group gathered there for a month-long conference on physics and consciousness. Sarfatti was the conference's intellectual director and wrote to major figures asking them to address it. Gary Zukav's best-selling The Dancing Wu Li Masters (1979) was organized around his attendance at this conference; he and Sarfatti were roommates in North Beach at the time. The conference apart, the Esalen group held regular workshops on quantum theory, with physicists mixing lectures with yoga and sessions in the hot tubs. [44]

"Exactly when and why Leary began to formulate SMI2LE is unclear. Jack Sarfatti, a physicist who started the Physics/ Consciousness Research Group in Berkeley, claimed that Leary's inspiration came from an unexpected source: General Douglas MacArthur. Leary, Sarfatti said[29], was really MacArthur's 'lovechild.' The general-to-be often danced 'with Leary's mother when Leary was in utero, and Leary's father was an army dentist who supposedly had MacArthur as a patient. 38 And MacArthur, Sarfatti pointed out, made some astonishing prototranshumanist predictions near the end of his life. Tomorrow's cadets, the retired general told West Pointers in 1962, would experience humanity's 'staggering evolution"'as people harnessed "cosmic energy" and created "disease preventatives to expand life into the hundreds of years" and "space ships to the moon." All this was preparation for, MacArthur mused, some final apocalyptic conflict with "the sinister forces of some other planetary galaxy." 39 By Sarfatti's tortuous reasoning, Leary's parents knew MacArthur, Leary had (briefly) attended West Point, and MacArthur spoke about some prototranshumanist ideas, thus sparking Leary's imagination —QED. ... "Besides Leary and Wilson, the workshop featured longevity researchers and advocates from the Bay Area Cryonics Society. Jack Sarfatti and a few other underemployed physicists, intrigued by Leary's confluence of mysticism, space travel, and quantum theories, joined the two-day seminar and supplied their own riffs on Leary's radical technological enthusiasm. Leary continued his association with Sarfatti, and together they attended workshops at the Esalen Institute ("a Cape Canaveral of inner space"), nestled amid Big Sur's rugged beauty. ..."Leary gave a fuller exposition of SMI^{2}LE in Exo-psychology, a book he dedicated to "evolutionary agents, on this planet and elsewhere." 51 Leary mutated his own definition of exo-psychology throughout the book. It was a "Science which Studies the Evolution of the Nervous System in its Larval and post-terrestrial Phases," the "psychology of physics" (Psi Phy), as well as a "theory of Interstellar Neurogenetics." Juxtaposing his ideas with "pre-Einsteinian psychology," Leary claimed that astronautics, astrophysics, genetics, and nuclear science were all research areas with "significance for human destiny in the future." 52 The book goes on to describe the "eight circuits" of the human nervous system and the "twenty-four stages

[29] Leary told me that directly when I stayed a weekend at his Hollywood Hills home with Jenny Stapleton - Jack

of Neural Evolution," which Leary likened to the periodic table. Resembling better-known books, such as Fritjof Capra's The Tao of Physics, Exo-Psychology cited the quantum musings of physicists like Jack Sarfatti and John A. Wheeler while criticizing the cynism of Werner Erhard's est and "puritanical protestant-ethic manipulators" like B. F. Skinner. 53 Overall, Exo-Psychology blended a freewheeling pastiche of ideas from quantum physics and genetics with Vedic, Islamic, and Zen philosophies. Neuropolitics and Exo-Pychology were clear signs that Leary had strayed far from O'Neill's comparatively straightforward ideas, which weregrounded in optimistic yet measured extrapolations of 1970s technology.

— from "Groovy Science: Knowledge, Innovation, and American Counterculture" by David Kaiser, W. Patrick McCray (2016 [2])

Epistemological Letters

The new ideas were not invariably welcome within mainstream academic physics. According to Kaiser, Samuel Goudsmit, editor of the prestigious Physical Review, formally banned discussion of the interpretation of quantum mechanics, drawing up special instructions to referees to reject material that even hinted at the philosophical debate. The new material was distributed instead in alternative media. One such publication was a hand-typed newsletter called Epistemological Letters, published by a Swiss Foundation. Several eminent physicists and philosophers published their material there—including the Irish physicist John Bell, the originator of Bell's theorem—as well as Sarfatti and other members of the Physics-Consciousness Research Group. [45].

Unicorn Preprint Service

Sarfatti and Wolf helped set up the Unicorn Preprint Service, which was financed by Ira Einhorn, an American anti-war and environmental activist. Unicorn distributed articles not published elsewhere. Its list included eminent scholars such as Thomas Kuhn and Gerald Feinberg, though recipients might have had their names added without being asked. [46] The list ended in 1979 when Einhorn was charged with the murder of a former girlfriend. [47]

Space, Time and Beyond

Einhorn arranged for the publication of Space-Time and Beyond: Toward an Explanation of the Unexplainable (1974). The book listed Bob Toben, a school friend of Fred Wolf's, as author, but the physics had been written by Wolf and Sarfatti. It sold 50,000 copies in its first edition and was translated into German and Japanese. Offering what Kaiser called a "hip, New Age guide for the perplexed," it was one of the first of a wave of popular books attempting to explain the "new physics."[48]

Superluminal Communication

In May 1978 Sarfatti filed for a patent for a "faster-than-light quantum communication system," which would be able, he said, to transmit a human voice instantly across vast distances without any possibility of eavesdropping.[49] That there could be no eavesdropping is now a feature of quantum cryptography, which did not exist in 1978; however, like Nick Herbert's FLASH (discussed by Kaiser) that led to the no-cloning theorem, Sarfatti's design did not work because it depended on orthodox quantum theory whose linearity and Born probability rule assumptions forbid such communication between different subsystems of an entangled system. Sarfatti's research in this field has continued and is summarized by John Walker. [50] Sarfatti has introduced a new concept "back activity" nonlinear non-unitary "post-quantum physics," which is to quantum theory as general relativity is to special relativity. Using the work of David Bohm on pilot wave theory (1952) as extended by Yakir Aharonov and most recently by R. I. Sutherland. [51] Sarfatti no longer uses the word "superluminal" which contradicts at least the spirit of Einstein's relativity if not the letter. It has been shown by Huw Price et al,[52] that retrocausal future causes of present effects explains what appears to be superluminal entanglement completely consistent with relativity. The post-quantum back-reaction of Bohm's "hidden variable" (aka "be able" J.S. Bell) on its pilot wave enables effective communication between parts of an entangled whole in violation of the no-signaling theorems of orthodox quantum theory. Post-quantum theory has been shown by Antony Valentini to permit hyper-computation in which P = NP.[53].

Connections with Intelligence Community

Sarfatti's friendship with Lawrence Chickering who was director of the Reagan think tank Institute of Contemporary Studies in San Francisco is documented in Kaiser's book. One also finds "Jack Sarfatti, a theoretical physicist who was a student of Hans Bethe and who worked with several scientists of that generation, reviewed the documents. Sarfatti found that the first four answers offered nothing that might have been considered secret or strategic. However, according to Sarfatti, beginning with question 5 the interview contains important information. In particular, referring to questions 11 - 13 and 15 - 19, Sarfatti believes the information transmitted was privileged, derived from Bohr's contacts with his American colleagues, and would have significantly speeded up the Soviet bomb program."[54] These claims that Bohr revealed secrets to Terletsky have been refuted (not accepted by Sarfatti). [55]

Caffe Trieste, North Beach

Sarfatti's local celebrity in San Francisco continued throughout the 1980s with seminars on physics and consciousness in the Caffe Trieste on Vallejo Street, North Beach. [8][12] In 1993 the novelist Herbert Gold called the café "Sarfatti's Cave," after Plato's cave:

Sarfatti's Cave is the name I'll give to the Caffe Trieste in San Francisco, where Jack Sarfatti, Ph.D. in physics, writes his poetry, evokes his mystical, miracle-working ancestors, and has conducted a several-decade-long seminar on the nature of reality and his own love life to a rapt succession of espresso scholars. He sings Gilbert and Sullivan songs. He suffers tragic reverses among women. He issues ultimatums to the CIA, the

FBI, Werner Erhard, the navy, the KGB, and the Esalen Institute. With ample charm and boyish smiles he issues nonnegotiable demands. He has access to a photocopying machine. It's Jack Sarfatti against the world, and he is indomitable.

One of his soaring theories is that things, which have not happened, yet can cause events in the present…Obviously this has consequences for prediction, the nature of causality, our conceptions of logic…He has published papers in respectable physics journals. His poetry is widely photocopied. His correspondence with the great in several fields is voluminous, recorded on computer disks. Cornell University BA, University of California Ph.D., his credentials are impeccable. Following is a quotation from a lecture given to a San Francisco State University physics seminar on 30 April 1991:

The universe is created by intelligent design but the Designer lives in our far future and has evolved from us …Perhaps all of the works of cultural genius, from the music of Mozart to the physics of Einstein, have their real origin in the future. The genius may be a real psychic channeler whose mind is open to telepathic messages from the future. The genius must be well trained in his or her craft and intellectually disciplined with the integrity of the warrior in order to properly decode the quantum signals from the future. The purpose of our existence would then be to ensure, not only the creation of life on earth, but also the creation of the big bang itself! We obviously cannot fail since the universe cannot have come into existence without us in this extreme example of Borgesian quantum solipsism. Existentialism is wrong because it is an incorrect extrapolation of the old physics. Breton's surrealism, with its Jungian idea of meaningful coincidence, is closer to the truth. This would then be "The Final Secret of the Illuminati" - that charismatic chain of adepts in quixotic quest of their "Impossible Dream" of the Grail. Enough of my subjective vision, now on to the objective physics." pp. 15-16 Bohemia, Herbert Gold ... pp.15 – 16

"*So now I am in the first hour of one of my deaths. The thought made me dizzy. I was reminded of Jack Sarfatti, Ph.D. physicist and reincarnation of the eleventh-century mystic Rabbi Sarfatti…with rapt descriptions of how events from the future cause events in the past."* p.115

Conferences, Stardrive

Sarfatti continued to attend academic meetings. In February 1986 he argued during a meeting at the New York Academy of Sciences that faster-than-light communication was possible using time loops, and said he had tried to persuade the Defense Department to fund the research.[n 5] In 1995 he set up the Internet Science Education Project, with a website, Stardrive,[58] and in the same year he and his brother Michael set up websites for charities in San Francisco, such as the Yerba Buena Center for the Arts and the Hebrew Academy.[59]

In 1999 Sarfatti was appointed by the International Space Sciences Organization, a group set up by Joe Firmage, the Internet entrepreneur, to explore mind-matter issues.[60] Between 2002 and 2005 he self-published three books, Destiny Matrix (2002), Space-Time and Beyond II (2002), and Super Cosmos: Through Struggles to the Stars (2005). [12]

Sarfatti was one of three physicists whose invitations to a conference on de Broglie-Bohm theory—organized in 2010 by Mike Towler of the University of Cambridge's Cavendish Laboratory —were withdrawn. Antony Valentini, another organizer, withdrew invitations from Sarfatti; F. David Peat, David Bohm's biographer; and Brian Josephson, who shared the 1973 Nobel Prize for Physics. According to Times Higher Education (THE), Peat's invitation was withdrawn because he had written about Jungian synchronicity and Josephson's because of his interest in parapsychology. Peat's and Josephson's invitations were restored; THE did not explain why Sarfatti was uninvited. [61]

The former Minister of Interior of Italy, Enzo Bianco, invited Sarfatti to Catania, Sicily in 2014 where he gave a lecture to a packed audience. He also gave a talk at the Savile Club in London in 2015 both can be seen on his YouTube channel.

https://www.youtube.com/watch?v=F0AipdgHRtI&t=127s

Jack Sarfatti La natura della mente CATANIA

https://www.youtube.com/watch?v=pvOwHb6h_I0&t=36s

Sarfatti has attended two workshops of the AAAS on quantum retrocausality in 2006 and 2011 at the University of San Diego directed by Professor Daniel Sheehan of the physics department there. He is scheduled to give a talk there at the third workshop June 15–16, 2016 on "Bohm Pilot Wave Post-Quantum Theory" [3]. The video of this talk is here:

https://vimeo.com/171013596

and on June 27, 2017 he gave a video talk on "The Post-Quantum Mechanics of Conscious AI" at the Quantum Gravity Research Organization in Los Angeles. "Jack Sarfatti stopped by Quantum Gravity Research last week to give a talk on how human consciousness is now easily understood as a natural physical phenomenon. This explanation can be tested with nano-electronic machines that will be at least as conscious as we are. The phenomenon is universal like gravity suggesting that we live in a conscious hologram universe." The above talk was given on June 27, 2017.

AIP Conference Proceedings

Progress in post-quantum mechanics

ABSTRACT

Newton's mechanics in the 17th century increased the lethality of artillery. Thermodynamics in the 19th led to the steam-powered industrial revolution. Maxwell's unification of electricity, magnetism and light gave us electrical power, the telegraph, radio and television. The discovery of quantum mechanics in the 20th century by Planck, Bohr, Einstein, Schrödinger, Heisenberg led to the creation of the atomic and hydrogen bombs as well as computer chips, the worldwide-web and Silicon Valley's multibillion-dollar corporations. The lesson is that breakthroughs in fundamental physics, both theoretical and experimental, have always led to profound technological wealth-creating industries and will continue to do so. There is now a new revolution brewing in quantum mechanics that can be divided into three periods. The first quantum revolution was from 1900 to about 1975. The second quantum information/computer revolution was from about 1975 to 2015. (The early part of this story is told by Kaiser in his book, How the Hippies Saved Physics, how a small group of Berkeley/San Francisco physicists triggered that second revolution.) The third quantum revolution is how an extension of quantum mechanics may lead to the understanding of consciousness as a natural physical phenomenon that can emerge in many material substrates, not only in our carbon-based biochemistry. In particular, this new post-quantum mechanics may lead to naturally conscious artificial intelligence in nano-electronic machines, as well as perhaps extending human life spans to hundreds of years and more.

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Bulletin of the American Physical Society, March Meeting 2018, Los Angeles Session V08: Quantum and Relativistic Frontiers 2:30 PM–5:18 PM, Thursday, March 8, 2018 LACC Room: 153C Sponsoring Unit: DCMP Abstract: V08.00001:

The Meaning of Quantum Mechanics

2:30 PM–2:42 PM

Abstract[30]

Presenter: Jack Sarfatti (Internet Science Education Foundation) The debate over the meaning and completeness of quantum mechanics between Einstein and Bohr has never been settled. David Kaiser describes it in his book "How the Hippies Saved Physics." I will describe some extraordinary recent papers by Huw Price, Roderick Sutherland and others that make David Bohm's 1952 pilot wave "hidden variable theory" completely relativistic replacing nonlocality with local retrocausality especially for complex many-particle entangled systems. The need for configuration space is eliminated by Costa de Beauregard's "zig-zag" used by John Cramer and Yakir Aharonov, and this permits quantum gravity to be reformulated in a simple way. Even more important is that Sutherland's use of the Feynman-Schwinger action principle in Bohm's picture shows how statistical linear unitary quantum mechanics is a limiting case of a deeper non-statistical nonlinear non-unitary post-quantum mechanics. Indeed, the latter's relation to the former is identical to the relation of general relativity to special relativity - both generalized theories use Einstein's action-reaction as the common organizing idea. God does not play dice with the universe in the new post-quantum mechanics.

100 Year Starship Study

In 2010 Sarfatti was among 30 people invited to join a working group, the 100-Year Starship study, financed by the Defense Advanced Research Projects Agency and NASA's Ames Research Center, to discuss how interstellar space flight might be achieved.[62] Sarfatti was invited by Creon Levit of NASA, who told the BBC that Sarfatti is able to discuss unusual ideas without worrying about the effect on his career: "Although his interests and style are outside of the mainstream, he is a fully pedigreed physicist and he knows as much or more than mainstream physicists. When he talks about "warp drives", he knows what he's talking about. He knows he's speculating."[14] Sarfatti met with Hal Puthoff and Christopher "Kit" Green in London Oct 26 - 28 at the Fetzer Foundation funded Bohm Centennial at the University of London. Sarfatti was a Research Fellow with David Bohm at Birkbeck College in the early 1970s where he also helped arrange the tests of Uri Geller by "David Bohm and John Hasted". Hal Puthoff is now actively involved in the analysis of the "2004 "Tic Tac" USS Nimitz Close Encounter" as is Sarfatti. Sarfatti believes that he knows how the Tic Tac flies using the technology of "low power warp drive." Sarfatti's invited paid talk to the 2011 NASA-DARPA Starship is "here". Sarfatti's 2018 book Star Gate Apple Ibooks Store description is: "Update on MIT physics professor David Kaiser's award-winning book "How the Hippies Saved Physics" on the birth of the emerging multi-billion dollar quantum computer/encryption technology back in the 1970s. The author physicist Jack Sarfatti was a major subject of Kaiser's book mentioned hundreds of times. This book updates the story to 2018 about the coming technology of fully conscious quantum computers artificial intelligence. Also included is an introduction to the physics of room temperature superconductivity in living matter generating our consciousness indeed our very souls. A popular introduction to the physics of time travel now observed in the real close encounter "Tic Tac" contact with advanced intelligence from our future by fighter jets from US Navy aircraft carrier Nimitz Battle Group in November 2004 off the coast of San Diego, California concludes the book."

[30] https://www.youtube.com/watch?v=0pv8TNtPTZw

Selected Works

• Toben, Bob (1975). Space-Time and Beyond: Toward an Explanation of the Unexplainable. E.P. Dutton (Toben in conversation with Fred Alan Wolf and Jack Sarfatti). ISBN 978-0-525-47399-2

• (2005). Super Cosmos: Through Struggles to the Stars. AuthorHouse. ISBN 978-1-4184-7662-5

• (2002). Space-Time and Beyond II. AuthorHouse. ISBN 978-1-4033-9022-6

• (2002). Destiny Matrix. AuthorHouse. ISBN 978-0-7596-9689-1

• (2018). Star Gate: Conscious Artificial Intelligence & Time Travel Space Craft. Ibooks Store Apple ID 140622712

Papers

• (2017). "Progress in Post-Quantum Mechanics". AIP Conference Proceedings, 1841, 040003.

• (2012). "Is Entanglement Signaling Really Impossible?", Bulletin of the American Physical Society, 57(1), APS March Meeting 2012.

• (2011). "Retrocausality and Signal Nonlocality in Consciousness and Cosmology", Journal of Cosmology, 14.

• (2011). "Dark Energy and Dark Matter as w = -1 Virtual Particles and the World Hologram Model", Bulletin of the American Physical Society, 56(4), April 2011 meeting.

• with Creon Levit (2009). "The emergence of gravity as a retro-causal post-inflation macro-quantum-coherent holographic vacuum "Higgs-Goldstone field", ArXiv.org, January 2009.

• (2006). "Emergent Gravity: String Theory Without String Theory", ArXiv.org.

• (2004). "Einstein Gravity with Dark Energy and Dark Matter as Sakharov Metric Elasticity", GR17 Dublin 2004: 17th International Conference on General Relativity and Gravitation: Book of Abstracts, p. 181.

• (2004). "Wheeler's World", Developments in Quantum Physics, NOVA Scientific Publishers, pp. 41–84.

• (2003). "Macro-Quantum Origin of Gravity and Quintessence", Bulletin of the American Physical Society, 48(1), p. 832.

• (2002). "Progress in Post-Quantum Physics and Unified Field Theory", in Richard L. Amoroso, et al. (eds.), Gravitation and Cosmology: From the Hubble Radius to the Planck

Scale, Kluwer Academic Publishers, pp. 419–430. See also: https://rd.springer.com/chapter/10.1007/0-306-48052-2_43

• (1998). "Beyond Bohm-Vigier Quantum Mechanics", Causality & Locality in Modern Physics and Astronomy, symposium, August 1997, pp. 403–410.

• (1997) with M. C. Levit. "Are the Bader Laplacian and the Bohm Quantum Potential Equivalent?", Chemical Physics Letters, 281(1–3), December 19, 1997, pp. 157–160.

• (1996). "Is Consciousness a Violation of Quantum Mechanics?", in Stuart R. Hameroff, et al., Toward a Science of Consciousness: The First Tucson Discussions and Debates, MIT Press.

• (1991). "Design for a Superluminal Signaling Device", Physics Essays, 4(3), September 1991, pp. 315–336.

• (1977). "The Case for Superluminal Information Transfer," MIT Technology Review, 79(5), p. 3ff.

• (1977). "Higher Intelligence is Us in the Future," in Timothy Leary (ed.), Spit in the Ocean, Ken Kesey, Fall 1977, No. 3.

• (1976). "Reply to Bohm-Hiley," Psychoenergetic Systems, Gordon & Breach, 2, 1976, pp. 1–8.

• (1975). "Toward a Unified Field Theory of Gravitation and Strong Interactions", Foundations of Physics, 5(2).

• (1975). "The Physical Roots of Consciousness" in Jeffrey Mishlove (ed.), The Roots of Consciousness, Random House, pp. 279–290.

• (1974). "The primordial proton", Physics Today, letters, 27(5), May 1974.

• (1974). "Eightfold way as a consequence of the general theory of relativity", Collective Phenomena, 1(3), pp. 169–172.

• (1974). "Off the Beat: Geller Performs for Physicists," Science News.

• (1974). "The Dirac Equation and General Relativity," Foundations of Physics.

• (1974). "Implications of meta-physics for psychoenergetic systems," Psychoenergetic Systems, 1(1), pp.;3–10.

• (1974). "Speculations on the effects of gravitation and cosmology in hadron physics", Collective Phenomena, 1(3), January 1, 1974, pp. 163–167.

• (1973). "Explanation for the Asymmetry Between Matter and Antimatter in the Visible Universe", International Centre for Theoretical Physics, November 1973.

• (1973). "Regge Trajectories as Rotation Black Holes in Strong Gravity", in H. Frohlich & F.W. Cummings (eds.). Collective Phenomena.

• (1972). "Gravitation, Strong Interactions, and the Creation of the Universe", Nature, letter to the editor, December 4, 1972, pp. 101–102.

• (1971). "On mini black holes," short note in Nature Physical Science.

• (1970) with Fred Cummings and J. S. Herold. "Beyond the Hartree-Fock Theory in Superfluid Bosons," in Physica Scripta, 50(1), November 23, 1970.

• (1969). "Destruction of Superflow in Unsaturated 4He Films and the Prediction of a New Crystalline Phase of 4He with Bose-Einstein Condensation", Physics Letters, 30(5), November 3, 1969, pp. 300–301.

• (1969). "Gauge Invariance in the Theory of Superfluidity", University of California, Riverside, Dissertation Abstracts International, 31-01, Section B, p. 0320.

• (1967). "On the 'type II superconductor' model of self-trapped laser filaments," Physics Letters A, 26(2), pp. 88–89.

• (1967). "A new theory of the superfluid vortex phenomenon", Physics Letters A, 24(7), March 27, 1967, pp. 399–400.

• (1967). "On the nature of the superfluid critical velocity", Physics Letters A, 24(5), February 27, 1967, pp. 287–288.

• (1967). "Laser Self-Focusing Analogue to the Landau-Ginzburg Equation of Type II Superconductivity", Physics Letters.

• with Marshall Stoneham (1967). "The Goldstone Theorem in the Jahn-Teller Effect", Proceedings of the Physical Society of London, 91(1), cited in American Institute of Physics Resource Letter on Symmetry in Physics, 1980 (at Atomic Energy Research Establishment, Harwell, Didcot, Berks).

• (1965). "Atomic relaxation and fluctuations of laser photons", Optical Society of America, 55, April 1965, pp. 455–456.

• (1963). "Quantum-Mechanical Correlation Theory of Electromagnetic Fields," Il Nuovo Cimento, 27(5).

Notes

1. David Kaiser, 2011: "From [Eugene] Wigner and [John] Wheeler, Sarfatti took the point that everyone's consciousness participates in shaping quantum processes, both by deciding which observations to make and by collapsing the multiplying possibilities into definite outcomes. Sarfatti recast Wigner's main argument in terms of action and reaction. Surely matter can affect consciousness ... so why not posit an equal and opposite reaction of consciousness on matter?"[2] David Hodgson, 2005: "[P]hysicist Jack Sarfatti has devised a theory of consciousness and free will based upon Bohm's version of QM [quantum mechanics], or post-QM. Sarfatti's unorthodox work does not yet appear in any book or published article, but it can be found on the internet ..."[3]

2. Paavo T. I. Pylkkänen, 2006: "The physicist Jack Sarfatti, in particular, has emphasized the need for an explanation of how the individual particle influences its own field and has proposed mechanisms for such 'back-action,' also emphasizing, in a very interesting way, its importance in understanding the mind-matter relationship and how consciousness arises (see, for example, Sarfatti (1997)."[4]

Steven M. Rosen, 1994: "A major theme of Tobin, Sarfatti, and Wolf's exposition is that 'all is consciousness.' At every level of organization in the hierarchy of space-time domains, singularities or holes develop at the fringes, destroying the continuity that prevailed in the middle regions. Consciousness is identified as the 'hidden variable' that creates the holes and then fills them, restoring continuity. In the process, the next level of hierarchy is produced. Thus, the secret thread with which plural realities are sewn together is consciousness. ... Therefore, in his opening statement, Sarfatti offers 'the idea that consciousness is at the root of the material universe' (Toben, Sarfatti, and Wolf 1975, p. 126) ..."[5]

3. David Kaiser 2011: "The hippie physicists' concerted push on Bell's theorem and quantum entanglement instigated major breakthroughs ... The most important became known as the "no-cloning theorem," a new insight into quantum theory that emerged from spirited efforts to wrestle with hypothetical machines dreamed up by members of the Fund amentalFysiks Group."[26]

4. Robert P. Crease, Alfred Scharff Goldhaber, 2014: "The textbook that briefly mentioned Bell's theorem was Kurt Gottfried, Quantum Mechanics: Fundamentals (W. A. Benjamin, 1966). The first quantum mechanics textbook that Kaiser has found that devotes any attention to Bell's theorem was Sakurai's 1985 textbook Modern Quantum Mechanics, i.e. Bell's theorem did not enter mainstream physics textbooks until after the Fundamental Fysiks Group had left its impact."[27]

5. Malcolm W. Browne, New York Times, 1986: "The overwhelming majority of physicists deny the possibility that any form of communication could travel faster than the speed of light. But one physicist at the New York meeting, Dr. Jack Sarfatti of San Francisco, said that he not only believes that faster-than-light communication is possible by means of time loops, but that he is trying to attract backing from the Defense Department in developing a practical faster-than-light system."[57]

References

1. Stephen Schwartz, "The Universe, As Seen from North Beach", San Francisco Chronicle, August 17, 1997, p. 5.

2. David Kaiser, How the Hippies Saved Physics: Science, Counterculture, and the Quantum Revival. W. W. Norton & Company Inc, 2011, p. 65.

3. David Hodgson, "Quantum Physics, Consciousness and Free Will," in Robert Kane (ed.), The Oxford Handbook of Free Will, Oxford University Press, 2005, p. 110, n. 4.

4. Paavo T. I. Pylkkänen, Mind, Matter and the Implicate Order, Springer Science & Business Media, 2006, p. 37.

5. Steven M. Rosen, Science, Paradox, and the Moebius Principle, State University of New York Press, 1994, p. 143.

6. Kaiser 2011, p. 65; Michael Talbot, Mysticism and the New Physics, Penguin, 1993, pp. 2, 65.

Jack Sarfatti, "Retrocausality and Signal Nonlocality in Consciousness and Cosmology", Journal of Cosmology, 14, 2011.

For "Conceptual Art," Alex Burns, "Jack Sarfatti: Weird Science", 21C magazine, 1996. For physics replacing philosophy, Schwartz 1997, p. 1.

7. Kaiser 2011, p. xxiiiff; David Kaiser, "Lecture: How the Hippies Saved Physics", WGBH PBS, April 28, 2010 (hereafter Kaiser 2010), from 04:00 mins, particularly from 11:00 mins.

Hugh Gusterson, "Physics: Quantum outsiders", Nature, 476, 278–279, August 18, 2011.

8. George Johnson, "What Physics Owes the Counterculture", The New York Times, June 17, 2011.

9. For Sarfatti's authorship of Space-Time and Beyond, Kaiser 2011, p. 136; Rosen 1994, p. 141; also see Kaiser 2010, from 23:22 mins.

10. Technology Review, Association of Alumni and Alumnae of the Massachusetts Institute of Technology, 1976, p. 1; Jack Sarfatti, Destiny Matrix. AuthorHouse, 2002, p. 93.

11. Hyman Sarfatti, "My Story: Cosmic Consciousness & Me", Scientific GOD Journal, 5(8), October 2014 (pp. 660–682), pp. 660, 664.

12. Alex Burns, "Jack Sarfatti: Weird Science", 21C magazine, 1996.

13. Sarfatti, Destiny Matrix, pp. 24–27, 95; Kaiser 2011, p. 71.

14. Sharon Weinberger, "100 Year Starship: An interstellar leap for mankind?", BBC, March 22, 2012.

15."Coming Soon". Praxisforlife.org. Retrieved 2014-04-09.

16. For the MS, Schwartz 1997, p. 5; for the PhD, Jack Sarfatt[i], "Gauge Invariance in the Theory of Superfluidity", The Smithsonian/NASA Astrophysics Data System.

17. "If the beer don't get you, then the black holes must," New Scientist, October 18, 1973, p. 165.
For a paper he wrote in Trieste, Jack Sarfatti, "Toward a Unified Field Theory of Gravitation and Strong Interactions", Foundations of Physics, 5(2), 1975.

18. Kaiser 2011, p. 63.

19. H. M. Collins and T. J. Pinch, Frames of Meaning: The Social Construction of Extraordinary Science, Routledge, 2013, p. 189, n. 4.
20. Kaiser 2010, from 24:00 mins.

21. "25th reunion of the Fundamental Physics Group", quantumtantra.com.

22. Kaiser 2010, from 23:22 mins; for Capra's membership, from 45:00 mins, and Kaiser 2011, p. 139.

23. Kaiser 2011, pp. xv–xvi.

24. Max Heirich, "Cultural Breakthroughs", "American Behavioral Scientist", 19(6), July/August 1976 (pp. 685–702), pp. 696–699.

25. Kaiser 2010, from 23:22 mins.

Gary Zukav, The Dancing Wu Li Masters: An Overview of the New Physics, HarperOne, 2001 (first published 1979), p. x.

Martin Gardner and John Archibald Wheeler, "Quantum Theory and Quack Theory", New York Review of Books, May 17, 1979.

Jack Sarfatti, "The Superluminal", The New York Review of Books, September 27, 1979.

26. Kaiser 2011, pp. xiii–xxxv.

27. Robert P. Crease, Alfred Scharff Goldhaber, The Quantum Moment: How Planck, Bohr, Einstein, and Heisenberg Taught Us to Love Uncertainty, W. W. Norton & Company, 2014, pp. 263–264, 304, n. 9.

28. Kaiser 2010, around 28 mins.

For Stanford Research Institute, "The Magician And the Think Tank", Time magazine, March 12, 1973.

29. Kaiser 2011, p. xvii.

30. Kaiser 2011, p. xviii.

31. Kaiser 2011, p. xviii; Sarfatti, Destiny Matrix, p. 117.

32. [1] Sarfatti with Russell Targ on CIA experiments in remote viewing

33. Kaiser 2011, pp. 71–72; Kaiser 2010: Geller from 21:00 mins, Sarfatti's involvement from 23:22 mins.

34. Joseph Hanlon, "Uri Geller and Science," New Scientist, October 17, 1974, pp. 170–185: pp. 178–183 for Stanford Research Institute; p. 180 for "circus atmosphere" and Geller being in control; p. 184 for Birkbeck and Sarfatti.

35. "Investigating the paranormal", Nature, editorial, October 18, 1974; Russell Targ, Harold Puthoff, "Information transmission under conditions of sensory shielding", Nature, 251, October 17, 1974, pp. 602–607. doi:10.1038/251602a0

36. Kaiser 2010, from c. 23:44 mins.

37. Hanlon's view is, however, contradicted here: *http://www.remoteviewed.com/remote_viewing_history_military.htm*

38. J. B. Hasted, The metal-benders, Routledge, 1981, p. 18.

Boyce Rensberger, "Physicists Test Telepathy In a 'Cheat-Proof' Setting; Random Selection", The New York Times, October 22, 1974.

39. Kaiser 2011, p. 72. Sarfatti wrote: "My personal professional judgment as a PhD physicist is that Geller demonstrated genuine psycho-energetic ability at Birkbeck, which is beyond the doubt of any reasonable man, under relatively well controlled and repeatable experimental conditions." Also see Kaiser 2010, from 23:22 mins.

40. J. B. Hasted, et al., News, Nature, 254, April 10, 1975, pp. 470–471. *doi:10.1038/254470a0*

41. Jack Sarfatti, "Retraction on Geller", Science News, 108(23), December 6, 1975, p. 355; Boyce Rensberger, "Magicians term Israeli 'psychic' a fraud", The New York Times, December 13, 1975

42. Kaiser 2011, pp. 15, 298, n. 18.

43. Kaiser 2010, from 28:00 mins.

44. Kaiser 2011, p. 114; Kaiser 2010, from 33:00 mins.

45. Kaiser 2010, from 38:00 mins.

46. Kaiser 2011, pp. 131–138; Kaiser 2010, from 40:00 mins.

47. Kaiser 2011, p. 145.

48. Kaiser 2011, pp. 136–137.

49. Kaiser 2011, pp. 197–202.

50. "Saturday Night Science: Flying Saucers Explained - Ricochet". ricochet.com.

51. Sutherland, Roderick Sutherland, Roderick (February 1, 2017). "Lagrangian Description for Particle Interpretations of Quantum Mechanics -- Entangled Many-Particle Case". Foundations of Physics. 47 (2): 174–207. arXiv:1509.02442 . Bibcode: 2017FoPh...47..174S. doi:10.1007/s10701-016-0043-6.

52. Sutherland, Roderick "Free Will and Retrocausality in the Quantum World". *prce.hu*

53. Sutherland, Roderick Valentini, Antony (August 1, 2002). "Subquantum Information and Computation". Pramana. 59 (2): 269–277. arXiv:quant-ph/0203049 . Bibcode:2002Prama..59..269V. doi:10.1007/s12043-002-0117-1.

54. Sutherland, Roderick Appendix Seven, REPORT ON THE BOHR-TERELETSKY MEETINGS, DOCUMENTS FROM THE RUSSIAN STATE ARCHIVE, SPECIAL TASKS THE MEMOIRS OF AN UNWANTED WITNESS - A SOVIET SPYMASTER, Pavel and Anatoli Sudoplatov with Jerold L and Leona P. Schecter, New Foreword by Robert Conquest (Hoover Institute, Stanford) Updated Edition, pp.483-4, Back Bay Books, Little, Brown and Company 1994 ISBN 0-316-82115-2 (pb).

55. Schecter, Schechter, and Powers. "'Were the Atom Scientists Spies?': An Exchange". www.nybooks.com. New York Review of Books. Retrieved November 11, 2016.

56. Herbert Gold, Bohemia: Where Art, Angst, Love, and Strong Coffee Meet, Simon & Schuster, 1993, p. 15.

57. Malcolm W. Browne, "Quantum Theory: Disturbing Questions Remain Unsolved", The New York Times, February 11, 1986, p. 2

58. Jack Sarfatti, "Progress in Post-Quantum Theory", International Space Sciences Organization, undated.

59. Stephen Schwartz, "Volunteers needed. Brothers help organizations get on information superhighway for free", San Francisco Chronicle, November 20, 1995.

60. Marilee Enge, "Physicist's 'Bohemian' Ways," San Jose Mercury News, August 7, 2000.

Jack Sarfatti, "Progress in post-quantum physics and unified field theory", in Richard L. Amoroso, et al. (eds.), Gravitation and Cosmology: From the Hubble Radius to the Planck Scale, Proceedings of a Symposium in Honour of the 80th Birthday of Jean-Pierre Vigier, Kluwer Academic Publishers, 2002, pp. 419–430.

61. Matthew Reisz, "He didn't see that coming, or did he?", Times Higher Education, April 29, 2010, archive copy.

62. "About", "100 Year Starship Study™ Public Symposium", 100yearstarshipstudy.com. Further reading:

• Stardrive.org, Sarfatti's website.

• Jack Sarfatti, academia.edu.

• Bell, John S. Speakable and Unspeakable in Quantum Mechanics: Collected Papers on Quantum Philosophy, Cambridge University Press, 2004.

• Bohm, David; Hiley, Basil. The Undivided Universe: An Ontological Interpretation of Quantum Theory, Routledge Chapman & Hall, 1993.

• Burns Alex Major biographical article 21C Magazine online

• Capra, Fritjof. The Tao of Physics, Shambhala Publications, 1975.

• Carr, Bernard. "Can Psychical Research Bridge the Gap Between Mind and Matter?", Proceedings of the Society for Psychical Research, 59(221), June 2008.

• [4] Cornell Savoyards 1964 Yeomen of the Guard Sarfatti as Colonel Fairfax

• Chalmers, David. "The Puzzle of Conscious Experience", Scientific American, December 1995, updated 2002.

• CBC. "Hippie Physics", The Current, August 9, 2011 (interview with David Kaiser on Sarfatti and others).

• Davies, Paul. God and the New Physics. Simon & Schuster, 1984.

• Du Tertre, Nancy, How to Talk to An Alien pp 103 – 106, 114 on Jack Sarfatti, Career Press 2016

• Kaiser David, Patrick McCray Groovy Science

• Levenda Peter, Sinister Forces—The Manson Secret: A Grimoire of American Political Witchcraft

* Merali, Zeeya. "Back From the Future", Discover magazine, April 2010.

• Omnès, Roland, Sangalli, Arturo. Quantum Philosophy, Princeton University Press, 2002.

• Picknett, Lynn; Prince, Clive. The Stargate Conspiracy, Berkley, 2001.

• [5] excerpt from book Stargate Conspiracy about Sarfatti

• Sarfatti, Jack. Time Travel: The Art of the Possible, interview with Sarfatti about time travel, 1999.

• The Loungs. "Jack Sarfatti" (song), July 2008.

• Towler, Michael. "Pilot-wave theory, Bohmian metaphysics, and the foundations of quantum mechanics", lectures on David Bohm's Quantum Pilot Wave Theory, University of Cambridge.

• Vallee, Jaqcues. Forbidden Science Volumes 2 & 3 (describes meeting with Sarfatti and Francis Ford Coppola).

• Walker, John Update on Sarfatti's work on post-quantum superluminal/retrocausal communication 2016

• Wisnioski, Matthew. "Let's Be Fysiksists Again", Science, 332(6037), June 24, 2011, pp. 1504–1505.

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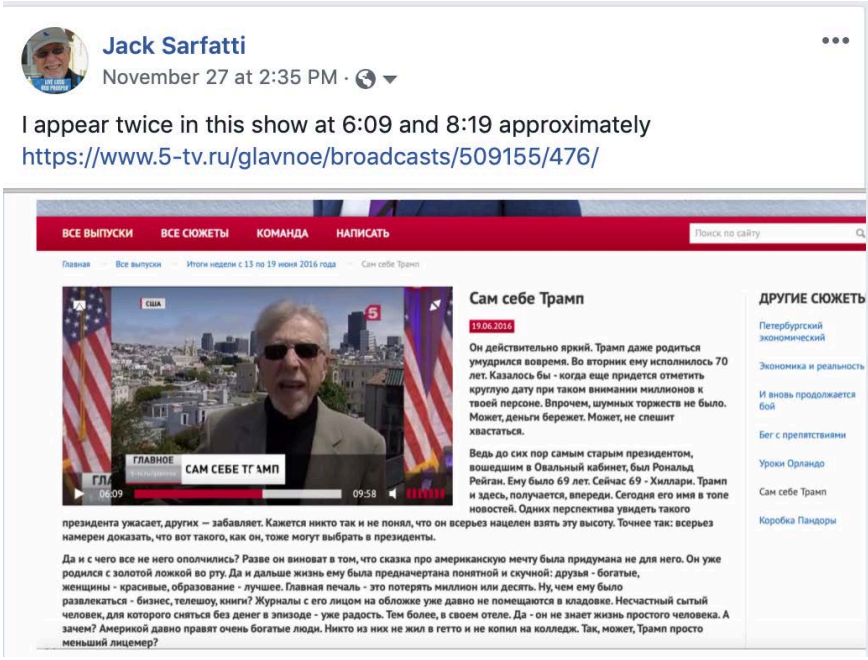
Epilogue

The Russians Come to North Beach, San Francisco

I was contacted by allegedly agents of Putin's FSB about three years ago. They said they were from Channel 5 Saint Petersburg, Russia. They took about two hours video of my talking about the topics above (not the Nimitz Tic Tac of course that had not yet been disclosed). I never heard anything back from them until a week before Donald Trump's 70-year birthday in June 2016 during the campaign. They asked me about what I thought Trump's attitude was about Putin, Crimea, Ukraine, NATO and Syria. I was surprised because they were not asking me about physics. Michael Savage has mentioned my name on his radio show periodically and Trump was interviewed on his show several times. I suspect that was the connection. Also, we see from Chapter 6 I was involved with alleged agents of KGB (Igor Akchurin) when I was working behind the scenes helping to formulate Reagan's SDI with Lawry Chickering, Cap Weinberger Jr and Marshall Naify. The parting remark of the Russian was a strong hint that Putin himself was following my ideas: *"Keep the emails coming Jack. They really like you in Moscow."*

https://www.5-tv.ru/glavnoe/broadcasts/509155/476/?
fbclid=IwAR2JHhn4pqN8jT9XINB63X-62-8VIOxJv2wrMbdRiIqED5yI95nepQiYe-o

Russian Film Crew with me, June 2016.



End Notes

[i] **From:** David Sarfatti
Subject: **Read the paper on Terahertz Pumping of Frohlich Coherence in proteins**
Date: August 5, 2018 at 4:18:24 PM PDT
To: *jacksarfatti@icloud.com*

Available at Gergely Katona's website for download. Absolutely solid science and results are convincing. Response of biological systems to Fröhlich coherence via terahertz pumping can be considered a fact of Nature. And, since there is an ambient level of terahertz radiation all around us, it was probably selected for in Darwinian evolution. Organisms that could respond may be more fit for survival and out-competed those which could not respond. Jack, your realization of how Frohlich coherence underlies PQM and how it is consistent with biological systems is an extraordinary scientific breakthrough of the level of Planck's early insight into QM. In a fair world, you would be considered in the PAM Dirac class of physicists. David https://aca.scitation.org/doi/10.1063/1.4931825

Terahertz radiation induces non-thermal structural changes associated with Fröhlich condensation in a protein crystal

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Whether long-range quantum coherent states could exist in biological systems, and beyond low-temperature regimes where quantum physics is known to be applicable, has been the subject to debate for decades. It was proposed by Fröhlich that vibrational modes within protein molecules can order and condense into a lowest-frequency vibrational mode in a process similar to Bose-Einstein condensation, and thus that macroscopic coherence could potentially be observed in biological systems. Despite the prediction of these so-called Fröhlich condensates almost five decades ago, experimental evidence thereof has been lacking. Here, we present the first experimental observation of Fröhlich condensation in a protein structure. To that end, and to overcome the challenges associated with probing low-frequency molecular vibrations in proteins (which has hampered understanding of their role in proteins' function), we combined terahertz techniques with a highly sensitive X-ray crystallographic method to visualize low- frequency vibrational modes in the protein structure of hen-egg white lysozyme. We found that 0.4 THz electromagnetic radiation induces non-thermal changes in electron density. In particular, we observed a local increase of electron density in a long a-helix motif consistent with a subtle longitudinal compression of the helix. **These observed electron density changes occur at a low absorption rate indicating that thermalization of terahertz photons happens on a micro- to milli-second time scale, which is much slower than the expected nanosecond time scale due to damping of delocalized low frequency vibrations. Our analyses show that the micro-to milli-second lifetime of the vibration can only be explained by Fröhlich condensation, a phenomenon predicted almost half a century ago, yet never experimentally confirmed.**

[ii] David Green wrote: What I've always loved best about Jackie is that he truly lives the concept of the expanding universe.

Now you can take that simply as a pleasant metaphor, but when you examine the trajectory of his life it is clear that he has always been a boundary-pusher. Long before the revolution of the sixties pushed back sexual, political and racial boundaries, Jackie was on his own quest to transcend the ordinary. That's why he became a physicist. It's also why immediately upon his arrival at Cornell, he threw himself headlong into the world of theatrical performance. Indeed, he has often referred to himself as a "theatrical physicist." It's an apt description, for just as physics is the boundary-pushing discipline par excellence, so is theatre the perfect vehicle for transcending the limits of one's own personal circumstances, assuming the persona and life situation of someone else, and communicating that situation in dramatic form.

Not at all parenthetically, this lifelong quest to extend boundaries is also what has made him so attractive to so many women and so threatening to so many men.

Jackie understands intuitively what most men never learn about women, which is that what most attracts them to a man is not money, or power, or even looks, but imagination. He has never had a lot of money. There has been enough to travel and live comfortably, but he has never even been close to being rich. He has had a certain influence on people in positions of power, but he has never had any significant power of his own, political or financial. As for his looks, well, I'm a straight fella so he doesn't do a whole lot for me. But I've seen enough women with him to know that it works for them. Even so, and I think he'd agree, over the years it's been his imagination, perpetually in overdrive, that has kept them attracted long after looks alone would have become routine. Jackie makes women feel as though they're on some kind of weird flying carpet and they never know where it's going to land next. It could be London, Trieste, Istanbul, or the middle of the Indian Ocean. But they know that wherever it goes, it's going to be a hell of a ride.

Fortunately for him, there have also been enough men who view him the same way that he has always had a substantial circle of male friends. And I'm not talking gaiety here. Like Sam Malone on "Cheers," Jackie loves babes. He doesn't do gay. It's rather that there are also lots of men out there who enjoy the magic carpet ride and who appreciate him as the quintessential pilot.

And then there are old friends, really old friends, like me. Jackie and I go back more than half a century. We first met at Cornell in the spring of 1958 when he was a sophomore and I was a graduating high school senior visiting my older brother who was completing his third year. I would be starting there myself that fall, so it provided a perfect opportunity for me to get acquainted with the campus in a holiday setting. The occasion was the spring Gilbert and Sullivan show, "Princess Ida," in which my brother was concertmaster of the orchestra and Jackie was starring in the tenor role of Prince Hilarion, the guy who gets the princess.

In one sense, it wasn't a boundary-pushing experience at all. Jackie didn't have to act; he was perfectly typecast. All he had to do was learn the lines and sing. On another level, however, it turned out to be, in a marvelously Sarfattian way, an experience of extending limits that left my brother doubled up with helpless laughter in the concertmaster's chair while Jackie's later reaction perfectly illustrated his delight with anything really new.

Late in the second act, the tenor sings his big aria, after which he's led off in chains. The climactic moment of the aria is when he hits his high B-flat. Now Jackie has a marvelous natural voice, but in those days he was a bit short on vocal discipline. About halfway through the second verse he started going sharp. My brother noticed and signalled the other strings to go sharp with him. The winds and brass, however, couldn't do that so easily. So as he went sharper, half the orchestra was going with him while the other half was still playing in the

original key. I was sitting in the audience watching. By the time the big note came, half the orchestra was still playing what was written, and the other half, minus one, was now a whole tone sharp. The one was my brother, who was doubled over in his chair, laughing so hard he couldn't even hold his violin. At the close of the act, my brother raced backstage, grabbed him by the lapels and shouted, "Jack, you idiot! Do you realize you went a whole tone sharp?" Jackie thought for a moment. Then a beatific smile engulfed his face. "You mean," he said enthusiastically, "I hit a high C?"

I love the story. It's vintage Jackie. He marches to his own drummer, and if the drum is occasionally out of tune it doesn't matter so long as the experience itself takes him into uncharted territory. High C is the note that defines the tenor range, and Jackie had never sung one in performance before. And there was no doubt he'd nailed it; so, it didn't really matter that it was supposed to be a B-flat. Jackie had nailed his first high C.

Now I'm also a musician with a strong bias toward discipline, but as I look back on the incident I realize that I was much more in sympathy with Jackie than with my brother. It was a college show. Jackie and I eventually did several of them together. We enjoyed them hugely, but we never had any illusions that we were doing serious theatre. We were two guys having a great time singing, acting and generally cutting up to wild applause. I remember that fourteen years later, in the summer of 1972, we were in Surrey, England, at a party. The host started plying us with home made elderflower wine in the hope of loosening us up enough to get us to sing. By mid-afternoon we were dancing on the kitchen table singing Gilbert and Sullivan duets at the top of our lungs. The guests loved it, the host loved it, we loved it, and it was another boundary-pushing experience for all.

And then there's the Jackie who perfectly embodies a modern, transatlantic Toady of Toad Hall. He loves motor cars, especially Jaguars. While at Cornell he bought his first, a black 1959 XK-150 convertible with knock-off wire wheels, and white leather seats. He got it at Hollywood Sports Cars in Los Angeles. Unfortunately, he didn't have enough money to keep it very long when he got back to Cornell, so he wound up selling it and buying a Citroen, which equally unfortunately cost more than the Jag. My brother remarked at the time that if Jackie kept that up, in five years he'd be riding a bicycle and be ten thousand in the hole. But Jackie had the last laugh.

So, what does all this have to do with his physics? Everything. He approaches physics the same way he approaches theatre, motor cars and all other things that strike his fancy. He searches for the new, the unexplored, whatever lies beyond the boundaries.

And if there are people who think his physics is all bogus, that's their problem. It's not their quest; it's his. Maybe he'll never come up with anything profoundly verifiable. Maybe he will. What's important is that his universe keeps expanding along with Einstein's. That's why I love him, and that's why I enjoy him so hugely. For most people, ageing means giving up dreams and reconciling themselves to a sunset attitude toward life. Not him. Jackie doesn't consciously try to stay young. He doesn't have to. He just goes on doing what he's always done.

And again, not at all parenthetically, that's why women still love him and some men still find him threatening. Not me. When we get together, we're still the same kids we always were A couple of weeks ago he sent me an e-mail, which read in part:

I was feeling like James Bond, passing cars in the growling enraged Black Cat 50 to 90 in 3 sec if that on route 1 Monterey to SF Devils Slide setting Sun . . . coming back from Naval Post Graduate School. Can u imagine bozos in their Jap tin cans thinking they could cut in on me? - not Toady from Toad Hall, no way Jose.

Drive on, Jackie!!!"

[iii] The term "Godphone" was coined by David Gladstone who was thinking of the phone Andy Warhol gave to Edie Sedgwick at The Factory.

[iv] The Random Nnumber Generator RNG in the future mind-body system selects a CLASSICAL non-random electromagnetic pattern (stimulus image to the eye) that by PQM reaction (absent in QM) imprints a conscious non-random pattern in the Fröhlich macro-quantum coherent mental DESTINY "mind field." That non-random pattern of qubits is transmitted back to the "delay" past moment where the usual Bohm potential QM action on the network of electrons in the protein dimers (Hameroff' smicrotubules) imprints a LOCALLY NON-RANDOM classical electrical signal pattern that is then amplified up to the NON-RANDOM EEG signature electical brain patterns Bem measures in the "presponse." This presponse EEG pattern, in turn, by PQM reaction imprints the NON-RANDOM pattern on the Fröhlich--coherent HISTORY "mind field" that propagates qubit back o that future moment forming a Novikov globally self-consistent LOOP IN TIME. This totalself-consistent process is our conscious experience of the classical stimulus selected by the RNG. So, this AUTO TEMPORAL ENTANGLEMENT OF A FUTURE MIND-BODY PQM STATE WITH A PAST MIND-BODY PQM STATE. The QM BORN RULE demands that the local patterns beentirely RANDOM. Indeed, this LOCAL RANDOMNESS is shown in Stapp's proof using the Bornrule of no signaling in the simple case of a Bell state for the polarizations of a pair of particles where the local probabilities are 1/2 independent of the relative orientations of the polarizers in the Aspect experiment.

https://en.wikipedia.org/wiki/Novikov_self-consistency_principle

"quantum entanglement, a phenomenon in which particles or points in a field, such as the electromagnetic field, shed their separate identities and assume a shared existence, their properties becoming correlated with one another's. Normally physicists think of these correlations as spanning space, linking far-flung locations in a phenomenon that Albert Einstein famously described as "spooky action at a distance." But a growing body of research is investigating how these correlations can span time as well. What happens now can be correlated with what happens later, in ways that elude a simple mechanistic explanation. **In effect, you can have spooky action at a delay.**

These correlations seriously mess with our intuitions about time and space. Not only can two events be correlated, linking the earlier one to the later one, but two events can become correlated such that it becomes impossible to say which is earlier and which is later. Each of these events is the cause of the other, as if each were the first to occur. (Even a single observer can encounter this causal ambiguity, so it's distinct from the temporal reversals that can happen when two observers move at different velocities, as described in Einstein's special theory of relativity.)

In the temporal case, though, the mystery is subtler, involving just a single polarized photon. Alice measures it, and then Bob remeasures it. Distance in space is replaced by an interval of time. The probability of their seeing the same outcome varies with the angle between the polarizers; in fact, it varies in just the same way as in the spatial case. On one level, this does not seem to be strange. Of course, what we do first affects what happens next. Of course, a particle can communicate with its future self.

The strangeness comes through in an experiment conceived by Robert Spekkens, ... and his colleagues carried out the experiment in 2009. Alice prepares a photon in one of four possible ways. Classically, we could think of these four ways as two bits of information. Bob then measures the particle in one of two possible ways. If he chooses to measure the particle in the first way, he obtains Alice's first bit of information; if he chooses the second, he obtains her second bit. (Technically, he does not get either bit with certainty, just with a high degree of probability.) The obvious explanation for this result would be if the photon stores both bits and releases one based on Bob's choice. But if that were the case, you'd expect Bob to be able to obtain information about both bits — to measure both of them or at least some characteristic of both, such as whether they are the same

or different. But he can't. No experiment, even in principle, can get at both bits a restriction known as the Holevo bound. "Quantum systems seem to have more memory, but you can't actually access it," said Costantino Budroni, a physicist at the University of Siegen in Germany.

The photon really does seem to hold just one bit, and **it is as if Bob's choice of measurement retroactively decides which it is**. Perhaps that really is what happens, but this is tantamount to time travel — on an oddly limited basis, involving the ability to determine the nature of the bit **but denying any glimpse of the future**".

That's because there is no PQM action-reaction in this experiment. If there was, then there would be a precognition of Bob's future choice in a globally self-consistent time loop that cannot be broken – no free will here to make a time travel paradox.

"Quantum field theory, a more advanced version of quantum mechanics that describes the electromagnetic field and other fields of nature. A field is a highly entangled system. Different parts of it are mutually correlated: A random fluctuation of the field in one place will be matched by a random fluctuation in another. ("Parts" here refers both to regions of space and to spans of time.)"

In the extension to PQM field theory locally non-random fluctuations will be matched by another locally non-random fluctuation because of action-reaction between the classical field and its advanced destiny and retarded history quantum information pilot fields.

"Even a perfect vacuum, which is defined as the absence of particles, will still have quantum fields. And these fields are always vibrating. Space looks empty because the vibrations cancel each other out. And to do this, they must be entangled. The cancellation requires the full set of vibrations; a subset won't necessarily cancel out. But a subset is all you ever see.

"If an idealized detector just sits in a vacuum, it will not detect particles. However, any practical detector has a limited range. The field will appear imbalanced to it, and it will detect particles in a vacuum, clicking away like a Geiger counter in a uranium mine. In 1976 Bill Unruh, a theoretical physicist at the University of British Columbia, showed that the detection rate goes up if the detector is accelerating, since the detector loses sensitivity to the regions of space it is moving away from.

Accelerate it very strongly and it will click like mad, and the particles it sees will be entangled with particles that remain beyond its view.

In 2011 Olson and Ralph showed that much the same thing happens if the detector can be made to accelerate through time. They described a detector that is sensitive to photons of a single frequency at any one time. The detector sweeps through frequencies like a police radio scanner, moving from lower to higher frequencies (or the other way around). If it sweeps at a quickening pace, it will scan right off the end of the radio dial and cease to function altogether. Because the detector works for only a limited period of time, it lacks sensitivity to the full range of field vibrations, creating the same imbalances that Unruh predicted. **Only now, the particles it picks up will be entangled with particles in a hidden region of time — namely, the future**."

https://www.wired.com/2016/01/quantum-links-in-time-and-space-may-form-the-universes-foundation/

CVW-11 EVENT SUMMARY

14 NOVEMBER 04

EVENT SUMMARY

110/100, 303/305, 401

FAST EAGLES 110/100 UPON TAKE OFF WERE VECTORED BY PRINCETON AND BANGER (1410L) TO INTERCEPT UNID CONTACT AT 160@40NM (N3050.8 W11746.9) (NIMITZ N3129.3 W11752.8). PRINCETON INFORMED FAST EAGLES THAT THE CONTACT WAS MOVING AT 100 KTS @ 25KFT ASL.

FAST EAGLES (110/100) COULD NOT FIND UNID AIRBORNE CONTACT AT LOCATION GIVEN BY PRINCETON. WHILE SEARCHING FOR UNID AIR CONTACT, FAST EAGLES SPOTTED LARGE UNID OBJECT IN WATER AT 1430L. PILOTS SAW STEAM/ SMOKE/CHURNING AROUND OBJECT. PILOT DESCRIBES OBJECT INITIALLY AS RESEMBLING A DOWNED AIRLINER, ALSO STATED THAT IT WAS MUCH LARGER THAN A SUBMARINE. ...

[vi] After the war Bardens published history and biography in addition to his occasional journalism. These include, the following, which is not an inclusive list.

Elizabeth Fry (1961)

Churchill in Parliament (1969)

Portrait of a statesman: the personal life story of Sir Anthony Eden (1955)

Lord Justice Birkett (1962)

Princess Margaret (1965)

A History of Barrow Hepburn & Gale (1947)

Dennis Barden's books also demonstrate his interest in psychic phenomena, an interest he shared with his good friend, Austin Osman Spare. Bardens wrote Ghosts and Hauntings 1965, Mysterious Worlds (1970) and Psychic Animals: An Investigation of Their Secret Powers (1990).

Bardens was a member of The Ghost Club and Ghost Club Society, as well as International Pen, the Society of Authors and the National Union of Journalists." *Website source: Wikipedia*

[vii] Grateful acknowledgment is made to the following for permission to reprint material: to Zane Kesey and the estate of Dr. Timothy Leary for permission to reprint the epigraph on p. vii, which originally appeared in Timothy Leary, "Preface," Spit in the Ocean 3 (Fall, 1977): 8–11; to Jack Sarfatti and Taylor & Francis, Ltd., for permission to reprint the epigraph to chapter 4, which originally appeared in Jack Sarfatti, "Implications of meta-physics for psychoenergetic systems," Psychoenergetic Systems 1 (1974): 3–8; and to the Melanie Jackson Agency, LLC, for permission to reprint quotations from the Richard P. Feynman papers.

Harvard psychology professor turned poster boy for New Age antics and all things psychedelic. At the time Leary was still in a California jail on drug charges, though he had hardly stopped working. Together with novelist and counterculture icon Ken Kesey (of One Flew Over the Cuckoo's Nest and "Merry Pranksters" fame, and the inventor of the "Electric Kool-Aid Acid Tests"), Leary was busy editing a special issue of the quirky Bay Area magazine Spit in the Ocean, and he was eager to publish some of the far-out essays that the hippie physicists had submitted.12 Soon after that, one of the core members of the Fundamental Fysiks Group, Jack Sarfatti, showed up on the cover of North Beach Magazine, another San Francisco niche publication, in full guru mode: framed by a poster of Einstein and holding a copy of physicist George Gamow's autobiography, My World Line. When novelist and Beat generation hipster Herb Gold composed his memoirs of life among the likes of Allen Ginsberg and William S. Burroughs, the first off-scale personality to appear in the narrative was Sarfatti, holding forth on quantum physics in the Caffe Trieste, North Beach, San Francisco.13 (Fig. I.1.) The media coverage was by no means limited to these "tuned-in" venues. Time magazine ran a cover story about "The Psychics" with ample space devoted to Fundamental Fysiks Group participants. Newsweek covered the group a few years later. California Living Magazine ran a long story about the "New new physics," complete with head shots of several group members. In May 1977, the group's Jack Sarfatti shared the podium with eccentric architect Buckminster Fuller and "five-stages-of-grief" psychiatrist Elisabeth Kübler-Ross as a keynote speaker at a "humanistic psychology" conference. Not long after that, the San Francisco Chronicle devoted a half-page article to Sarfatti, depicted as the latest in a long line of "eccentric geniuses" to set up shop in the city's bohemian North Beach area. Even news-papers as far away as the New Hampshire Sunday News covered the group's intellectualperegrinations. Virtually overnight, members of the informal discussion group had become counterculture darlings. 14 . . . In the spring of 1974, a most unusual meeting took place. Two physicists — Fred Alan Wolf and Jack Sarfatti, who would soon become charter members of the Fundamental Fysiks Group—sat down with Werner Erhard in the lobby of the Ritz Hotel in Paris. Erhard, one of the leading exponents of the "human potential movement," was at the top ofhis game. His est workshops ("Erhard Seminars Training"), forerunner of today's self-help and personal-growth industry, had already grossed several million dollars and boosted Erhard to worldwide celebrity.1 He had asked Wolf and Sarfatti to meet with him because hewas fascinated by the way physicists attacked complicated and counterintuitive problems with rigor.2 ... The meeting did not get off to an auspicious start. Sarfatti felt restless, uninterested in the meeting; he had never heard of Erhard. Erhard's gaudy outfit, accessorized by a beautful female admirer hanging on his sleeve, put Sarfatti off even more.Sarfatti asked what Erhard did. Erhard grinned and replied, "I make people happy." It was more than Sarfatti could take. Itching to leave, he said in a strong Brooklyn accent, "I think you're an asshole." As Sarfatti remembers it, Erhard rose from his chair—smile stretching from ear to ear —embraced Sarfat right there in the hotel lobby, and said, "I am going to give you money." Without knowing it, Sarfatti had used one of the catchphrases associated with Erhard's sprawling self-help venture. Soon the money began to flow: thousands of dollars, all from this eager new patron of quantum physics... Sarfatti was hired right out of graduate school to teach at San Diego State, and given the office next to Wolf's. (Fig. 3.6.) Within a few years, the two were sharing quarters at home, too: much like the television sitcom The Odd Couple, they each got divorced around the same time and moved in together to share the rent.Fun times ensued. At one point, Wolf and Sarfatti borrowed a home-movie camera to shoot a short film together, along with students from one of Wolf's classes. A frolicking piece, Wolf and Sarfatti joked that it had been filmed by a blind Argentinian director. Shot on the beach in San DIego in 1971, the film explores themes of forbidden knowledge and the intersections of science and religion. Wolf wanders the beach in rabbinical garb; Sarfatti, clad only in a loincloth, struts around as Jesus Christ.44 (Think Federico Fellini meets Mel Brooks.) ... He announced his new plans in a letter to renowned Princeton physicist John Wheeler in the spring of 1973. (Sarfatti had met Wheeler a few years earlier at one of the NATO summer schools.) Sarfatti declared that he would leave his "uninspiring institution" and seek out "the best possible environment to create a great and historic piece of physics. I

feel impelled byhistory—a certain sense of destiny," he explained. ("I recognize that I may be suffering under some sort of 'crackpot' delusion, but I cannot accept that as likely. In any case, I must try," heaverred.) He longed to find one of the "few places left where physics has not been 'polluted' y the emphasis on applicatons, etc."; some place where bold ideas on fundamental questions could still find a home.45 ... As if responding to this cri de coeur, the physics gods smiled on Sarfatti. Right around the tme that Wolf's invitaton to Birkbeck College in London arrived, Sarfatti received a telegram from Abdus Salam. Salam was director of the International Centre for Theoretical Physics in Trieste, Italy, and would soon win the Nobel Prize for his contributions to theoretical particle physics. Sarfatti had met Salam at Harwell in the mid-1960s, and Salam had been following some of Sarfatti's publications since then. In his telegram, Salam invited Sarfatti to spend the autumn of 1973 at the Centre in Trieste. And so, as Sarfatti put it, "like Bob Hope and Bing Crosby in the movies, 'On the Road to...,' both Fred and I were unexpectedly on our way to Europe." They visited each other frequently, Sarfatti often dropping by London or Paris staying with Wolf. ... Quickly the paths converged. Saul-Paul Sirag read a paper by Sarfatti, written while Sarfatti was still in Europe, and told Elizabeth Rauscher about it. Rauscher struck up a correspondence with Sarfatti while he was in Trieste, and Sarfatti dropped by Arthur Young's Institute for the Study of Consciousness as soon as he returned to California. Meanwhile, Sarfatti had already met Fritjof Capra in Europe; they overlapped in London and Trieste. By spring 1975, with Wolf and Sarfatti back from Europe and Capra installed in Berkeley, all the pieces were in place. As Rauscher put it recently, she had "the idea that it would be easier to learn about all this material"—nonlocality and its broader implications— "if we got together for informal discussions and lectures."47 ... Sarfatti had a different idea. To him, the Geller tests forced physicists to return to the foundations of quantum mechanics. "The ambiguity in the interpretation of quantum mechanics," Sarfatti argued, "leaves ample room for the possibility of psychokinetic and telepathic effects." Most important, he elaborated, was the "intrinsically nonlocal" character of quantum theory. Drawing on a preprint of Bohm's own latest grapplings with Bell's theorem and nonlocality, as well as intriguing ideas from such giants of the discipline as Eugene Wigner and John Wheeler, Sarfatti argued that consciousness need not be separate from brute matter. Sarfatti maintained that quantum mechanics, properly understood, could provide the mechanism to account for psi effects like those exhibited by Uri Geller. ... Wheeler sent Sarfatti a preprint of his 1974 Oxford talk, for example, complete with its "participator" stick figure and self-actualizing universe cartoons, and it made a deep impression on Sarfatti. He began to cite it and build on its ideas even before Wheeler's essay had appeared in print.29 Sarfatti aimed to stitch these diverse ideastogether. If every quantum object were interconnected with every other via quantum entanglement (as per Bell's theorem), and if consciousness played a central role in quantum mechanics (as Wigner and Wheeler had reasoned), then modern physics might provide a natural explanation for psi phenomena. From Wigner and Wheeler, Sarfatti took the point that everyone's consciousness participates in shaping quantum processes, both by deciding which observations to make and by collapsing the multiplying possibilities into definite outcomes. Sarfatti recast Wigner's main argument in terms of action and reaction. Surely matter can affect consciousness—LSD and other psychedelic drugs had made that lesson clear enough—so why not posit an equal and opposite reaction of consciousness on matter? To Sarfatti, such a move paid double dividends: it opened up a possible avenue for understanding psychokinesis, and it offered hope that Age of Aquarius students might come back to physics classrooms, finding new relevance in the subject. 30 Most mental contributions to the behavior of quantum particles, Sarfatti continued, would be "uncoordinated and incoherent"—that is, they would each push in different directions and, on average, wash out. But, as Uri Geller seemed to demonstrate, certain talented individuals might possess "volitional control" such that they could impose some order on the usually random quantum motions. Some "participators" seemed to be more effective than others. Moreover, thanks to Bell's theorem, these individuals could exercise their control at some distance from the particles in question. In short: perhaps Geller could detect signals from far away or affect metal from across a room because the quanta in his head and the quanta far away were deeply, ineluctably entangled via quantum nonlocality. Bizarre? No doubt. But was it really any more outlandish than Wheeler's giddy flights? 31 ...

Building on Erhard's generous support, the PCRG expanded its circle of donors. George Koopman, yet another eccentric entrepreneur, became one of the group's most significant backers. He had served as a military intelligence analyst during the Vietnam War. Some have alleged that when Koopman met members of the PCRG in the mid-1970s he was still working as an undercover agent for the Defense Intelligence Agency, covering covering what was known colloquially as the "nut desk"—that is, checking up on reports of UFOs and other occult or paranormal phenomena.27 In response to Freedom of Information Act requests, neither the CIA nor the FBI would confirm or deny that Koopman had ever been on their payrolls; the National Security Agency did confirm that Koopman never worked for them. The Defense Intelligence Agency reported finding no records associating Koopman with the PCRG but remained mum on whether Koopman had ever worked for the agency.28 What is known for certain is that Koopman worked for a time making military training films as a contractor for the government. In fact, during the time he was sponsoring PCRG events, the FBI received a complaint against Koopman's filmmaking company, alleging that Koopman's Koopman's firm had committed fraud against the U.S. government by acting on inside information from a local Air Force office. The tip, at least according to the complaint, had enabled Koopman's firm to lower its bid and hence squeeze out competition for a particular film project. After vetting the information provided by the FBI, the local assistant U.S. attorney declined to pursue the matter. 29 Koopman's passion for filmmaking extended well beyond the occasional military training film. He coordinated stunts for the sleeper hit comedy The Blues Brothers (1980), starring John Belushi and Dan Aykroyd, including several car chases and the famous scene in which a police car fell onto the roof of a tall building, having been suspended by an (off-camera) helicopter. 30 Koopman liked to make things blast off as well as fall down. ... Zukav's book received a major launch in 1979 and that brought out the critics. Several reviewers were quick to attack what they considered the book's scientific infelicities, heaping scorn upon Zukav's main informants. One physicist, reviewing the book in Physics Today, complained that Zukav had been too heavily influenced by "the 'Physics/Consciousness' movement of northern California, and its leading spokesman, Jack Sarfatti." A New York Times reviewer likewise fumed that there was something "truly insidious about this tract-posing-as-primer," parroting, as it did, "the dubious notions of certain renegade physicists."60 Zukav snapped into crisis mode, rewriting several sections of the book before its second printing. The result: most of the references to Sarfatti hit the cutting-room floor, and Zukav dialed back the discussions of quantum-enabled telepathy and clairvoyance. All reference to the hysics/Consciousness Research Group disappeared; Zukav wrote simply that "a friend" (otherwise unnamed) had brought him to the Esalen workshop. The heavily edited closing chapter hewed more closely to Henry Stapp's interpretation of Bell's theorem (which made little room for ESP or clair-voyance), moving Sarfatti's unorthodox ideas—followed by Stapp's critque—to a footnote.61 Naturally Sarfatti felt betrayed, and not only for what he consideredan Orwellian rewriting of history. Sarfatti accused Zukav of reneging on their earlier deal: Sarfatti said the deal had been for him to receive 10 percent of the royalties in exchange forhis extensive coaching. Instead, Sarfatti claimed that Zukav used the money to pay for the last-minute revisions, including the expense of producing new plates for the second printing.62 Although Zukav's friendship with Sarfatti came to an abrupt end, the quick fix worked: The Dancing Wu Li Masters became a break-out success. Within its first four years the book went through nine printings; a paperback edition quickly sold another quarter million copies. The amended version received critical acclaim as well, sharing an American Book Award in 1980 with that other enduring favorite, Douglas Hofstadter's Gödel, Escher, Bach. The prominentpublishing house HarperCollins brought out a paperback edition of Zukav's book in 2001 as part of its Perennial Classics series.63 ... Then there is Brian Josephson. While a graduate student at the University of Cambridge in the early 1960s, Josephson published a short paper on electrical currents that might tunnel between a thin slice of ordinary metal sandwiched between two superconductors. Experimentalists observed the predicted effect within months, and the "Josephson junction" earned Josephson a Nobel Prize in 1973, at the tender age of thirty-three.20 Today such supersensitive junctions are hardwired into everything from

quantum computer prototypes to instruments that measure neural activity inside the human brain. By the time Josephson accepted his prize in Stockholm, however, his research interests had turned squarely to Eastern mysticism, the nature of consciousness, and parapsychology. He traveled to San Francisco late in 1976 to check out Puthoff and Targ's psi lab and to deliver a talk for the Fundamental Fysiks Group. Sarfatti's Physics/Consciousness Research Group under-wrote the expenses for Josephson's two-week trip. A reporter for the San Francisco Chronicle covered Josephson's visit, describing how the young Nobelist "padded around" Sarfatti's Sarfatti's Nob Hill apartment "in maroon sox," while the two compared notes on their evolving theories of quantum entanglement and psi. Josephson continued to speak at conferences on parapsychology alongside Puthoff and Targ, Rauscher, and others, even providing the keynote address for the fabled 1977 conference in Reykjavík, at which Ira Einhorn had mysteriously failed to show.21 (Fig. 8.1.) When the New York Review of Books ran a feature article in 1979 that was critical of efforts to use quantum theory to explain psi phenomena, Josephson teamed up with Costa de Beauregard, Mattuck, and Walker to write a feisty reply.22 Josephson's passion for the topic has not wavered to this day. He directs a "mind-matter unification" project at Cambridge and vigorously defends parapsychology from naysayers. 23 … Sarfatti enthused that "I shall be the new Henri Bergson of San Francisco. I shall hold an ongoing seminar in Adventures of Ideas discussing Borges, Buddhist logic, QM [quantum-mechanical] logic, Whitehead, James, Einstein, Bohr, Goethe, Physics as Conceptual Art, etc." Sarfatti promised "a grand vision to set before the eyes and ears of the San Francisco artistic-literati. I shall sing it and deliver it in poetic cadence. New forms of inquiry, new modalities of thought and expression for the new physics!" In his excitement, he signed his letter, "Professor of Quantum Cabalistic Art."60 Sarfatti was scheduled to deliver an inaugural lecture entitled "Plato's anticipation of quantum logic" at the Art Institute a few months later. He printed up copies ahead of time and mailed them out to his long list of recipients. John Wheeler thanked Sarfatti for his copy and recommended further reading: one of Wheeler's favorite studies of the poet Samuel Coleridge.61 But it was not to be. Around the time that the visiting lectureship was to begin, Sarfatti began corresponding with MIT's Viki Weisskopf, the senior physicist who had recently coached Fritjof Capra along the road to The Tao of Physics. Sarfatti had invited Weisskopf to join an advisory board for the Physics/Consciousness Research Group. Weisskopf declined, as usual in his gentlemanly Austrian manner. "Naturally I am interested in what you are doing and find some of your things reasonable and useful," Weisskopf assured Sarfatti. But two major sticking points remained. "One is your connection to Werner Erhard," about whom Weisskopf held a rather low opinion. "The other is your constant connection to such silly things as ESP, coincidences of events, etc., with quantum mechanics. As you know, it is my strong opinion that they have nothing to do with each other." 62 … Weisskopf, who had fled fascism in Europe as a young physicist, had done some reading about Erhard. By that time Erhard and est had begun to receive some negative publicity for purpotedly authoritarian tactics.63 Weisskopf had also spoken with graduates of the esttraining, although he had not received "any feedback, positive or negative, from the physicists" who had attended the recent Coleman-Jackiw conference, including his own department-mate Roman Jackiw.64 Weisskopf tried to end his letter on a more upbeat note.

"I hope you don't interpret this letter as a declaration of war between you and me," Weisskopf disclosed to Sarfatti. "On the contrary, as I say I am always interested in what people like you are doing and I like to discuss the issues they are interested interested in with them." But he made clear that he would not participate in any official capacity with the Physics/Consciousness Research Group.65 Similar advice came in from Martin Gardner, the Scientific American columnist and leading organizer, together with physicist John Wheeler and magician James Randi, of the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP). "Jack, my friend, take my advice and get out of the psi field," Gardner counseled. "It's sicker than you suspect. Nobody is in the least interested in trying to 'explain' psi by quantum mechanics, or electromagnetism, or the weak force, or quarks, or tachyons, or anything else. All the funders care about is practical results—i.e., miracles." Gardner hoped Sarfatti could make a clean break. "You're too honest and know too much science to be wasting your talents trying to get funding for theoretical work on the nature of consciousness" from patrons in the human potential scene. "Do something honest," Gardner suggested, "like,

maybe, rob a bank" or "make a porno movie."66 Spurred by these correspondents, and deeply insulted at not having been consulted about the Coleman-Jackiw conference, Sarfatti broke with Erhard—one of his principal sources of funds—with gusto. "Until recently I never took a close interest into what Werner and est were really about," Sarfatti declared in an open letter that summer. "After all the chap was giving me and my colleagues considerable money, so why be so impolite as to inquire too deeply? After all physicists are notorious prostitutes anyway." ... Sarfatti announced that "If such distinguished men as Gardner and Weisskopf take their time to keep me honest, the least I can do is to keep Werner Erhard and est honest." 67 ... Seen from the right vantage point, superluminal signals would travel backward in time: a message would be received before it was sent. No wonder the idea makes the hairs on the backs of physicists' necks stand on end. As one acclaimed textbook author put it recently, physicists are particularly "squeamish about superluminal influences."2 Such chicanery dredges up all kinds of causal loopholes. You could send a retroactive telegram instructing your grandmother not to marry your grandfather. Or, on a brighter note, you could warn your forebears to divest their stock-market holdings a day before the great crashes of 1929, 2001, or 2008—the ultimate in insider trading. The possibilities would be truly Orwellian: sending messages faster than light could allow us to rewrite history to suit our present-day whims, or, as one wit put it, to "change yesterday today for a better tomorrow." Perhaps, some argued, such signaling was already occurring. After all, what were mental telepathy and precognitive clairvoyance, but messages received outside the usual channels?3 While his paper on Bell's theorem was in press, Herbert and other members of the Fundamental Fysiks Group continued to brainstorm about the "intrinsically almost obscenely non-local" behavior of entangled particles.4 In September 1975, Jack Sarfatti gave a presentation to the group on "Bell's theorem and the necessity of superluminal quantum information transfer." A month later, Herbert followed up with his own presentation on "Bell's theorem and superluminal signals."5 That December, Berkeley physicist and Fundamental Fysiks Group member Henry Stapp also weighed in. As he put it, "the central mystery of quantum theory is 'how does information get around so quick?'" To Stapp, Bell's theorem and the landmark experiment by group member John Clauser led to the "conclusion that superluminal transfer of information is necessary."6 And so the agenda was set. The question of superluminal information transfer, and whether it could be controlled to send signals faster than light, would occupy Herbert, Sarfatti, and the others for the better part of a decade. Their efforts instigated major work on Bell's theorem and the foundations of quantum theory. Most important became known as the "no-cloning theorem," at the heart of today's quantum encryption technology. The no-cloning theorem supplies the oomph behind quantum encryption, the reason for the technology's supreme, in-principle security. ... The all-important no-cloning theorem was discovered at least three times, by physicists working independently of each other. But each discovery shared a common cause: one of Nick Herbert's remarkable schemes for a superluminal telegraph. Little could Herbert, Sarfatti, and the others know that their dogged pursuit of faster-than-light communication — and the subtle reasons for its failure—would help launch a billion-dollar industry. Like Nick Herbert, Jack Sarfatti was quick to appreciate some of the practical payoffs that a faster-than-light communication device would bring. In early May 1978, Sarfatti prepared a patent disclosure document on a "Faster-than-light quantum communicaton system."

The document was the first step in a formal patent application. In addition to filing his disclosure with the Commissioner of Patents andTrademarks in Washington, DC, he sent a copy to Ira Einhorn, scrawling across the top: "Ira —please circulate widely!" (This was a year before Einhorn would be arrested for murder; his "Unicorn preprint service" was still in full swing.) Sarfatti's proposal bore several signs of the Fundamental Fysiks Group's discussions. It began by citing Clauser's experimental tests of Bell's theorem, before citing a preprint of Henry Stapp's paper on superluminal connections, which Sarfatti most likely which Sarfatti most likely received directly from Stapp at one of the group's weekly meetings. ... Potential applications abounded. For one thing, Sarfatti reasoned, such a device could transmit a human voice across vast distances, with no possible eavesdropping. If the slit-detector detector efficiency at A were controlled by some transducer, such as a microphone, then the pattern of vibrations from the speaker's voice would become encoded in the varying sharpness of the double-slit interference pattern. A loudspeaker on the other end could then retranslate the pattern of interference fringes received at B into sound waves. "The application to deep space communications is obvious," Sarfatti concluded: messages could be

relayed instantly across vast, cosmic distances. Benefits would accrue closer to home as well, such as “giving instant communication between an intelligence agent and his headquarters”—that is, espionage. Clearly his prior experiences with Harold Puthoff, Russell Targ, and their remote-viewing experiments at the Stanford Research Institute had left their mark. “In this case,” Sarfatti clarified, “we would not use the above system but would use the same principle using e.g. correlated psycho-active molecules, such as LSD, affecting the neurotransmitter chemistry.” Presumably the image of CIA agents doped up on LSD, communicating instantly with operatives half a world away via correlated brain impulses, seemed no more far-fetched than the parapsychological effects in which Sarfatti had been immersed for years. 9 … Sarfatti leapt on Eberhard’s parting observation that quantum mechanics itself might be surpassed by some more general theory, in which controllable superluminal signaling might survive. After all, Sarfatti reminded his interlocutors, “superluminal precognitions”—psi visions of the future — “exist as facts in abundance in my own laboratory of the mind. Am I to ignore facts simply because old men are afraid to experience them?”19 … Sarfatti was “slow to admit his mistakes,” as the reporter put it. Stapp and Sarfatti had “argued for a year before Sarfatti admitted” that his original scheme would not work.20”

Panpsychism, aka “Conscious Intelligent Universe” Is A possibility in my versionof Post-Quantum Mechanics (PQM) in which conscious experiences “qualia” are hypothesized, conjectured (“Ansatz” in German) to emerge in any physical system when classical level matter directly back-reacts on its deBroglie-Bohm pilot quantum information intrinsically mental waves in the same way that the direct back-reaction of classical matter on classical geometry (i.e., Einstein’s Geometrodynamic Field) produces space- time curvature (i.e. real second-order Weyl tidal and Ricci compression/expansion gravity fields.

In the case of Post-Quantum Mechanics, the conscious qualia only emerge when the Frohlich pump mechanism (e.g., ATP molecular et-al metabolism processes in protein dimer microtubule “quantum dot” electrical dipole networks for human consciousness) drives the many-particle complex system into a non-equilibrium macro-quantum coherent analog to a thermal equilibrium Bose-Einstein Condensate (BEC) active matter phase.

The dark energy acceleration of the expansion of the 3D space that is our observable universe sandwiched between our past and future cosmological 2D horizon “hologram screens” (Lenny Susskind) Quantum Computers (Seth Lloyd) is a Frohlich coherent system for the classical geometrodynamic field that is a John S Bell’s “be able”. This is Hawking’s “Mind of God” i.e. I. J. Good’s “GOD(D), Olaf Stapledon’s “Star Maker”, Fred Hoyle’s "Black Cloud”, Star Trek’s “Q”, Stanislaw Lem’s “Solaris”.

[ix] **Maxwell's Silicon Hammer.** Sherman, set the Wayback machine to the year 1865, destination Aberdeen, Scotland. Today we're going to visit the physicist James Clerk Maxwell, who in 1864 published his famous equations upon which all of classical electrodynamics is founded. We'll present Professor Maxwell with a gift both to thank him for his legacy to our century and to help him in his work: a simple four-function present-day pocket calculator. In case he should be inclined to figure out how it works, or worry about it breaking, we'll give him a bag of a hundred more, still in the blister pack. Maxwell would instantly understand the operation of the calculator, but even if he devoted his formidable intellect and the effort of all his students at Marischal College and later at the Cavendish Laboratory at Cambridge for the rest of his life trying to figure out how it worked, he would die in 1879 having made little genuine progress.

He would rapidly identify the microprocessor as the site where the unexplained phenomena were going on. Extracting the silicon chip from its epoxy potting and examining it under a microscope, its mix of regular and tangled structure would suggest it operated in a manner similar to Babbage's proposed calculating engines, and detailed microscopic examination would reveal components corresponding to Babbage's Mill, Store, and Barrel. Chemical analysis of the chip would reveal it to have a substrate of silicon, purer than any produced in contemporary laboratories, with structure near the surface composed of similarly ultra-pure aluminium, tungsten, and silicon oxides. Mid-nineteenth century chemical analysis would fail to detect the dopant substances in the silicon which formed the active components. Even if they were detected, their function would be a mystery, as understanding the quantum behaviour of electrons in solids would first require the elaboration of quantum mechanics, which would not happen until the 1920's. Any attempt to build such a device would fail because contemporary materials technology could not grow silicon crystals free of defects at the millimetre scale--in other words, a macroscopic object exhibiting spatial coherence. Nor, without quantum mechanics, would be there any reason to suspect a flawless crystal was necessary.

No amount of reverse engineering these Unexplainable Calculating Objects would get anywhere until the quantum theory which explains how their components function was elaborated. Analysis of material recovered from UFOs, if in fact such exists, may similarly require a post-quantum theory to understand its operation.

What about all these reports of dinky grey aliens, abductions, and the like? Sperm whales don't go around abducting people and performing medical experiments on them!

Don't forget Jonah! But seriously, if you lend credence to the UFO occupant and abduction reports, isn't it possible the aliens are *passengers on* rather than *builders of* the craft? For most of history, humans have relied upon a variety of not-terribly-intelligent animals for transportation, taking what was found in nature and adapting it to the task by selective breeding and crude technology (the wheel and horse collar, for instance). Since the effects harnessed by UFOs can only be produced by living organisms, why bother constructing an artificial life mechanism when you can simply breed existing creatures for appropriate characteristics (like a horse--big enough to pull the load and dumb enough to obey your orders)? It's also possible the inhabitants do not understand how the creatures operate: you don't have to understand how a horse works, no less how to build one, in order to saddle up and ride.

This creates a testable proposition: one should observe less variety among the craft reported in occupant and abduction cases than that seen in the body of UFO reports as a whole. Only a few species have been domesticated by humans for transportation as opposed to the variety of all forms of life on Earth.

If these creatures are coming and going hither and yon all the time, why haven't our space probes detected them?

As I write this document, a vigourous and contentious debate is underway among astronomers and atmospheric scientists as to whether multitudes of house-sized snowball comets impact the Earth every day, depositing water vapour in the upper atmosphere. Satellite evidence and recent measurements of water in the upper atmosphere suggest they do, yet the absence of impacts recorded by seismometers placed on the Moon by Apollo astronauts argue otherwise. No matter how you look at it, something the size of a house slamming into the upper atmosphere at dozens of kilometres a second is a far less subtle event than the occasional mating set of space animals gently descending into the atmosphere to conceive and bear their progeny. We design our sensors to detect phenomena we expect to observe: nobody imagined there were such things as gamma ray bursts before they were discovered by Vela satellites built to detect nuclear explosions. Perhaps theoretical investigation of the electromagnetic consequences of backactivity might suggest a detectable signature which sensors could be designed to detect.

And a few more puzzles...

How did life get started on Earth so soon after the end of the accretion of the planet, shortly after the last ocean-vapourising impact?

Life did not originate on the Earth. As suggested by Crick, Orgel Hoyle, Wickramsinghe, and many others, life originated elsewhere in the universe in a very different and simpler form than we observe on Earth.

The form of life we see on Earth is the product of evolution from, or deliberate design by, a precursor lifeform (or sequence of forms) with a drastically lower irreducible complexity than terrestrial life. Prokaryotic life arrived on Earth shortly after its atmosphere became suitable for UFO animal reproduction, introduced by endosymbionts. (In other words, *E. coli* in saucer turds.) Note that this accomplishes the same diffusion of life throughout the universe as suggested by Crick and Orgel in "Directed Panspermia" without requiring a deliberate program conducted by an intelligent species.

A testable prediction of this is that all evidence of life found beyond the Earth, whether in SNCs from Mars, carbonaceous chondrite meteorites, type C asteroids, comets, or interstellar granules, will have identical low-level molecular structure, even where that structure is arbitrary from the chemical standpoint.

Why did it take so long to evolve eukaryotic cells, and how did the Cambrian explosion manage to invent every current body plan and component in just an instant of geological time?

Biochemical life is a highly effective mechanism for reliably transmitting information and recombining variants among a set of options into new, unique phenotypes. It's not at all clear how, given the limited arena of a single planetary biosphere, one can generate sufficient new information to explain the diversity one observes among species on Earth.

Broadening the arena from the Earth to the Universe may provide sufficient additional orders of magnitude to render the apparently implausible effectively inevitable. The most common form of life, prokaryotic cells, were seeded on Earth shortly after it solidified, and prospered. Only after they and their progeny had transformed the biosphere from a reducing to an oxidising environment could introduction of an advanced cell trigger the explosion of diversity apparent in the fossil record.

Viewed at the molecular level, even the simplest forms of life on Earth seem impossible to have been the products of spontaneous self-assembly through random chemical reactions. How can this apparent evidence for design in the low-level biochemical architecture of life be reconciled with its origin from random physical processes?

When pondering questions of Origins, we should feel free to entertain the possibility of creation without invoking a Creator. Dyson Tipler Moravec, and others have suggested that human life may eventually design (create) its successor, adapted to life in a universe to which our biochemistry is unsuited, or simply better, by design, than our product-of-evolution selves. If we're willing to consider the possibility of descendents we create, able to live in an eternally expanding universe or flourishing at Planck-time intervals before the Big Crunch, why not ancestors? Why be so arrogant as to presume we are the first in the chain of creation? Might a pan-universal civilisation, before inflation blew the universe into discrete, slowly-merging horizon bubbles, have planted the seeds which would, tens of millions of years later, launched carbon-based biological life on its journey toward present-day complexity?

This has testable consequences: if our brains were the product of a microprocessor designer, we should be able, by reverse engineering, to discern the stylistic idioms of that designer, much as one observes when comparing Motorola and Intel microprocessors. If our biochemistry was designed, we should see the same kind of evidence for design in the genomes of terrestrial life, if not an explicit signature as envisaged in my science fiction story, *We'll Return, After this Message*, then more subtle clues apparent from analysing an ensemble of genomes to determine the characteristics of the common ancestor.

Seventeenth Century Postscript

As all regions below are replenished with living creatures, (not only the Earth with Beasts, and Sea with Fishes and the air with Fowls and Insects, but also standing waters, vineger, the bodies and blood of Animals and other juices with innumerable living creatures too small to be seen without the help of magnifying glasses) so may the heavens above be replenished with beings whose nature we do not understand. He that shall well consider the strange and wonderful nature of life and the frame of Animals, will think nothing beyond the possibility of nature, nothing too hard for the omnipotent power of God. And as the Planets remain in their orbs, so may any other bodies subsist at any distance from the earth, and much more may beings, who have a sufficient power of self motion, move whether they will, place themselves where they will, and continue in any regions of the heavens whatever, there to enjoy the society of one another, and by their messengers or Angels to rule the earth and convers with the remotest regions. Thus may the whole heavens or any part thereof whatever be the habitation of the Blessed, and at the same time the earth be subject to their dominion. And to have thus the liberty and dominion of the whole heavens and the choice of the happiest places for abode seems a greater happiness then to be confined to any one place whatever.

-- Isaac Newton,
unpublished manuscript, quoted in
Manuel, Frank. *The Religion of Isaac Newton*

References

Alcubierre, M. "The Warp Drive: Hyper-fast Travel within General Relativity". *Classical and Quantum Gravity* 11, L73 (1994).

Barrow, John D., and Frank J. Tipler. *The Anthropic Cosmic Principle*. Oxford: Oxford University Press, 1988. ISBN 0-19-282147-4.

Behe, Michael J. *Darwin's Black Box*. New York: The Free Press, 1996. ISBN 0-684-82754-9.

Bohm, D. and B.J. Hiley. *The Undivided Universe* . London: Routledge, 1993. ISBN 0-415-12185-X.

Bryan, C.D.B. *Close Encounters of the Fourth Kind: Alien Abduction, UFOs, and the Conference at M.I.T.* New York: Knopf, 1995. ISBN 0-679-42975-1.

Crick, F.H.C.*Life Itself*. New York: Simon and Schuster, 1981. ISBN 0-671-25563-0.

Crick, F.H.C, and L.E. Orgel. "Directed Panspermia". *Icarus* 19, 344 (1973).

Dyson, Freeman. "Time without End: Physics and Biology in an Open Universe". *Reviews of Modern Physics* 51, 447 (1979).

Dyson, Freeman. *Infinite in All Directions*. New York: Harper & Row, 1988. ISBN 0-06-039081-6.

Good, Timothy. *Above Top Secret*. New York: Morrow, 1988. ISBN 0-688-09202-0.

Haisch, B., A. Rueda, and H.E. Puthoff. "Inertia as a Zero-Point Field Lorentz Force". *Physical Review A* 49, 678 (1994).

Hoyle, Sir Fred, and Chandra Wickramsinghe. *Evolution from Space* . New York: Simon & Schuster, 1981. ISBN 0-671-49263-2.

Manuel, Frank E. *The Religion of Isaac Newton*. Oxford: Clarendon Press, 1974. ISBN 0-19-826640-5.

Moravec, Hans. *Mind Children*. Cambridge, Massachusetts: Harvard University Press, 1988. ISBN 0-674-57618-7.

Penrose, Roger. *Shadows of the Mind*. Oxford: Oxford University Press, 1994. ISBN 0-19-853978-9.

Tipler, Frank J. *The Physics of Immortality*. New York: Doubleday, 1994. ISBN 0-385-46798-2.

Kim: Your latest book was just published, "Stargate: Essays by and about the disruptive ideas of physicist Jack Sarfatti on mind, matter, consciousness, time travel to the stars and beyond."

That's quite a title. It would be an understatement to say you're tackling some of the most important, difficult, and controversial topics on the planet.

Jack: --- Yes, what is consciousness as a physical phenomenon and how does the Tic Tac fly and how are these two questions related to each other?

Kim: So let's cut straight to the chase. We have this amazing F-18 video. And it clearly shows physical technological objects exhibiting extraordinary behavior. Wouldn't the kind of maneuvers observed in the F-18 'Tic Tac' video require enormous energy in the form of thrust if they were using conventional propulsion like jet engines? Obviously, these objects are not using jet engines, or that would have shown up in the video in the form of heat signatures. Can you explain to us in relatively layman's terms how you think these objects might be working?

> **Jack's response: … There is no thrust involved and enormous energy is not needed. Astronauts on the International Space-Station in free orbit are weightless. Technically they are on free-float time-like geodesic orbits. From our point of view it seems like they are accelerating, but in fact they have what we call zero proper local acceleration. There are two kinds of acceleration apparent relative visual and absolute local proper acceleration and people get very confused here. Radar measures apparent acceleration not proper acceleration. Local proper acceleration is also called g-force. The astronauts have zero g-force on them, but they do have visual acceleration relative to us stuck on Earth using light signals to see them. The Tic Tac is able to control its own timelike geodesic. Everyone inside the Tic Tac is weightless, just like the astronauts on the International Space Station even when its apparent visual acceleration is 5,500 Earth g as reported by Bruce Maccabee. Hal Puthoff called this "metric engineering." Albert Einstein showed that space and time fuse together into a field similar to the electromagnetic field. He explained gravity in 1915 as the warping or curving of this unified "space-time field" by "stress-mass-energy" density tensor. We need tensor calculus to formulate**

Einstein's equations precisely. Normally, it does require enormous mass-energy to significantly warp spacetime. For example, the universal gravity acceleration 10 meters per sec per sec of all objects *independent of their mass* in a vacuum chamber at the surface of Earth is caused by the total mass of the Earth, which is 6 times ten to the 21 power in tons. That's a 1 with 21 zeros after it. That's a million million billion tons of matter. We say that under normal conditions space-time is very stiff, it takes a lot of energy to warp it significantly - but not so in the case of the Tic Tac. There is a trick using pumped layered metamaterials at around the nanometer scale, a loophole that allows us to soften space-time in a thin boundary layer around its fuselage, to reduce its stiffness with only a tiny amount of energy needed. In principle, the 40 foot Tic Tac can fly on a single triple A battery. The coupling of matter to the space-time "geometrodynamic field" depends on Newton's constant G and the actual local speed of light c in the fraction G/c^4. From the calculus of limits, if we can make c to the fourth power in the denominator very small then the fraction gets very big. That's the trick that I will describe later as I have already given an enormous amount of *advanced knowledge from our future* for minds to digest. As that fraction G/c^4 gets bigger because c gets smaller, it takes less and less energy to control the path of the Tic Tac.

$$G_{\mu\nu} + \Lambda g_{\mu\nu} = \frac{8\pi G}{c^4} T_{\mu\nu}.$$

https://en.wikipedia.org/wiki/Einstein_field_equations

In words, Einstein's equation above says:

Local Space-Time Warp = (Newton's Gravity Constant/local speed of light in the source material to 4th power)Local stress-energy density current of the source material)

It's a mistake to take the speed of light c in vacuum where the source material is not located Tuv = 0 in Einstein LOCAL partial differential tensor equations.