



PSYCHIC WARFARE

Fact or Fiction?



An investigation into the use of
the mind as a military weapon

Edited by John White

PSYCHIC WARFARE

Fact or Fiction?

An examination of the threat posed by the existence of psi and psychotronic weaponry.

By the same author
WHAT IS ENLIGHTENMENT?

PSYCHIC WARFARE

Fact or Fiction?

Edited by John White

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To Trevor James Constable and Thomas E. Bearden
— courageous and wise warriors serving the
holy process of birthing a higher humanity.

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Psychic warfare: fact or fiction?

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Introduction

Psychic Intrigue and Psychotronic Weapons

In January 1981, the American syndicated columnist Jack Anderson published the first of three reports on the threat of psychic warfare. "Psychic Task Force" Hard at Work' read the title of his 9 January column. On 4 February his column was headed 'Pentagon Silent on ESP Warfare' and on 30 March it read 'CIA Interest in ESP Growing Rapidly'.

Anderson wrote of a top secret American 'psychic task force' trying to perfect 'psychotronic weapons that will work through extra-sensory perception — like long-distance telepathic hypnosis to enslave enemy leaders, or transmission of nuclear bombs instantaneously around the world through the power of positive thinking'.

In sceptical tones he described 'voodoo warfare', 'Ouija-board warriors' and 'Pentagon ju-ju' for which the US was spending \$6 million a year. He reported the words of disbelieving critics such as mathematician Martin Gardner, a columnist for *Scientific American*, who derided the efforts as a stupid waste of taxpayers' dollars.

The critics apparently had nothing to say about Anderson's revelation that the Soviet Union had been working on a 'covert applied parapsychology programme since the mid-1960s. He reported without comment that the CIA estimated at least 200 Soviet experts in various disciplines were working on ESP-based weapons.

Then in June 1981, the US House of Representatives' Committee on Science and Technology released a 530-page study based on two years' research, entitled *Survey of Science and Technology Issues Present and Future*. It contained several bombshells, including:

'Recent experiments in remote viewing and other studies in parapsychology suggest that there exists an "interconnectiveness" of the human mind with other minds and with matter. This interconnectiveness would appear to be functional in nature and amplified by intent and emotion.'

'There is no certainty as to what results will emerge from basic and exploratory

research on the physics of consciousness now underway . . . In the area of national defence, there are the obvious implications of one's ability to identify distant sites and affect sensitive instruments or other humans. A general recognition of the degree of interconnectiveness of minds could have far-reaching social and political implications for this Nation and the world'

'Thus far, the quality of research, that even the strongest proponents of such research believe is necessary, has been lacking due in part to low funding. Given the potentially powerful and far-reaching implications of knowledge in this field, and given that the Soviet Union is widely acknowledged to be supporting such research at a far higher and more official level, Congress may wish to undertake a serious assessment of the research effort in this country.'

To some observers, then, a new and horrifying dimension to the Cold War is emerging. It is a dimension involving the super-secret development of psychic techniques and psychotronic (a Czechoslovakian term, abbreviated PT) technology applied for purposes that imply mass enslavement of minds as well as bodies. It is a dimension that whispers of occult intrigue and mind-machine armaments as fearful as they are awesome. ESPionage and psychic sabotage, hyperspace howitzers, nuclear explosion transmitters, photonic barrier modulators which induce illness and death from many miles away — these are some of the science fiction-like concepts that, if true, pose an unprecedented threat to human society.

If true . . . that is what will be examined here. What can be said with certainty about the subject? What grounds are there for logical inference and rational speculation? What is the state of research among secret government and military agencies on both sides of the Iron Curtain? What should be done, if anything, to prevent the spread of superweapons and psychotronic technology? How can we defend ourselves against this kind of attack?

The threat of psychic warfare has been rumoured for many years in parapsychological and intelligence-gathering circles, as the following articles make clear. Yet it must also be said at the outset that the American parapsychological community is, by and large, sceptical of the idea on the grounds of its very own research. The community's success in the laboratory has been quite limited, some parapsychologists point out. Furthermore, they add, even the successful demonstrations of psi (the term for psychic phenomena in general) have shown it to be weak, erratically produced and therefore poorly predictable. If so, they argue, why should one expect that others, such as the American or Soviet military, have achieved far superior results?

Another reason parapsychologists are sceptical of the notion of psi

war is the apparent lack of involvement by any member of the Parapsychological Association in governmental or military efforts in that direction. Although some members of this professional organization have occasionally been approached in order to gather information, parapsychologists say, no member is known to have been asked to join covert operations of any sort. Since professional parapsychologists are supposed to be the best around, they ask, why should they think that 'home grown' expertise outside their elite circle has radically surpassed that of the acknowledged experts?

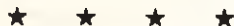
Nevertheless, rumours and fears of a massive breakthrough in Soviet psychic research persist. The situation is extremely difficult to assess because of the political controls surrounding such work. Conferences and journals devoted to parapsychology are not allowed in the Soviet Union — or at least are not visible — Western parapsychologists have found, and therefore all research is either strictly controlled and classified, or is conducted *sub rosa* by parapsychologists friendly to the West whose work is always in danger of intervention, censorship or termination by government officials. There is no strict adherence by Soviet parapsychologists to the scientific procedure of peer review through critique, through challenge-and-defence, and through replication of the work.

Thus, on one hand, it is a wonder anything at all is accomplished. On the other hand, according to American parapsychologist Dr Stanley Krippner, who is one of the foremost observers of Soviet parapsychology and author of a book on the subject, *Human Possibilities*, emigrés from the USSR claim that government-sponsored research is being carried on at many institutions throughout the country, apparently at a very high level of funding.

Compounding western attempts to assess the situation is what intelligence-gathering agencies call 'disinformation' or false data deliberately introduced to give indications other than what really is the case. If the Soviet Union has a massive research and development programme in PT weapons going on, it seems likely they would try to cover the fact by all means.

Exactly that has been alleged by an American psychotronic researcher, retired Army lieutenant-colonel Thomas E. Bearden. In his 1980 book *The Excalibur Briefing*, Bearden identifies what he feels is a key factor in the presumed American lag behind Soviet psychotronic research: a Soviet 'mole'. At least one of America's intelligence officials is a Soviet agent of long standing, Bearden asserts. This person has for years been able to monitor American research efforts and pass the data on to the Soviet Union, while at the same time introducing disinformation into American research groups. This disinformation serves to block American awareness

of Soviet efforts and at the same time nudges American efforts into unfruitful directions, secretly retarding US progress in parapsychology. Thus Bearden accounts for the gap in the psychotronic arms race. In *The Excalibur Briefing* he lists 26 probable Soviet PT weapons and weapon systems, ranging from brain probes, thought implanters and disease radiator rays, through anti-submarine and anti-missile systems, to nuclear detonation transmitters, earthquake generators and weather control systems. In Bearden's view, the score is USSR 26: USA 0.



Before looking in detail at the presumed Soviet lead, let's take a brief historical glance at the situation.

Reports of psychic warfare have been with us for centuries. Perhaps the earliest account is found in the Bible, when Moses stood before Pharaoh and ordered him to release the Hebrews. The Book of Exodus records various paranormal events performed by Moses and Aaron in the name of the Lord, using what may be the first psychotronic weapon or magical instrument: 'and Aaron cast down his rod before Pharaoh, and before his servants, and it became a serpent' (Exodus 7:10). However, the Pharaoh called his wise men and sorcerers: 'now the magicians of Egypt, they also did in like manner their enchantments' (7:11). Moses and Aaron contested Pharaoh's magicians with various other enchantments, using the rod of power — the same rod that was later stretched forth to part the Red Sea.

Another instance occurred when Saul, King of Israel, sought counsel from the spirit of the dead prophet Samuel (I Samuel 28:5ff). The Philistine army had gathered nearby and was about to attack. Saul went to a woman at Endor who had psychic powers ('a woman that hath a familiar spirit' says the King James Version; 'a medium' says the Revised Standard Version). The woman gave Saul information about the impending battle, saying that it came from the spirit of Samuel. She foretold that Saul would lose the battle and would die in it with his sons. Her paranormal intelligence report proved accurate.

In a later event in Israelite history, the prophet Elisha used his ESP to spy on an enemy, the king of Syria. When it became obvious that Syrian battle plans were known to the Israelites, the king of Syria sought to find a traitor among his servants. But instead he was told, 'Elisha, the prophet that is in Israel, telleth the king of Israel the words that thou speakest in thy bedchamber' (II Kings 6:11-12). The Bible records that Elisha had psychokinetic ability also. On one occasion he recovered an iron axhead lost underwater by levitating it to the surface.

History is rife with tales of psychic activities between warring parties. Wizards and sorcerers, witches and magicians — these are the heroes and villains when it comes to intrigue and battle on the metaphysical plane. Their feats were not always due simply to innate psychic ability, as when they cast spells and charms to enchant or bind someone. Often they had technological means as well — devices such as magic wands, crystals, mirrors, amulets, talismans and conical caps that augmented or supplemented their inherent powers.

These tales, of course, are commonly thought of as mere fanciful imagination or romantic flights into the world of faery. Words such as *charming*, *enchanting*, *spellbinding* and *entrancing* are supposed to be no more than advertising hype — just overstated figurative descriptions of the effect experienced by people in the immediate vicinity of someone with a powerful personality. Yet in the stories of Merlin the Magician, for example, we have all the elements of the scenarios that concern us in this book. In Merlin we see a gifted psychic — a seer, soothsayer, wizard and sorcerer — who used his abilities and magical devices to serve King Arthur in his struggle against enemies and warring factions. Merlin's wand, like Aaron's rod, can be seen as the prototype of the first generation of PT weapons. Its power could be used to destroy, as well as to heal and to create (i.e. to materialize or teleport) objects.

Merlin has his counterparts everywhere. Magic, sorcery and witchcraft have been practised openly or covertly in every culture throughout history by witch-doctors, shamans, medicine people and brujos, to name a few of the standard terms. In general, the practitioners are supposed to use supernatural means — better understood today as psychic or paranormal abilities — to achieve certain ends. Whether the end is benevolent or destructive, good or evil, depends on whether the practitioner operates from a moral framework, a spiritual perspective or a culturally-approved code of ethics.

Whether magic is black or white, therefore, depends on the purpose of the magician, not upon the nature of the magical operation itself. If there is some controlling condition that requires the magician to respect humanely the integrity of his magical target, there is not likely to be abuse of power. If not, exit Yoda and enter Darth Vader. Depending upon the consciousness of the operator, the 'Force' has a light and a dark side. The same process can be used to bless or to curse, to heal or to hex.

That being the case, it is understandable that the traditions dealing in magic, sorcery, divination and kindred operations have developed means of self-defence for operators who believe themselves to be under psychic attack. For example, a recent book, *Mastering Witchcraft*, has a chapter called 'Countermagic and Protection'. It tells, among other things,

how to recognize when you are under a curse or other form of magical attack and what to do to defend yourself when involved in occult warfare. Another recent book, *Psychic Self-Defence & Well-Being*, has chapters on 'The Psyche's Weak Points' and 'Strengthening the Defences'. One of the best-selling books on the subject of personal protection via occult means is Dion Fortune's *Psychic Self-Defence* (6th edition, The Aquarian Press, 1957), recognized widely as a classic treatise in the tradition.

Well and good for the believer, but for the sceptic, the bottom-line questions are: Is the tradition based on reality or fantasy? Is there anything at all to this talk of hexing, voodoo magic, cursing and psychic attack? Isn't it merely superstition and nonsense? A short personal anecdote may be instructive here.

In 1973 I had a meeting in Chicago with a well-known psychic, Olof Jonsson, during which he demonstrated telepathy to me. Several people and I were sitting at a table in a crowded restaurant with Jonsson. He took out a deck of ordinary playing cards that he habitually carried with him. The pattern on the back of the cards consisted of small white dots against a black background. Jonsson then told me he would mentally project an image to me. He drew the image on a piece of paper which no one but he could see, then folded it and put it aside. Next he told me to look at the back of a card laying on the table before me. As I did so, it seemed to me that some of the white dots changed colour and became a glowing yellow-gold. The only dots that did so were the ones needed to form a perfect star about one inch wide that stood out brilliantly against the black background of the pattern.

Jonsson then asked me what I had seen. 'I saw a star' I told him, describing what had occurred in my perception. Then he unfolded the paper and showed everyone the star he had drawn. It was a complete match. No one else had seen any change in the colour of the dots, however, and it was therefore obvious that I had experienced a minor but very real visual hallucination, triggered by Jonsson's telepathic transmission.

Similarly, Apollo 14 astronaut Edgar Mitchell experienced the telepathic reception of an image one day in 1972 when he first met the Israeli psychic Uri Geller. All of us were at the home of Dr Andrija Puharich, where Geller was informally demonstrating his psychic ability, preliminary to more strict testing at Stanford Research Institute later that year. Geller told Mitchell to look across the room at the wall, where he would see an image appear that Geller would transmit. He then drew on a piece of paper the image he was going to telepathically send to Mitchell, and held it in his hand until he had completed the transmission. As Mitchell gazed at the wall, he saw the same thing happen that I did several years later with Jonsson. An image constructed from light appeared to Mitchell's

gaze on the wall — an image that no one else saw. Mitchell then described what he had seen, after which Geller verified it by showing the paper with the same image on it.

These accounts make an obvious point: telepathy is real and presumably can be used for various purposes, including military and intelligence applications. The human nervous system and perceptual processes can be influenced by psychic means. Imagine, for example, an unsuspecting political figure of high rank who begins to see visions or hear voices directing him to do certain things. If a suitable candidate could be found, it might be possible to create a sort of Manchurian Candidate strictly through the use of psi. The threat to national security that such an ESP-created situation poses would be enormous. If more than one such programmable person were under control, the result could be political chaos.

Next, suppose that psychokinesis is also brought into use for covert intelligence purposes. Imagine the power of mind-over-matter being used to assassinate selected political and military figures through heart attack, apparent accident or the induction of disease. It might also be enough simply to incapacitate someone through a stroke rather than kill him, so as to avoid creating a clear pattern of psychic attack.

Finally, suppose that the energetic processes involved in producing paranormal phenomena can be harnessed through technical devices and then used to perform psychic tasks without the erratic quality that psychics themselves display, and suppose that the devices make it possible to increase the power of an event far beyond anything ever seen in parapsychological laboratories. The result would be psychotronics, which can be defined as the integration of psychic or mind power with technological means that greatly extend and finely control that power. In fact, a 1981 US Army study uses the word *psychotronics* to denote the 'projection or transmission of mental energy by individual or collective mental discipline and control, or by an energy-emitting device — a kind of mind jammer'.

These scenarios are precisely the sort of thing that some psychic researchers and intelligence analysts fear may be happening or about to happen. Here are some of the possibilities identified for individuals and, more likely, teams of psychics:

Extra-sensory perception (ESP) to gather information through:

- clairvoyance or remote viewing/sensing;
- on-site dowsing

Psychokinesis (PK) to produce a variety of effects such as:

illness induction to incapacitate people;
 behaviour modification of people, ranging from disorientation to
 thought control or nervous breakdown;
 manipulation and perturbation of sensitive devices such as computers
 and weapons;
 death of people and destruction of objects such as computer files
 or key components of weapons systems;
 teleportation of objects (e.g. theft of documents).

Psychotronic production of all of the above is also theoretically possible through mind-machine interface, some observers believe. There appear to be several levels of development in this field involving:

Extremely low frequency (ELF) electromagnetic transmissions;
 Zero-point energy of the vacuum (Tesla or scalar electromagnetics);
 Orgone (Reichean) energy generators;
 Radionic devices and Hieronymous machines.

The following selection of articles will examine all these possibilities. To anticipate the conclusion, not much can be stated with certainty about the reality of psychotronic weapons. Military and intelligence secrecy in the name of national security mask the facts and perhaps introduce disinformation to further cloud the situation.

Several books have recently attempted to assess it. Martin Ebon's *Psychic Warfare: Threat or Illusion?* reported that the 1981 US Army study concludes the Soviet Union has achieved 'significant progress' toward developing mind-control weapons.

The Mind Race, by Russell Targ and Keith Harary, revealed that Targ worked for a decade at SRI International (formerly Stanford Research Institute), a gigantic research institute in California, on what they describe as a multi-million dollar programme of psychic research financed by the Defence Department and intelligence agencies.

Ron McRae, an associate of syndicated columnist Jack Anderson, said in his *Mind Wars* that the US has a '30-year record of psychic research in the CIA, the Army, Navy, Air Force, Marine Corps, NASA, and the Defence Intelligence Agency'. McRae reported that President Jimmy Carter was worried about the Soviet threat and, before he was inaugurated in 1976, had a private audience with Uri Geller. The next year, McRae asserted, Carter ordered a high-level review of Soviet psychic research; this resulted in a 1978 secret report which found no evidence of a massive psychotronic warfare project but did find definite Soviet interest. The White House neither confirmed nor denied McRae's assertion.

And in a thoughtful January 1982 article entitled 'C^{nth}?': On the

Strategic Potential of ESP' in *Signal*, the journal of the US Armed Forces Communications and Electronics Association, Dr Roger Beaumont, a professor of history at Texas A&M University, wrote:

... it is not clear at this point if both sides are really just playing with each other, or if there is something really developing in the realm of ESP. Spoofing, deception and camouflage are normal strategies in the conduct of war — and peace . . .

The data at hand hardly suggest that even a mini-Manhattan project is in order. Any substantial programme mounted in this area would face hazardous paradoxes. If too much were spent, and produced a dead-end, the political result could be deadly. But if the potential were ignored, and an adversary succeeded in harnessing ESP, the result would be worse than embarrassment . . .

Perhaps, in the end, all the interest and effort in this area will prove merely superstitious and wasteful. Or perhaps many have already glimpsed bits and fragments of an effect — or effects — which will someday be measured scientifically. For those looking out over this strange and blurred landscape, and trying to fit it into a context of policy, operations and technology, it is a very tough call indeed.

Step forward now into a 'strange and blurred landscape' where terms such as 'zero point energy', 'scalar waves', 'radionics', 'electrogravitation' and 'virtual state technology' are spoken ominously and the threat of psychic warfare echoes with sinister overtones. In the first section there is a 'briefing' on the historical background of the Soviet thrust into psychic research and its application to military operations. Then eight observers — primarily journalists — comment on the present situation. Naturally, there will be some overlapping of material, but there is significant new information in all the articles. After that, possible futures are outlined by three American parapsychologists who are knowledgeable about Soviet parapsychology. To conclude, I will offer some thoughts on the nature of the energy involved in 'mind machines' and how this otherwise fearful development — the mind-machine interface — might be applied peacefully for human benefit.

Part One
The Historical Background

1. Superweapons and the Death of the *Thresher*

Thomas E. Bearden

1. Into the Jaws of Death

On the morning of 9 April 1963, America's newest and deadliest atomic submarine, the USS *Thresher*, slipped from her moorings at Portsmouth Naval Shipyard, New Hampshire and moved out to sea. A lethal hunter-killer sub designed to seek out and destroy other submarines, she was aptly named after a deadly shark. Little did the 129 men aboard know they were moving into the Atlantic toward certain death little more than 24 hours later — and a strange, bizarre destiny whose initial cause had been set into motion some 24 years earlier at an obscure laboratory in Salt Lake City, Utah. [See p. 156.] The *Thresher* herself was slated to become the first victim of an even deadlier Soviet 'shark' designed to kill the hunter-killers.¹

Early next morning, 10 April 1963, as the *Thresher* moved to her sea trials, we may visualize a scene far different than any that has made the news, or that was revealed in Congressional statements, the Naval Court of Inquiry, or associated investigations into the tragic loss of the *Thresher*. For this scene, we switch to a hidden, secret laboratory deep in the Soviet Union — near the Urals not far from Kyshtym and the site of the mysterious 'atomic accident' that devastated large areas north of Chelyabinsk in latter 1957 or early 1958.²

It is indeed a strange scene in the laboratory. In one section, the activity is particularly feverish. Scientists in white laboratory coats are making interminable checks and readings from an array of instrument panels that remind one of the launch of a large rocket into space. Technicians scurry to and fro, making last minute corrections and adjustments, turning dials, and recording readings. Overhead, a great red light blinks steadily, once per second, and klaxons sound metallically in synchronization to its blinking.

From an elevated control room, a group of very high-ranking Soviet officials immediately catches one's attention. Khrushchev himself is there, as are most of the top leaders of the Supreme Soviet and the Soviet armed forces. An air of intense excitement and barely-controlled elation fills the air. The Official Party is standing, looking over the shoulders of the white-coated scientists seated at the consoles, and gazing out through the viewing windows at the scene in front and below on the main floor of the laboratory.

At the focal point below, a strange apparatus the size of two large office desks is the centre of the activity. The machine is ominously dull black, with an open cylindrical section in front. Various indicators, receptacles and dials pepper its surface. The technicians' test equipment has been attached to these receptacles, and it is this machine that has been in intensive final check by the Soviet technical team. The entire scene is bathed in eerie ultraviolet light³ from banks of radiators overhead, and twin mechanical arms from a remote handling apparatus hang grotesquely in front of the machine.

Suddenly the steady, droning babble of the technicians over their intercoms ceases and a sharp preparatory command is issued. Quickly all test equipment is disconnected and the technicians move briskly away, carrying the test gear with them. A strange silence settles over the scene now, with the steady winking of the red light and the sound of the klaxons continuing.

Now a new series of commands and responses begins, accompanied by switching actions at the consoles in the elevated control room. The silence becomes so thick it could be cut with a knife. Tiny red lights on the consoles begin to extinguish as amber lights are lit; these in turn go out as a series of green indicator lights goes on, one at a time. At the same time, red indicator lights on the various parts of the machine below wink out one by one, to be replaced with green lights. A low, deep hum is heard and a vibration begins as the power is applied to the machine. As the hum intensifies, all sound in the control room ceases, except for the occasional staccato count of the elapsed minutes of a countdown, and the query and responding assurance as each minute is announced. The team will continue in this mode for some twenty minutes while the machine 'kindles' into power — for from the laboratory this device will reach out into hyperspace beyond our familiar space and time, and re-enter our universe half-way across the earth. There it will extend its icy fingers to seize the ill-fated target, for today is the first fully operational test of Khrushchev's new psychotronic (hyperspatial) superweapons.⁴ History is being made, and an event as momentous as the explosion of the first atomic device is taking place. This time it is the Soviets, not

the Americans, who are conducting the test of a strange new superweapon. And this time it is the Americans, not the Japanese, who will be the target.

The hum of the machine is now a low, muted roar. Slowly around it an intense band of light forms, turning first red-orange, then brilliant white, then 'peach blossom violet'.⁵ The machine is now at full power, and the operational test begins.

In the control room, a scientist steps to the remote fingers control and slips his arms inside the mechanism. Down in front, the remote handling arms come suddenly to life. Slowly their mechanical fingers lift a flat object off a metallic stand — the flat object is a photograph of the USS *Thresher*.⁶ Gingerly, the mechanical fingers holding the photograph lower it into the cylindrical 'well' of the pulsing machine, and a thick black cloth slides smoothly over it and covers it against light. Again the silence in the control room is intense and almost more than the mind can bear. An additional 20 minutes will be required for the hyperspatial power connection between the photographic 'witness' and the remote submarine target to be 'kindled' and established. The countdown continues in a flat, emotionless voice.

In the Atlantic Ocean east of the continental US, the *Thresher* has moved beyond the continental shelf and is beneath the surface in a deep portion of the ocean, where she has been performing the underwater manoeuvres called for in her schedule of tests. So far, so good. She is ready to begin spiralling down to the test depth, occasionally communicating to the USS *Skylark*, her companion surface ship.

Shortly before nine o'clock, the *Thresher* notifies *Skylark* she is proceeding to her test depth. Unknown to her captain, at this time the second twenty-minute kindling period is nearing its end in the powerful hyperspatial amplifier in the Soviet machine half-way round the world.

At 13 minutes after nine, the *Thresher* unexpectedly notifies the startled captain of the *Skylark* that she has a positive up-angle and is experiencing difficulty. Completely beyond the knowledge of the captains of the *Thresher* and the *Skylark*, further accelerations of the *Thresher* are now strongly tied to a photographic 'witness' of the *Thresher* in the input section of the distant Soviet machine near the Urals.

Caught in an inexorable grip and slipping down toward her crush depth, the stricken *Thresher* desperately tries to close vents and blow out water with compressed air, to rise to the surface. At least one other garbled or confused short message is received from the doomed sub by the electrified crew of the *Skylark*.

In the Soviet lab, the countdown has finally reached zero. The suspense is overwhelming. Slowly the scientist operating the remote fingers begins to move them in a bending motion. On a nearby television screen, a

diagram of the photographic witness begins to bend, indicating the actual bending of the photograph. Again the silence is electric, and the only sound is the monotonous countdown of each half-minute that elapses while the witness is held in a bent position for another short kindling period.

A slowly increasing force of enormous magnitude is steadily being applied to the hull of the doomed USS *Thresher* as she slowly slips downward toward crush depth. There is no escape as the yield point of her hull is reached. The frantic *Skylark* hears the sudden, muted underwater sounds of the hull of the sub breaking up. Desperately, the *Skylark* continues to try to establish communications, but in vain. The *Thresher* and her 129 passengers are already dead.

In the Soviet lab, the final five-minute countdown has been completed. The test commander's voice announces, 'Attack completed! Initiate shutdown!' Now voices murmur to life as the orders and responses begin for shutdown of the machine. Switches are thrown in steady sequence, and the deep hum of the machine begins to falter. The intense halo around it now turns back to brilliant white, then to red, and then slowly fades out. The countdown continues and the hum steadily diminishes in power. Finally the machine is lifeless and all indicator lights on the control consoles have returned to red. A final series of commands and the power is cut; all indicator lights extinguish. The machine is now completely de-energized.

The attention of the Soviet leaders has turned to the centre console station linking the lab with the Soviet global network of sensors and ships. Muted, excited murmuring resumes among the Official Party members. Khrushchev smiles grimly, but remains silent and focuses his entire attention on the officer awaiting word from the far-flung Soviet communications monitors. It is from this officer that word will come that the *Thresher* is in trouble and the test has been successful.

At a quarter to ten, the underwater phone of the anxious *Skylark* — which had unaccountably been experiencing strange, intermittent difficulties — fails completely. Severe communications difficulties are then experienced with all the ship's radios; these difficulties are so severe that it requires an hour and a half to radio an emergency message to New London, Connecticut informing the Navy that contact with the *Thresher* has been lost. No one recognizes that these electrical communications difficulties are a signature of the presence and decay of hyperspatial kindling of energy from an extremely powerful psychotronic machine.

With receipt of the fateful message, a great search will be initiated by the Navy, which eventually will result in locating the wreckage of the

ill-fated *Thresher* on the floor of the ocean.

The transmission of the emergency message from the *Skylark* is also intercepted by eagerly waiting Soviet sensors and relayed to the waiting communications officer in the secret Soviet laboratory. With the receipt of the message that all contact with the *Thresher* has been lost by the *Skylark*, pandemonium breaks out in the elevated control room. An ebullient Khrushchev is grinning from ear to ear, and is the centre of groups of wildly excited officials and generals, pounding his shoulder, pumping his hand, and shouting nearly incoherent congratulations. The entire lab is a sea of yelling, clapping, leaping Russians. Bottles appear as if by magic; corks pop, and vodka and champagne flow freely. The tension relaxes completely. Slowly the hullabaloo subsides as the Communist leaders settle down, chatting and laughing. Now they are waiting for the next phase. For this has been the first blow of a one-two punch ordered by Nikita Khrushchev, a mighty demonstration to recoup the serious loss of face he had incurred a few months earlier when forced by John F. Kennedy to back down and remove his long range missiles from Cuba. Khrushchev's very survival as Soviet leader had depended on the outcome of this first great test of the newly-deployed, just operational Soviet psychotronic superweapons. The first test has been spectacularly successful, but the best is yet to come. The next day, 11 April 1963, will see the operational unveiling of an even more frightful weapon in the Soviet Union's new super-secret arsenal.

II. A Strange Underwater Explosion

The depths of the oceans of the world vary widely; only a little more than one per cent of the ocean is deeper than 20,000 feet. About 100 miles or so north of Puerto Rico, there is a 300-mile trench in the ocean's floor that runs east-west and reaches a depth of more than 28,000 feet. The Puerto Rico Trench is the deepest trench in the Atlantic Ocean, and it comprises the southern edge of that strange region known as The Bermuda Triangle. It is here, over the deepest part of the Atlantic, that the second triumphant test is to be launched by Nikita Khrushchev today, 11 April 1963 — one day after his first psychotronic weapon coup had just destroyed the USS *Thresher*.

Several hours before, a Soviet submarine had clandestinely dropped off a strange package into the ocean over the Puerto Rico Trench. The package was a special tuner/receiver device contained in a spherical underwater buoy set to float at a predetermined depth. The entire device was about the size of a washing machine, and the tuner/receiver no larger than a portable television set. After depositing the device, the submarine had proceeded to its station with a Soviet

naval test task force about 50 miles away.

Meanwhile, in a facility at the distant, secret Soviet laboratory, another test preparation has been feverishly underway. In a large building sits a monstrous spherical steel tank, with sides two feet thick and a single access port. Huge, spiralling coils and massive insulators ring the tank. The entire end of the building is filled with a gigantic bank of capacitors, and an impressive array of power transformers sits in an equipment farm outside the building. A high voltage transmission line runs to the transformer farm from a power plant several miles away. It is obvious that the entire electrical output of the power plant is meant to feed only this single monstrous apparatus.⁷ This is the realization of Nikita Khrushchev's dream: the hyperspace howitzer, capable of teleporting a massive explosion — even a large nuclear one — through hyperspace ... capable of flipping the explosion out of our normal space and time, to re-enter our world through a distant specialized receiver, tuned to the channel on which the explosion is transmitted. This is the weapon to which Khrushchev had referred in January 1960 as being 'just within the portfolio of our scientists, so to speak', and so powerful that 'if unrestrainedly used, it could wipe out all life on earth'. He had further referred to it as a 'fantastic weapon'.⁸ And this is the howitzer whose earlier prototype had accidentally failed and blown up its site in the winter of 1957-8.

Today the howitzer is the scene of furious activity. Again, technicians and scientists are everywhere. An air of expectancy and a strong feeling of destiny pervades the atmosphere. A special warhead-handling vehicle is just completing the installation of a nuclear bomb in the spherical tank. Again, red lights blink each second, and klaxons sound synchronously. The loading mechanism is withdrawn and the access port to the tank securely shut. Final connections are made and the loading vehicle begins to move away into a sloping entry to a tunnel out of the building. The scientists and technicians, meanwhile, have completed their tasks and boarded a special vehicular train. With the last technician loaded, the train moves through another sloping access entry to an exit tunnel. About 15 minutes elapse as all personnel evacuate back to the main control building several miles away — the same building where Nikita Khrushchev and the Official Party had witnessed the first test one day earlier and are still waiting for the second to begin.

Again the consoles are activated and the countdown begins. Staccato queries and responses occur, checking the various statuses. The distant atomic bomb in its steel hemispheric tank is functioning correctly. Sensors in the transformer farm record the final massive flow of electrical current into the capacitor banks. The entire giant howitzer charge bank has

reached its operating potential of 200 million volts. When activated, the enormous power and pressure stored in the banks will be released in an incredibly short instant, just as the nuclear bomb explodes. The resulting strain between the intense electrical discharge counterblast and the exploding nuclear force will reach an intensity unparalleled in human history. The opposing forces will become so intensely fierce they will rip apart the fabric of normal space and time, catapulting the explosion outside the normal reality in which humanity lives. All is proper. All is ready. The time is here.

Airliners regularly cross the Atlantic and the Puerto Rico Trench, flying between the United States and Puerto Rico. Indeed, several hundred aircraft fly through the area each week. The morning of 11 April 1963 is no different, and jet airliners are flying in the region as usual.⁹

Our attention, however, is centred on a Boeing 707 passenger jet taking off from San Juan, Puerto Rico on its way to [what is now] Kennedy Airport in New York City. There is no reason to be suspicious today, and the passengers relax as the jet rolls smoothly down the runway and climbs into the air. Twenty minutes later, the pilot levels off at 31,000 feet and the crew settles in for an uneventful trip to New York. In the passenger cabin, the stewardesses are already serving coffee and cold drinks. At 100 miles out of San Juan, a checkpoint is crossed and the magnetic compass checked. Everything is normal, and the magnetic bearing is holding true on 354 degrees.

Back at the Soviet laboratory, the test commander at his console observes that all is ready. With a cold smile, he turns to Khrushchev and gestures for him to be seated at the console. Khrushchev sits down, and the test commander lifts the last safety cover from the firing toggle switch. Immediately a warbling siren screeches into sound. The howitzer is now cocked and ready to be fired.

Khrushchev grimaces a steely-eyed half-smile, and says, 'For the destiny of Communism!' In a single quick move his pudgy finger pushes the firing switch forward. Immediately the siren sharply changes frequency, and on the console a large needle registers a sharp rise in the feeder current into the distant discharge triggering mechanism of the howitzer. A large red light on the console rapidly blinks, then ceases blinking and steadily stays on. Voices announce, 'Discharge triggering!' and a few seconds later, 'Fire!' Immediately it is followed by the announcement, 'Successful!' A sharp buzz of facility reports follows in a burst — and then a deep, resonant tremble of the earth is felt. The trembling is sustained for just a few seconds as the distant howitzer vents the residue from the explosion into a long vent tube facing the side of a massive hill. The first on-site operational nuclear hyperspatial howitzer in the world has

launched its first successful shot. And the only target in this universe that can receive the shot now is a strange little receiver/tuner floating squalidly beneath the ocean over the Puerto Rico Trench.

Meanwhile, the Boeing 707 crew is just settling back after its 100-mile check. Suddenly, just past the 1:00 position, the co-pilot spots a strange phenomenon on the surface of the ocean, about five miles from the aircraft. A gigantic mound of water is boiling up in a great hemisphere, growing out of the ocean like a monstrous mushroom. The startled crewmen clamber and twist around to observe the awesome mound for about half a minute before it falls back under the wing of the aircraft. So far as can be estimated, the mushroom of water grows to a size approximately a mile or so in diameter and half as high. It rises majestically up, then falls slowly back into the ocean.

The flight will continue to Kennedy Airport without any further incidents, the crew excitedly discussing the strange phenomenon they have seen. On arriving at Kennedy Airport, they will report the incident to both the US Coast Guard and the FBI, but that is the last any of them will ever hear about the phenomenon. Another anomalous event indicative of the Soviet test and development programme for psychotronic superweapons will pass into obscurity and be ignored.

Meanwhile, the Soviet naval test task force standing off the Puerto Rico Trench also detects the monstrous mushroom of water, and immediately a coded message is despatched to Moscow and relayed to the secret laboratory.

At the laboratory, about a minute after the earth tremors cease, the communications officer suddenly stiffens and acknowledges a transmission, then turns excitedly toward Khrushchev, and shouts, 'Success! Success! It is received!'

Once again the room erupts in a mad *mêlée* of frenzied excitement. Khrushchev is ecstatic. Indeed, the entire Official Party is wildly elated. This time the celebration will go on for hours, with drinks, toasts, speeches, songs and festivities. Mankind has entered a frightening new era, one where all the old physical limitations will start to dissolve. Already the world has entered the strange, eerie new psychotronic age, and this time the secret new weaponry is in the hands of the enemies of the United States. A strange new Pearl Harbor of sorts has already occurred, and the Americans do not even recognize they have been attacked.

As the Soviet naval test task force turns and steams toward home, the entire North Atlantic is just beginning to come alive with an armada of American ships and planes searching for the lost USS *Thresher*. Messages crackle back and forth, and the news media are galvanizing into action with the biggest story of the year, the biggest since the Cuban Missile Crisis.

The activities resemble nothing so much as a giant beehive, with the bees buzzing furiously around after the bear has already scooped up the honey and fled. This time the bees do not even know what has happened to them. They know nothing of psychotronics, so they do not recognize the weaponry that has done the deed.

For Western bees — and scientists — seem to suffer from a strange malady: They are firmly convinced that what shouldn't be, isn't, and that what they don't know, can't be. Just as a radar operator was ignored at Pearl Harbor on 7 December 1941 when he reported hundreds of airplanes coming in toward the harbour (it shouldn't be, so it wasn't), the whole secret Soviet development of psychotronics had been missed by Western intelligence. The Western scientific community had decreed that such things as radionics, dowsing and psychotronics shouldn't be, therefore they weren't — and technical intelligence must accept the lofty ideas of the scientists as the living scientific gospel.

So America and the West slept on. A new age was launched, and a very strange timer was set to ticking away the remaining last decades of the West. In our bright innocence, we thought we were knights in armour, capable of saving and protecting the world. We thought we were ahead of the rest of the world's people, particularly the Soviets, who, as everyone knew in the early 1960s, were just ignorant peasants still trying to clean the mud off their feet. Robert Goddard was ignored for many years, playing with his silly Chinese rocket toys in the desert, and then in World War II the Allies got a shock when they discovered the Germans had used his work to develop V-1 and V-2 rockets. If Nazi scientists had succeeded in developing their atomic bomb and fitting it into the warhead of the V-2 missile, the shock would have proven fatal. Similarly, the radionics/psychotronics pioneers of America — Abrams, Drown, Reich, Moray, Hieronymus and others — were ignored and ridiculed, and we are in for the shock of our lives when we discover how the Soviets have used and extended the work of these American pioneers to make weapons 'more frightful than the mind of man has ever conceived', as Brezhnev described them in 1975 when the Soviet negotiators at the SALT talks recommended that these types of weapons also be outlawed. Sadly, US negotiators — and the scientists and government — did not have the foggiest notion what the Russians were talking about. What couldn't be, isn't . . .

The new psychotronic superweapons were secretly developed over a period of about 14 to 15 years. We now know they became operational a few months after the 1962 Cuban Missile Crisis and were unleashed for the first time in April 1963. Khrushchev successfully regained face and kept his position as the leader of the Soviet Union. The anomalous

'squelching' of the electrical signals of the *Skylark* on 10 April were not noted as having any special significance. The anomalous failure of the *Thresher* to respond to her controls was not noted as anything but normal physical failure and malfunctioning. And no attention was paid to the anomalous deep underwater atomic burst reported in the ocean over the Puerto Rico Trench on 11 April. America slept on toward the increasing Soviet tests conducted in the 60s and 70s.

Nobody knew we were headed for a psychotronic World War III blitzkrieg set for the 1980s.

Nobody knew — and nobody cared.

Notes and References

¹ For factual information on the death of the USS *Thresher*, see:

John Bentley, *The Thresher Disaster: The Most Tragic Dive in Submarine History*, Doubleday & Company, Garden City, New York, 1975;

James H. Wakelin, Jr, 'Thresher: Lesson and Challenge' *National Geographic*, Vol. 125, No. 6, June 1964, pp. 759-763;

Lt. Cdr Donald L. Keach, USN, 'Down to Thresher by Bathyscaphe' *National Geographic*, Vol. 125, No. 6, June 1964, pp. 765-777;

Edwin A. Link, 'Tomorrow on the Deep Frontier', *National Geographic*, Vol. 125, No. 6, pp. 778-801.

The national news media also carried many articles on the *Thresher* during 1963 and 1964.

² Zhores A. Medvedev, *Nuclear Disaster in the Urals*, translated by George Saunders, W. W. Norton & Company, New York, 1979. This book documents the fact that the explosion occurred, and it includes released CIA reports which indicate that the stored nuclear wastes exploded.

³ The ultraviolet and near-ultraviolet form a 'magic window' for enhanced psychotronic activity. Visible light, on the other hand, inhibits psychotronic action.

⁴ For a background and history of the Soviet psychotronic weapons, see:

Thomas E. Bearden, *The Excalibur Briefing*, Strawberry Hill Press, San Francisco, CA, 1980;

Von Wolfgang M. Harlacher, 'Bomben aus dem Hyperraum' (Bombs through Hyperspace), *Esotera*, West Germany, 4 April 1979, pp. 359-365;

T. E. Bearden, 'Soviet Psychotronic Weapons: A Condensed Background', *Specula*, Journal of the American Association of Meta-Science, Vol. 1, No. 2, March-June 1978, pp. 18-32.

⁵ I am much indebted to Trevor James Constable who, in private communications, has pointed out the importance of the 'peach blossom violet' portion of the colour frequency spectrum when dealing with subtle energies

(anenergy). Constable's *The Cosmic Pulse of Life* (Merlin Press, Santa Ana, CA 92712, 1976) is a classic and a storehouse of practical information on orgone energy, which is a major aspect of hyperspatial anenergy. Constable has also rigorously proven he can directly influence and even control the weather. His engineering is based on the works of Wilhelm Reich, Ruth Drown and Rudolf Steiner, together with significant advances pioneered by Constable himself.

⁶ For decades radionics practitioners have known that a photograph captures a subtle energy pattern from the photographed subject and maintains a direct connection with the subject beyond ordinary space and time. This is particularly true of the negative. For instance, see:

Edward W. Russell, *Report on Radionics*, Neville Spearman Ltd., London, 1973, pp. 54-7, 62-8, 130-35, 152-7 and 223-4.

Anything such as a photo, connected in this unusual way to a remote subject, is referred to as a 'key' or 'witness' for that subject. Radionic effects induced upon the key or witness may be induced directly on or in the distant subject.

⁷ The Soviet 'directed energy' programme (high energy lasers and particle beam weapons) is an integral part of the overall Soviet energetics programme. For decades, the overall energetics programme has had the highest support in the Soviet Union and involved an enormous technical effort and expenditure of national resources. For a background of the directed-energy portion of the programme, see:

'Soviets Build Directed-Energy Weapon' *Aviation Week & Space Technology*, 28 July 1980, pp. 47-50.

⁸ In 1960 Khrushchev, reporting directly to the Presidium and to the highest leaders of the Communist party, made a most peculiar announcement that was partially reported in the Western press (for example, *The New York Times*). After reporting on the progress of Soviet rockets, nuclear weapons, etc., he added a statement affirming the possession of a fantastic weapon, capable of destroying all life on earth. At about the same time, very high Soviet officials and military officers began to state that the antimissile problem had been solved, and that it was no longer necessary to 'hit a bullet with a bullet'.

⁹ Robert J. Durant, 'An Underwater Explosion — or What?' *Pursuit*, Journal of the Society for the Investigation of the Unexplained, Vol. 5, No. 2, April 1972, pp. 30-31.

Author Durant knew and interviewed the co-pilot of a Boeing 707 jetliner which observed an anomalous deep underwater explosion on the afternoon of 11 April 1963 — the day after the loss of the USS *Thresher*. The location of the explosion was approximately 019°54'N, 066°47'W.

2. Introduction to Leonid L. Vasiliev's *Experiments in Distant Influence*

Anita Gregory

In the early 1960s rumours began to circulate in the West that Soviet scientists had made decisive advances in the field of parapsychology, and the name mentioned as the top Soviet authority on the subject was that of L. L. Vasiliev. The Russian embassy in London distributed a leaflet containing his name in the context of parapsychological research.

At that time C. C. L. Gregory¹ and I were engaged on some research endeavouring to devise a theoretical framework that would, among other things, permit the occurrence of so-called paranormal phenomena. C. C. L. Gregory wrote to his colleague Professor V. A. Ambartsumian, whom he had met as a delegate of the International Astronomical Union, and inquired about Vasiliev's scientific and academic standing. The answer was reassuring: Leonid Leonidovich Vasiliev was Professor of Physiology at the Institute of Brain Research in the University of Leningrad and very highly regarded in his country as a scientist.

We then wrote to Professor Vasiliev asking his permission to translate and publish a work referred to in some of the publicity literature, *Mysterious Phenomena of the Human Psyche*. He replied in English that he would be delighted but he would much prefer us to publish his more scientific monograph, *Experiments in Mental Suggestion*. In due course two copies of his Russian paperback arrived. We arranged that Vasiliev would have the English version scrutinized and amended in Leningrad, and that we would accept his corrections as final (excepting matters of style).

We found two elderly Russian emigrés willing to make a literal translation of Vasiliev's book on the strict understanding that their names should never be mentioned. This version was literal indeed, since our translators were literary rather than scientific, and quite unfamiliar with psychological and physiological terminology: one had to puzzle out, for example, that 'absolute reflections' referred to 'unconditioned reflexes'.

Also, our translators, who had obviously never seen a technical or scientific paper, were horrified and indignant at what they felt to be a barbaric insult to their beautiful language: they had to be assured over and over again that the style of an English scientific paper would be likely to differ as sharply from an English classical prose passage.

I taught myself the Russian alphabet and some basic rudiments by means of *The Penguin Russian Course*,² acquired Jablonski and Levine's *Russian-English Medical Dictionary*³ and proceeded to turn this translation into what I fondly hoped was moderately readable scientific English. The results were sent, chapter by chapter, to Vasiliev in Leningrad who amended and returned each part. As promised, we accepted his alterations as final. We printed the book ourselves by means of an old linotype caster and an ancient printing press; the binding was done professionally, as were the illustrations. It was published in 1963, without comment or introduction, as it stood, under the imprint of a small research organization, the Institute for the Study of Mental Images.

The book was, on the whole, very well received. To the best of my knowledge only one reviewer, Professor H. J. Eysenck, complained of its stylistic shortcomings, most of which were of course mine. There was no serious criticism of the work itself nor of the statistics. Even Professor Eysenck, whose review was probably the least favourable, stated that it was 'obviously a "must" for anyone interested in extra-sensory perception, that so far as one could tell the experiments were 'done under properly controlled conditions', and that 'the statistical evaluation, although very simple, is essentially sound'.

As a matter of fact there were quite a few errors in the arithmetical calculations. We had intended to publish a revised edition soon after the first, which was sold out in a matter of weeks, rectifying the numerous typographical errors and correcting some of the tables with Professor Vasiliev's help. In order to rectify the tables one has to know whether slips occurred in copying, typesetting or proof-reading on the one hand, or in the course of computation on the other. Unfortunately, C. C. L. Gregory died in 1964 and L. L. Vasiliev in 1966, and a second edition could not be published until now.

On 14 May 1973, I wrote to Professor P. B. Terentieva, whose help with the statistics Vasiliev acknowledges in his preface, and sent her photocopies of the tables from the Russian version, and a list of the main ostensible errors. I asked her whether it would be possible to ascertain whether these were due to clerical slips or to errors in calculation. I pointed out that the errors were — if any — slight, and probably would not affect the argument or the conclusions, but it would be desirable to correct them and clarify the issues in a new edition. I received no reply. I have

since learned that Professor Terentieva died some time ago.

I sent the same list of queries to Larissa Vilenskaya and to Eduard Naumov, both of whom I believed to be active in this field in the Soviet Union, with a similar request. Larissa Vilenskaya wrote to me on 17 July 1973 that she had forwarded the entire material to Dr Pavel Gulyaev, who had worked with Professor Vasiliev. I have not heard from Dr Gulyaev, and I received no reply from Eduard Naumov . . .

The reason why I received no reply from Eduard Naumov became clear in 1974. On Friday 24 March, the *Neue Zürcher Zeitung* published a short paragraph to the effect that the Moscow parapsychologist Eduard Naumov had been sentenced to two years' hard labour. His alleged crime was to have misappropriated funds of a club where he had been lecturing on parapsychology. Dr Andrej Snezhnevsky, whose name has repeatedly appeared as one testifying to the psychiatric instability of ideological dissidents, gave evidence for the prosecution. He did not, however, give it as his opinion that Naumov was in any way psychologically incapacitated; but he provided expert testimony that parapsychology is 'a pseudo-science based on mysticism and idealism'.

It would seem that the case against Naumov was entirely ideologically motivated. The two club officials who had, in fact, by all accounts collected the money for Naumov's lectures (which he was accused of taking) were declared mentally unstable and subjected to involuntary psychiatric treatment at the Serbsky Institute of Forensic Psychological Expertise, whose director is Dr Andrej Snezhnevsky. No testimony on Naumov's behalf was admitted, despite the fact that a large number of witnesses came forward and offered to testify. Samizdat protested. Most of those in any way connected with parapsychology suffered serious professional difficulties. The ideological pendulum had once again swung against parapsychology.⁵ Naumov, probably in response to an international outcry on his behalf, has been released from prison about a year before his sentence was due to end, but the intellectual climate in Russia towards parapsychologists would still seem to be hostile.

What exactly happened is not wholly clear but a coherent picture is slowly emerging. It came in the early 1960s as a very considerable surprise to almost everyone outside Russia that parapsychological investigations had been consistently and systematically pursued there under the most impeccable scientific auspices, the Institute of Brain Research of the University of Leningrad, by a former student and successor of academician V. M. Bekhterev.

It was Bekhterev who, in the early 1920s, had championed the cause of psychical research in Russia. Bekhterev was a reflexologist of international reputation, second only to that of I. P. Pavlov, and it is perhaps

ironic to reflect that it was probably Bekhterev's influence,⁶ more than any other, that led J. B. Watson to espouse and campaign for behaviourism, one of the most extreme reactions against a belief in the effectiveness of human conscious willing and imagining ever to gain widespread credence.

Bekhterev had, in the early 1920s, become interested in the claims of Vladimir Durov, a celebrated circus clown and dog trainer who entertained the public with a widely renowned 'telepathy' act in which he 'mentally' influenced his dogs to carry out numerous activities. Durov was an immensely successful man. He was a star performer before the Revolution, and our two translators instantly recognized his name, had seen him perform, and told us of the grand style in which he had lived and entertained in the old days. After the Revolution he became an established authority on animal behaviour, partly because of his phenomenal practical experience with and understanding of animals; and partly, no doubt, due to his period of collaboration with Bekhterev.

Durov died in 1934, but his fame outlasted him: Emmanuel Dvinsky wrote a delightful and interesting, as well as entertaining, children's book called *Durov and His Performing Animals* in the late 1950s in which he describes some of Durov's activities.⁷ Durov had one Alsation dog called Mars, whom he not only trained to say 'Mama' but apparently to respond to musical signals differing by quarter tones!

There was, of course, nothing telepathic about Durov's stage act which, like all regular, popular and public performances of this type, was based on well-rehearsed tricks. He trained and guided his dogs by means of a Galton whistle, which emits signals too high for most adult human ears but perfectly audible to dogs. (Since those days, supersonic signalling by means of a Galton whistle has been suspected as the explanation of some of the late Dr Soal's telepathy with two young boys, though this has never actually been proved.⁸)

Durov, in the course of his circus activities, became convinced that at times the impossible *did* happen: the dogs seemed to respond to what he merely thought. It was this conviction that Bekhterev investigated. Despite the very sensible precautionary measures taken by Bekhterev, such as the exclusion of Durov, the public, and Galton whistles, it is hard to be too impressed by the results obtained in these investigations. As Vasiliev puts it, it is not possible to accept a positive evaluation of these experiments without some reservations. It would seem that this line of investigation has not been pursued since the early 1920s. Nevertheless, Bekhterev considered that there was sufficient evidence to warrant further investigation.

In 1922 he founded the special Commission for the Study of Mental

Suggestion attached to the Institute for Brain Research, specifically in order to investigate some of the phenomena of psychical research. Among its members were psychologists, medical hypnotists, physiologists, physicists and a philosopher. The activities of the Commission were extremely extensive and have, to the best of my knowledge, never been published in full. Among its activities was a substantial collection of case histories of people reporting psychical experiences, and the sifting of evidence and documentation related to such accounts. It would seem that the results obtained were by and large similar to those reported in the literature of the London Society for Psychical Research.

For example,⁹ Boris Nikolaievitch Shaber, a student living in Witebsk, at 8:30 in the morning of 17 December 1918, had an hallucination of a luminous oval patch forming on his bedroom wall which grew and transformed itself into the image of his girlfriend, Nadia Arkadievna Nevadovskaya, who was then in Petrograd. The vision smiled at Boris and uttered a phrase only the last word of which he was able to catch: '... tlena'. The image darkened and disappeared, Boris Shaber wrote down an account of his strange experience the same day, and six people appended their signature to his account. On 23 December 1918, Boris received a letter from Nadia's mother informing him that her daughter had died at 8:25 on the morning of 17 December 1918. Her last words had been: 'Boria (diminutive of Boris), there is neither spoiling nor decay' ('Boria, niet prakha niet tlena'). Members of the Commission followed up the case, verified the signatures and satisfied themselves that the events described had indeed occurred.

The Commission also studied the psychological and physiological effects of magnetic fields on human subjects. These results have not, as far as I know, been published.

Another of the Commission's investigations was concerned with distant mental suggestion of hypnotized human subjects. And it is this aspect of the work arising out of the Commission's activities that was extended and studied by Vasiliev who had recently joined the Institute for Brain Research as a young physiologist.

Vasiliev was disposed, on the strength of his own childhood experiences, to believe that there was something worth investigating regarding the phenomena of telepathy. The quotation introducing his popular book, translated into French under the title *La suggestion à distance*, published just before the more detailed scientific book here introduced, is taken from the writings of C. E. Tsiolkovsky (1857-1935), a Russian inventor and pioneer of space flight:

One cannot doubt the phenomena of telepathy. Not only is there a large

accumulation of documents concerning these facts, but there does not exist a family whose members would refuse to testify to telepathic facts experienced by themselves. The attempt to explain these problems scientifically deserves our respect.

Whether or not there exist families whose members would decline to provide such testimony, in the Vasiliev family at any rate such experiences did pose problems. When Leonid Vasiliev was twelve years old and had just begun his second year of grammar school, he, together with his brother and sister, went to stay with two young aunts in the family's country house near Pskov. His mother was at the time suffering from a serious liver complaint and had been taken to Carlsbad by his father. The Vasiliev children were enjoying a quite unaccustomed freedom and were one evening re-enacting the adventures of the children of Captain Grant, which involved the climbing of a sloping willow tree 'to escape a flood'. Leonid played the part of Paganel so thoroughly that, like his hero, he fell into the water. Unfortunately, he could not swim and nearly drowned, and only managed to save his life by catching hold of the tip of a branch. His brother and sister watched the scene struck dumb with terror. All concerned seem to have been more frightened of the certain punishment awaiting them (especially as Leonid's much treasured and admired new white school cap was lost in the process) than of the very real danger of death. However, the young aunts agreed not to write to the parents about the incident, which, as Vasiliev dryly comments in a parenthesis, would hardly have been in their own interest, on condition that such activities should cease forthwith.

When the Vasiliev parents returned from Carlsbad, the children and aunts were dismayed to be treated by Mama Vasiliev to a detailed account of the sorry tale, complete with willow, white cap, etc.: she had had a dream in Carlsbad of the entire incident, had awakened in tears and had insisted that Papa Vasiliev should instantly send home a telegram to make sure that all was well. Vasiliev Sr had decided to humour her, since, after all, she was ill. This consisted of getting up and dozing for half an hour in the entrance hall and subsequently assuring her (untruthfully) that he had wired home.

When Vasiliev joined the Institute for Brain Research in the early 1920s, Bekhterev himself was conducting telepathy experiments, some of which were concerned with the distant influencing of dogs already mentioned, and some of which involved attempts to influence at a distance the behaviour of hypnotized human subjects.

It is the topic of hypnosis that provides the background for Vasiliev's work, and it is useful to look at some of its antecedents. How does one

individual influence another? Generally, this obviously happens in numerous ways, all of which involve some form of sensory communication. In the nineteenth century, when the phenomena of hypnotism created widespread controversy, the question was hotly debated whether the influence of a hypnotist over his subject was entirely due to what came to be known as 'suggestion', or whether there was in addition some 'fluidic' bond between the two.

The fluidic theory goes back at least to Mesmer who, towards the end of the eighteenth century, effected the most astonishing cures by means of an imposing mixture of ritual and magnets. Mesmer believed that his cures were due to, or mediated by, a special 'fluid' filling the whole of space called 'animal magnetism'.¹⁰ A French Royal Commission which subsequently investigated mesmeric cures carried out by Mesmer's disciple d'Eslon came to the conclusion that 'the imagination is everything, magnetism nothing'. In other words, the effects obtained were due to the impression made on the patient's mind by the doctor's activities as mediated by the patient's own ordinary sense organs. There was one dissenting voice: a biologist, L. de Jussieu, wrote a minority report of one, supporting the fluidic interpretation. He had observed some instances when in his view normal sensory communication could be ruled out, for example when a blind old lady responded appropriately to a 'magnetized' rod pointed at her.¹¹

The 'suggestion' theory for explaining the overwhelming majority of hypnotic effects has gained almost universal acceptance. At first, in the course of the nineteenth century, the very phenomena of hypnosis were subject to just the type of scepticism that generally greets those of psychical research, and at least one professor of medicine lost his chair for claiming to perform major surgery without benefit of anaesthetics, by means of hypnosis alone. However, these phenomena are somewhat more amenable to experimental repetition, and, as scientists were increasingly satisfied that the feats of hypnotized subjects were not mere stage tricks, the notion of 'suggestion' was endowed with ever greater explanatory power. As the astonishing plasticity and responsiveness of many ordinary people to hypnotic — and other than hypnotic — commands became accepted, 'suggestion' came to be regarded as a suitable blanket term by means of which hypnotic and quasi-hypnotic effects could be explained. It seems to have widely escaped attention that 'suggestion' is hardly much of an explanation, let alone a scientific theory.

No doubt one of the reasons why the term 'suggestion' has been so widely adopted as an explanation is because it carries overtones of ordinariness and normality. We are, all of us, constantly subject to verbal and social influence, to wholesale suggestion, by those who constitute

our 'environment'. We have a tendency to do as we are asked, to think in terms of the classifications and values embedded in our language and our culture, and to believe what we are told, however critical, rebellious and independent we may at times be.

Susceptibility to hypnotic commands may be viewed as merely a heightening of this normal tendency to think and to do as we are told, due to the artificial temporary abolition or attenuation of our independent personal ego in the hypnotic state. Thus the wholesale employment of the concept of 'suggestion' to describe hypnotic phenomena can be seen as a part of the modern process of 'demystification' of the human scene.

There remain however, obstinate and venerable, the claims that the link between a hypnotist and his subject at times transcends the bounds of verbal suggestion; that one person can make another think and imagine and do things in ways not mediated by our ordinary organs of sense, possibly at a distance or across barriers sufficiently extensive to exclude normal sensory communication.

In order fully to appreciate the scientific background of Vasiliev's work, perhaps the most important historical reference is the International Congress of Experimental Psychology held in Paris at the Ecole de Médecine in 1889.¹² The convener was the celebrated French hypnotist J.-M. Charcot, who was unable to attend himself owing to ill-health, his place being taken by Professor Ribot and Dr Magnan as vice-presidents, and Professor Charles Richet (a Nobel Prize winner) as general secretary.

The Congress is significant for an understanding of Russian psychical research, for a number of reasons. For one thing, psychical research at that date was still an integral part of the study of physiology and psychology, and questions concerning non-sensory communication were debated openly and on their merits. For another, the central topic of interest was the subject of hypnosis, its phenomena and explanations. Also, the leader of the large Russian contingent was Professor B. J. Danilevsky from the University of Kharkov, to whom Vasiliev refers as one of the pioneers of the investigation of electrical processes in the brain, and who at that time was occupied in studying the hypnotizability of animals, including shrimp, crabs, lobsters, sepia, cod, brill, torpedo fish, tadpoles, frogs, lizards, crocodiles, snakes, tortoises, several species of bird, guinea pigs and rabbits.

Attention was inevitably focused on the rival theories of hypnosis: the 'suggestion' and the 'fluidic' interpretations. Professor Henry Sidgwick, the Cambridge philosopher, suggested three sets of conditions under which suggestion was apparently excluded: in experiments (1) with animals, (2) with babies, and (3) at a distance.

Danilevsky thought that in animals the place of verbal suggestion was

taken by physical manipulation of the animal, such as placing it in an abnormal position, enforced quiet, or gentle continuous pressure. Bernheim stated that similar considerations applied in the case of young babies: manual 'passes' over the baby soothed him and bright lights tired his eyes; a sort of physical communication of suggestion could be adequately invoked as accounting for hypnotizability in babies, if indeed it was the same phenomenon.

There remained — and remains — Sidgwick's point about distant influence. Professor Delboeuf said that he himself had not been able to duplicate distant suggestion, while such results were indeed claimed to have been observed by many, including some of the most eminent scientists, scholars, and doctors attending the Congress, such as Janet, Richet, Ochorowicz, Sidgwick, and Myers. As Sidgwick pointed out, however, although hypnosis had been found to facilitate such effects, it was by no means indispensable.

Delboeuf's observation is of manifest importance here, in that it introduces the general problem of the unrepeatability of experiments in the field of parapsychology. If a man of the undoubted integrity, ability and open-mindedness of Professor Delboeuf is unable to duplicate the results obtained or witnessed by others of similar standing, does this imply that the latter savants *must* have been mistaken, either as regards their experimental procedures or else their interpretation of their observations? Presumably, one's answer here could be in the affirmative (and this was not a view adopted by Delboeuf) if and only if one is already convinced on quite other grounds that the effects are utterly impossible.

Such a dogmatic *a priori* negation of the very possibility of distant influence can indeed be found in the literature surrounding the field of psychical research. For example, Dr G. Price, in 1955, took the uncompromising stand (which he subsequently retracted) that, since such linkage was miraculous and therefore impossible, he would elect to believe that scientists claiming such results were either mistaken or downright fraudulent. Price invoked in support the British empiricist philosopher David Hume who wrote that, if faced with the choice of believing in a miracle or else in man as a liar, he would prefer the latter. However, Hume is an unfortunate choice as a patron saint of dogmatic scepticism, since it was Hume's central tenet that we do not possess any *a priori* knowledge of the world — a view that implies that nothing is impossible, since we do not know what can and cannot be the case.¹³

Dr Price was not alone in these views. In the 1956 edition of the *Soviet Encyclopaedia*, the entry under 'telepathy' called it 'an anti-social, idealist fiction about man's supernatural power to perceive phenomena which,

considering the time and the place, cannot be perceived'.

Inevitably, if such a point of view is espoused, there is little point in experimentation: if results of distant influencing are claimed, the only thing to be found out is just *how* the error or the fraud came to be perpetrated, and psychical research amounts merely to a minor branch of, at best, psychopathology and, at worst, criminology. That psychical researchers of this persuasion are not lacking hardly needs elaboration.

But it is not an attitude that commended itself either to the participants at the Paris International Congress of Experimental Psychology in the late nineteenth century, or to the Russian investigators who carried out the work on distant influencing. Bernheim himself conceded at the time that if influence at a distance were indeed established, this would affect his suggestion theory and would, by implication, favour a fluidistic view, as championed by Professor Ochorowicz.

In Russia, the use of hypnosis in psychiatric practice remained fashionable for longer than it did in the West, and it was, as Vasiliev describes, some demonstrations by Dr K. I. Platonov, at the 1924 Second All-Russian Congress of Psychoneurologists, Psychologists and Teachers, that revived interest in distant influence.

As Platonov himself describes, he had come prepared to read a paper on his experiments in distant influence without any intention of providing an experimental demonstration. On his arrival in Leningrad he accidentally met one of his ex-patients and subjects, 'M.', in the street and asked her to accompany him to the Congress, to which she agreed without any idea that she was to be the subject of an experiment.

The demonstration was sufficiently impressive for the Congress to include among its resolutions a recommendation to the effect that the phenomena of distant suggestion were worthy of further scientific study, and entrusted their further exploration to the Society for Neurology, Reflexology, Hypnotism and Biophysics attached to the Institute for Brain Research. Vasiliev was put in charge of one of the Society's sections.

Platonov, like Vasiliev, had been a former student of Bekhterev's, under whose direction he had originally completed his post-graduate research on the mechanisms of verbal suggestion in hypnotic sleep. Platonov was a professor at the University of Kharkov, one of Danilevsky's successors. His position in Russia became one of great eminence and his book, *The Word as a Physiological and Therapeutic Factor*, which runs into over 450 pages, remains an authoritative work on medical hypnotism. A revised edition appeared in an English translation in 1959.¹⁴

Whatever one might think about some of Platonov's theoretical reasoning the wealth of experimental and clinical material and its practical importance is overwhelming. Of special interest are the experiments in

which physical symptoms, such as vomiting in response to massive injections of apomorphine, could be completely inhibited by means of hypnotic suggestion. There is also an account of how Dr V. Finne, incidentally one of Vasiliev's most effective hypnotists at a distance, demonstrated to Professors Chernorutsky, Povarnin, Platonov, and others, the creation of heavy burns in response to mere suggestion, and there is a photograph of a second-degree burn produced in this manner. Similar experiments were repeated later, when frostbite, rashes, and 'pigmentation' were added to the list of physical symptoms that could be produced by suggestion. A drop in blood sugar level was demonstrated when it was hypnotically suggested to a subject that he was drinking distilled water, when in fact he was fed a concentrated sugar solution (which would, of course, without contrary suggestion, send the blood sugar level soaring).

The sheer scientific interest of Platonov's work should not be allowed to eclipse the astonishing therapeutic achievements documented in his book. Among the complaints to have been completely cured in a few hours of hypnotic therapy (none more than twelve hours) were: phobias, hysterical complaints, depressions, diabetes *insipidus* and *mellitus*, toxæmia in pregnancy, baldness, weeping excema (in one case of fourteen years' standing), warts, vomiting in pregnancy, paranoia, obsessional syndromes, impotence, the chronic phase of traumatic neurosis (notoriously recalcitrant to psychotherapy), epilepsy (including *grand mal*), tics, allergies, neuralgia, alcoholism, morphine and cocaine addiction, and hyperthyroidism. Follow-up studies revealed that the patients remained in good health with full capacity to work for many years.

Professor Platonov's standing and importance in the Soviet Union is not surprising in the light of his prodigious successes in the fields of experimental physiology and therapeutic medicine, and one can well understand Vasiliev's delight when, more than thirty years after the demonstration on 'M.', of hypnosis at a distance, Platonov sent him an account of his own recollections of the experiments, as well as letters concerning some further and independent experiments on distant influencing carried out at the University of Kharkov by Professor Dzelikhovsky and Drs Kotkov and Normark. The observations, sketchy though they are, closely resemble those of the French hypnotists and the many instances of distance influencing recorded in the literature of psychical research.

If communication can be established between two people, does there have to be a sensory link between the two? If communication is believed to have occurred, and a normal sensory mode of perception is thought to be excluded, does it follow that 'non-' or 'extra-sensory' perception

or communication has been established, i.e. non-physical communication? Or does it follow that there must be some physical nexus or channel that has to be discovered? Stated thus baldly, the dichotomy sounds crude: after all, even ordinary sense perception is universally believed to have a reasonably well-established physical nexus in terms of, say, light and sound waves, and people do not therefore necessarily believe that all sensory perception is 'merely physical'.

However, this is part of the theoretical battle that underlies a great number of the controversies surrounding parapsychological investigations. It is widely believed by those championing parapsychology that a proof of extra-sensory perception or influencing would prove a non-materialistic theory of the universe, in that here there would be demonstrable events without a physical basis. This assumption seems to me to be mistaken. It is not possible in the present context to go in any detail into variants of materialism, idealism, dualism, and so forth, beyond a few remarks that have a direct relevance to the work of Vasiliev.

Let us suppose that extra-sensory mental suggestion at a distance has been established as having taken place. How would a scientist go about further exploring this phenomenon? He would presumably first of all attempt to test for a particular physical nexus which is known to mediate communication between humans at a distance; and a very obvious candidate for such a channel is communication by means of radio waves.

The problem as it presented itself to Vasiliev in the early 1920s was that, once the phenomena of distant influence could be reproduced in the laboratory with reasonable reliability, the next and obvious step was to investigate their physical basis. If messages travel from A to B they must traverse space, and some physical nexus carrying the transmitted information must be detectable. Both Bekhterev and Vasiliev believed that the answer to this problem had been supplied by the Italian neurologist Cazzamalli, who had published several papers championing the electro-magnetic theory of telepathy, which is of course a variation of Mesmer's fluidic theory.

In Cazzamalli's view, the information conveyed from sender to recipient was carried by electromagnetic energy in the form of radio waves ranging from 0.7 to 100 metres. In 1926 Vasiliev published in the Russian journal *Science News* a paper entitled 'The Biophysical Foundations of Direct Thought Transmission', in which, as he says, he expounded 'a materialistic approach to the phenomena of mental suggestion'.

The bulk of Vasiliev's work after this date was devoted to an attempt to establish Cazzamalli's radio-brain-wave theory. *Experiments in Distant Influence* traces in detail how, after years of ingenious, systematic and painstaking study, the Russian team, to their surprise, found that

Cazzamalli's theory was in fact incompatible with their observations: metallic barriers, which would stop all radio waves of the requisite frequencies, completely failed to screen out the direct mental influence of the hypnotist on his subject. Why was the work suddenly discontinued in the mid-1930s, only to be resurrected some thirty years later?

It is impossible to begin to answer this question without some considerations of the political and ideological controversies surrounding parapsychology. As has been indicated, parapsychological experimentation is widely (though in my view erroneously) believed to be crucial to a decision between a 'materialist' and a 'spiritual' view of man. Traditionally, parapsychological claims are associated with religious beliefs and mystical experiences, and no government officially opposed to religious beliefs could be entirely neutral about a set of experiments believed to have a direct bearing on such beliefs. And indeed, parapsychological observations might well have a bearing on particular beliefs, even if the data are, as I have suggested, in principle quite unsuited for discriminating between rival metaphysical systems.

We have already seen that in the early days of the Soviet Union there was no official opposition to psychical research. On the contrary, as Vasiliev mentions in his preface, in 1924 Mr A. V. Lunakharsky, Commissar for Education, himself took the initiative in forming a Soviet Committee for Psychical Research to be affiliated to the International Committee for Psychical Research just founded by Carl Vett on the initiative of Charles Richet.

Now as long as Vasiliev believed that he was substantiating Cazzamalli's brainwave theory of telepathy, he was secure from any reproach of anti-materialist heresy, and he was manifestly encouraged and financed in the usual way. When it became ever clearer that his results did not support the brainwave theory, funds and encouragement withered away. The definition in the *Soviet Encyclopaedia* for 1956 of telepathy as anti-social and impossible considering the time and the place is uncompromising enough. During the later 1930s, '40s and '50s, all periodicals and papers dealing with psychical research sent to Russia from abroad were 'returned to sender'. In Professor Platonov's *magnum opus*, *The Word as a Physiological and Therapeutic Factor*, there is not one hint, from cover to cover, that the author had been a champion of telepathic influencing, and continued to remain convinced, as emerges clearly from the appendices to Vasiliev's book.

In 1959 there appeared in the French popular journal *Constellation* an article by Jacques Bergier entitled 'La Transmission de Pensée, Arme de Guerre' ('Thought Transmission, a Weapon of War'), followed by another, early in 1960, by Georges Messadié in *Science et Vie*, called 'Du

Nautilus' ('On the *Nautilus*'). These articles described telepathy experiments alleged to have been carried out aboard the US nuclear submarine *Nautilus*. According to these stories, shore-to-ship thought transmission of information had been entirely successful.

Radio communication between submarines and the outside world constitutes a notorious military problem, since the combination of a thick layer of sea water and the hermetically sealed metallic covering of a submarine effectively screens out or seriously attenuates radio waves. Are there telepathic methods of communication capable of piercing barriers of sea and metal?

The truth or falsehood of the claims for the *Nautilus* experiments is still shrouded in mystery. Dr J. B. Rhine stated that 'authoritative sources in Washington denied all knowledge of such experiments' (which, unfortunately, one might expect authoritative sources to do whether or not such experiments had in fact taken place).

From the Russian point of view, however, such claims were of the utmost importance, not only for strategic reasons too obvious even to mention, but also because Vasiliev, Professor of Physiology in the University of Leningrad and by now a corresponding member of the Soviet Academy of Medical Sciences and a holder of the Order of Lenin, had already conducted experiments in mental influence that had apparently conclusively shown that (a) distant influence can be experimentally demonstrated, and (b) that such remote influence was not affected by metallic screening of just the type to exclude radio signals. However, as already mentioned, his work had been discontinued because of the official Marxist party line on telepathy at the time, although his records had been preserved in the archives of Bekhterev's Institute for Brain Research in Leningrad. Vasiliev, like Platonov, is careful to maintain that we are dealing here with a phenomenon which, however important its scientific implications, has nothing at all to do with 'idealism' or religion: doubtless it would only be a matter of time before these observations could be shown to have a 'materialistic' basis just like other facets of nature.

Professor A. V. Tugarinov, head of the Department of Philosophy of the University of Leningrad, declared in favour of research in telepathy: in the *Leningrad University Messenger*, 1964, he wrote that preconceived ideas and ideological processes presented the most formidable obstacles to objective research. Rather than engage in theoretical arguments, scientists should seek to explain the energetic and physiological basis of such phenomena. Tugarinov went further: 'All critics of telepathy are only using Marxism-Leninism to support their scientific conservatism. All who throw obstacles in the path of scientific progress should be made to suffer.'

Not all of us are quite so uninhibited in expressing our sentiments about the fate we wish to befall those who are so reprehensible as to disagree with us. But the gist of all this argumentation is clear, and not at all dissimilar from the type of controversy that has always surrounded psychical research in the West. Do the phenomena of distant influence, if they happen, undermine a scientific view of the world? Do they support a more mystical or spiritual or even religious interpretation of the universe? Can they, in principle, be explained in terms of present-day physics?

The term 'mystical' is a term of abuse in both East and West, and would seem to require considerable analysis and clarification before it fulfils any function more useful than that of serving as an indication of disapproval. In Russian writings the word 'idealistic' is often employed to contrast a concept with an acceptable 'materialistic' one.

Vasiliev castigates those who would oppose telepathy research on scientific grounds as being 'mechanistic materialists'. Normally, of course, Marxists contrast 'mechanistic materialism' — which they reject and which they deem typical of Western ideology — with 'dialectical materialism', to which they themselves subscribe. Vasiliev, on the other hand, contrasts 'mechanistic materialism' with an acceptance of cybernetics and, by implication, with information theory which he considers to be 'materialistic' and not necessarily 'mechanistic'.

To the extent to which, in explanations involving communication or information theory, the emphasis is shifted from the *energetic* manner of communication to the *meaning* of the message conveyed, Vasiliev is in a reasonably strong position. On the other hand, to the extent to which the particular cybernetic model he cites — that of M. Raphael Kherumian — is plainly unsatisfactory even to Vasiliev himself, and since no physical channel across which the information could flow has been discovered to date, Vasiliev is on much weaker ground.

As he says, abroad (that is, in the West) there is no shortage of supporters of the "psychic" not to say frankly "spiritualistic" hypothesis which separates the psyche from the brain'. A great many parapsychologists have indeed taken the line that, if the psychical phenomena could be firmly established, this would prove the independent existence of 'the mind' as contrasted with 'matter', though most parapsychologists have also been at pains to point to a fundamental barrier separating 'psychic' phenomena such as telepathy from 'spiritualistic' beliefs in the continued existence of the soul after death.

Actually, the argumentation surrounding this whole topic has, to date, spread more heat than light. After all, supposing a physical basis for thought transmission were to be established, this *could* be interpreted (depending on just what was found) as demonstrating a possible

'materialistic' basis for consciousness to function separately from the anatomical body and brain.

It seems to me extraordinarily doubtful whether the demonstration of any phenomena whatsoever could, in principle, disprove (let alone prove) fundamental metaphysical positions such as materialism (mechanistic or dialectical variety) or substantive dualism (whether psychological or spiritualistic) or for that matter pure idealism, which no one at the moment appears to champion.

On the other hand, the difference made to our imaginative picture of man and the universe, if the phenomena of psychical research were to be systematically admitted is, I believe, immense. This has nothing to do with their supposedly 'non-physical' characteristics. It seems to me highly probable that, once physicists and mathematicians begin to construct experiments and theoretical models to clarify the phenomena of distant influence, they will also devise ways of giving lawful and quantitative accounts of these happenings, as well as discovering physically detectable concomitants. It is not as if physics had, even in principle, explained everything that occurs on the surface of our planet, barring only telepathy!

The problem does not seem to be one of *physical grounding* but of *anatomical location*. Vasiliev states categorically that our psyches must never be separated from our brains. This is, surely, simply a confession of faith. There is no logical necessity for this to be so, however plausible the assertion might be. Hence it would seem to be a matter for factual investigation and not for unqualified axiomatic assertion. As has been argued by Professor P. F. Strawson, the fact that for each person there is one particular body that occupies a highly privileged relationship between experience on the one hand and anatomical position on the other, is contingent and not logically necessary. ('Contingent' in philosophical argument means that something happens to be so, but might be otherwise. Empirical investigation is concerned with how the world happens to be.) Strawson¹⁵ posits a logically possible state of affairs in which a subject of experience, S, has three bodies, A, B and C, supplying S with different facets of visual experience. This is, of course, fanciful and Strawson does not suggest that he or anyone else actually believes such a state of affairs to obtain anywhere: he merely uses it to illustrate the difference between what is the case, what *could be* the case, and what *must be* the case.

Now some of the phenomena of distant influence seem actually to point to a state of affairs not so very remote from Strawson's flight of the philosophical imagination. For example, the German doctor Gustav Pagenstecher describes experiments with a subject, Maria Beyes de Z.,

who, once she was in hypnotic trance, lost all powers of sensory experience: she could neither see nor feel nor smell nor taste nor hear, except that she continued to hear and respond to the hypnotist's voice. However, she did have the same sensory experiences as Dr Pagenstecher had undergone: if he put salt or sugar on his tongue she would experience the taste of these substances at that time; she heard the ticking of a watch held to his ear; she blinked when his eyes were subjected to a flash of light; she sneezed when an ammonia flask was held under his nose, she experienced a needle prick in his finger in precisely the same corresponding location of her own finger.¹⁶ Perhaps the world is at times such that what is experienced by one body is experienced by another subject located elsewhere. Pagenstecher's is not an entirely isolated case: the German psychical researcher Tischner made some similar observations, and I have seen, at an international Congress in Prague (June 1973), a film made by Dr Z. Rejda in which apparently subjects under hypnosis experienced the effects of physical and physiological stimulation applied to another person whom they were unable to see. Russell Targ and Hal Puthoff describe how subjecting a person to certain visual experiences can apparently affect the alpha rhythm of the brain of another person located elsewhere — a related and, if confirmed, exceedingly important observation.¹⁷

Vasiliev, as well as Platonov and many others, found that success at distant influence depended among other things upon the hypnotist's vividly imagining that the subject was in fact doing or experiencing what he wanted him or her to do or experience. Whatever the ultimate physical nexus between the location of the bodies of hypnotist and subject, what was vividly imagined by the experimenter in place p_1 was experienced by the subject at the same time in place p_2 . And this throws considerable doubt on the total insulation in principle of separate experiences anatomically located in different places. It suggests that, as a matter of contingent fact, a person can 'perceive' and experience events to which he does not have relevant anatomical access. In other words, under certain conditions people can 'perceive' and respond to stimuli to which their bodies have no access via their normal sensory equipment.

Once the possibility of distant influence is granted, the door is opened to (among other things) entirely novel ways of explaining cultural, social, personal and physiological similarities and differences between persons or, for that matter, individual members of any species. It could, for example, throw a completely new light on current controversies concerning language acquisition: Professor Noam Chomsky believes that, in order to understand the rapidity and the logical processes by which children learn to speak, we require theoretical constructs such as 'deep structure'

which must be inherited. This has involved him in postulating the genetic transmission of innate ideas.¹⁸ If distant group telepathic influencing were allowed, this might lead to new theories and new empirical and experimental observations in the immensely important field of language learning.

Closely beneath the surface of controversies ranging around the phenomena of psychical research both in the West and the East is the ever-present spectre of religious beliefs, particularly in a continued existence after death. For Marxists, such beliefs seem particularly pernicious from a social point of view in that it might quite reasonably be expected to detract from our efforts to make this planet here and now into a somewhat less unsatisfactory place; but Western champions of present-day science as a system of belief are hardly any less zealous in denying as mystical, obscurantist and absurd the very possibility of human survival of death. Vasiliev is at special pains to dissociate himself from spiritualistic beliefs, just as many Western exponents of parapsychology have been eager to affirm that psychical phenomena have little if anything to do with beliefs in survival. Such a strict division seems to me open to debate if the tie between anatomical location and experience is loosened. Once it is supposed that our veridical experience (that is, experience of what is in fact the case) is not fully dependent on what reaches our brain via our organs of sense, then there is some degree of independence of person from anatomical body. The question again becomes one of degree, not of kind — of 'how much?' rather than of 'whether?'

Professor Strawson sees no difficulty in our intelligibly envisaging our own personal survival of bodily death, for the simple reason that we can quite easily imagine it. He merely imposes two limiting conditions: that (a) one should have no perception of a body related to one's experience as one's own body; (b) one should have no power to initiate changes in the physical conditions of the world such as one would normally be able to make with, say, one's hands and vocal chords. If I understand him correctly, Professor Strawson imposes these conditions on the grounds that not to impose them would be a 'vulgar fancy' and would take one into the realm of spiritual seances.

Now it seems to me that vulgarity is neither here nor there, and that the dividing line between the philosophical imagination and vulgar fancy is rather a blurred one. That some contingency is vulgar is hardly a good reason for saying it could not be true; nature is no great respecter of proprieties. Perhaps Professor Bernard Williams¹⁹ is right when he states that the imagination is too tricky a thing to provide a reliable road to a comprehension of what is logically possible; at any rate, imagination

and imaginability are tricky guides for ruling out what cannot be. The formulas of modern relativity theory and quantum physics describe states of affairs which it is not possible (at any rate, for most of us) to imagine. In fact, mathematical language has been devised precisely in order to enable us to go beyond what can be said in ordinary speech or conceived in terms of everyday imagination. But this does not prevent me from accepting, perhaps merely as a characteristically pious child of the twentieth century, that they describe important aspects of scientific reality. And, after all, if Jean Piaget has shown anything, he has established that some children at certain stages of development are at times quite unable to imagine the world from other than a severely restricted egocentric one — which does not prevent these other perspectives from holding true for other experiencers!

When Kitaygorodsky and Roshchin were arguing about the impact of an acceptance of telepathy upon people's religious beliefs, they were agreed that a belief in human personal survival is both false and pernicious: only Kitaygorodsky was (at least before his conversion) convinced that a study of telepathy would favour such beliefs, whereas Roschin contended that a scientific study would exorcise the spirits. Time will show which, if either, of them will turn out to be right.

Vasiliev certainly had the good sense to steer clear of this particular issue: there is only one single instance in his book which might conceivably have a bearing on relevant mediumistic phenomena.



It is simply not possible, on the strength of such evidence as we have to date, to come to any confident conclusion about the way or ways to interpret these mediumistic phenomena, which have not changed much since Aksakov's day. But that they are by no means deeply buried beneath the surface of the minds of those who concern themselves with psychical research, in the West or in the East, is quite certain. It seems most unlikely to me that Vasiliev was ignorant of the extensive and detailed writing of Aksakov.

Quite apart from the politically and ideologically tricky issue of personal survival, ostensible telepathic experiences do tend to present a problem to those who have them and who are committed to a picture of the world that would exclude them. *Vasiliev was permitted in 1960 to establish a unit at the Institute for Brain Research that concerned itself specifically with parapsychological matters.* As soon as this became known, he was inundated from all parts of Russia with letters from correspondents giving details of psychical experiences which had troubled them deeply. He cites a

particularly poignant instance given by a teacher, Madama Agenossova, living in Nishni Tagil,²⁰ who says how ashamed she had been all her life of having telepathic experiences, since this is so unbecoming to a good Communist. Throughout her life she had had dreams and visions which reliably supplied her with information she ought not to have had.

For example, in 1942 she suddenly had a vision of getting a telegram from her husband stating that he was being sent to the front from Sverdlovsk. Actually, he was stationed in Shadrinsk and was not due to depart until later. She was so certain that the vision was right that she instantly obtained the necessary travelling papers to go to Sverdlovsk. There she went to see her daughter, who was married to a member of the NKVD, and, while they were talking, Mrs Agenossova's husband turned up and said that he had written out just such a telegram but had decided not to send it in order not to upset her. The incident was witnessed and testified to by her son, V. V. Agenossov, headmaster of Secondary School No. 32.

She also dreamed during the war that her husband and her son, who had been posted to different parts of the front, had met. She wrote to both of them at once and found that on the day of her dream they really had met, a totally unexpected and highly improbable event. She states that later she dreamed that her son had suffered a concussion and he had; that her husband had had an affair with another woman and he had. She had never dared to speak of these things outside her family circle, it was all so un-Communist and unscientific, but now that scholars and scientists were concerning themselves with such matters perhaps it was all right, and it might even perhaps be helpful to write about them.

As has been shown, the political and ideological acceptability of parapsychological research in the Soviet Union has been subject to considerable fluctuations: flourishing openly at first under Bekhterev and Platonov in the 1920s; then, at best discouraged, at worst suppressed when Vasiliev's simple materialist theory had not been proved in the late '30s, '40s and '50s; acclaimed and financed in the early 1960s when there seemed to be some risk that American scientists might claim the credit for discoveries priority for which quite properly belonged to Russian scientists; and persecuted once again in the late 1960s and 1970s.

What brought about the renewed change of policy after Vasiliev's death?

Dr J. G. Pratt, one of the first Western researchers to visit Russia after the publication of Vasiliev's work, describes two of his visits, one in 1963, the other in 1968. He provides a vivid demonstration of the difference in atmosphere pervading the two conferences he attended, both of which were organized by Eduard Naumov. During the former, free and cordial

exchange of views was possible; the second was more or less wrecked by an article in *Pravda* attacking parapsychology. Most of the Russians declined to deliver their papers and Western visitors were pressed to give impromptu lectures; the House of Friendship withdrew its invitation to hold further meetings or allow films to be shown.²¹

From this time onwards official hostility towards parapsychology increased in the Soviet Union. What seems to have happened is that the Russian authorities took the strongest possible exception to a book by two Canadian journalists, Lynne Schroeder and Sheila Ostrander, *Psychic Discoveries behind the Iron Curtain*, based on a visit to Russia and other Eastern bloc countries by the authors in 1968.²² The 'Voice of America' beamed a radio programme into Russia discussing the Schroeder and Ostrander visit, and it would appear that the tenor of this broadcast was such that the two journalists' visit and their subsequently published book could be construed as a politically motivated attack using parapsychology as a propaganda weapon.

Unfortunately for him, Eduard Naumov had acted as guide, mentor and interpreter to the two ladies during their stay in Russia, and his help and advice is acknowledged throughout the book. Apart from the 'Voice of America' episode it is not clear why Soviet officialdom should have taken such fierce exception to a candidly popular and sensationalistic book, which is not at all of a type likely to be taken particularly seriously by Western scientists. Perhaps the most plausible interpretation of the Russian reaction is that they are quite understandably worried that they might be believed to be, by the world's scientific community, self-proclaimed champions and leaders of parapsychology, especially as expounded by Schroeder and Ostrander. So far as officially-sanctioned Soviet science is concerned, this is simply not true. Russian scientists are just as divided among themselves concerning parapsychology as are scientists in the West.

In October 1973, four eminent members of the Moscow Academy of Pedagogical Sciences — Professors Zinchenko, Leontiev, Lomov and Luria — wrote a long and detailed paper entitled 'Parapsychology — Fiction or Reality?' This was published in *Questions of Philosophy*, an official publication of the Soviet Academy of Pedagogical Sciences, and explicitly sets out 'to express the viewpoint of the USSR Society of Psychologists towards parapsychology'.²³

The paper is certainly very interesting. The authors accept that 'obviously some so-called parapsychological phenomena do happen; however the main obstacle to the acceptance of their existence is ignorance of the basis of their operation'. It is by no means wholly clear from their paper just which of the parapsychological phenomena the authors believe

'obviously happen', since the only ones they unambiguously support as authentic, such as Kirlian photography and Rosa Kuleshova's 'skin vision', are explicitly stated not to be parapsychological after all. Indeed Rosa's 'dermal-optical vision' is said to have 'nothing in common' with parapsychological phenomena: 'it would seem that the dermal phenomenon actually exists . . .'. Zinchenko *et al* accept a definition of parapsychology as studying, among other things, 'forms of perception affording a means of receiving information which cannot be explained by the known senses'; and it is hard to see, if this is so, why Rosa's apparent ability to perceive via her skin impressions normally requiring eyes, should fall outside the realm of parapsychology.

Perhaps phenomena are being tacitly classified into two categories: those that happen (and hence are not parapsychological) and those that do not (and hence are). The authors are indeed at pains to show that there is no such subject as parapsychology, only motley phenomena that belong to various other academic disciplines. A detailed discussion of this view, for which a case can indeed be made out, is out of place here. However, the political implications are relevant. A large proportion of the paper is, in fact, devoted to denunciation of 'militant parapsychologists' and, although just who is being attacked is not made fully explicit, the implications are reasonably clear: 'militant parapsychologists' are those who have championed the subject in Russia since Vasiliev's death — notably Eduard Naumov. He is not mentioned by name, but the Institute for Technical Parapsychology is, as an instance of the type of organization which does not, and never has, existed in the USSR. The non-existent Institute for Technical Parapsychology, as described by Stanley Krippner, was the presumably private organization of which Naumov was director.²⁴

Zinchenko and his colleagues state that one encounters in the literature speculations on the theme of national defence, psychological warfare, intelligence gathering, etc., and they shrewdly surmise that such speculations are apt to be designed to obtain government finance for parapsychological research. 'However, the general stream of parapsychological literature simply does not contain evidence that these applications of parapsychology are frequently made'. Yet later on in the article the authors write that 'Parapsychologists often have an entirely practical motivation, for instance to discover through their study of telepathy a new means of communication in order to transmit important information, or through their studies of psychokinesis to discover a new form of energy in order to trip the detonating switch of an instrument at a distance'. One can hardly imagine any defence department anywhere in the world entirely disinterested in such 'entirely practical motivations';

nor in the admittedly unlikely event of their having financed reliably successful paranormal techniques for information transmission and trigger-pulling, permitting recipients of government funds to provide evidence for the usefulness of such applications 'in the general stream of the parapsychological literature'

Vasiliev is mentioned with approval by the four academicians, but only his popular pamphlet, *Mysterious Phenomena of the Human Psyche*, is cited, and there is no reference to his only published scientific monograph, *Experiments in Mental Suggestion*, here introduced as *Experiments in Distant Influence* and which he was anxious to have published in the West.

Notes and References

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3.

The Toth Case and Its Aftermath

Martin Ebon

On Saturday 11 June 1977, *Los Angeles Times* correspondent Robert C. Toth left his Moscow apartment to buy a jar of sour cream, called *smetana* in Russian. The cream was to be served with caviar to celebrate his daughter's graduation from the eighth grade. Toth was carrying an empty jar, planning to have it filled at a nearby store. But he never got to the store, because his outing had a second aim: a rendezvous with a Soviet scientist, Valery G. Petukhov.

The events that followed were like the plot from the kind of movie that isn't made anymore. It would have been too corny for the sophisticates who write, produce, and view films today. But in real life, melodrama still happens. And it happened on a Moscow street that Saturday morning.

Correspondent Toth hadn't been at all keen on seeing Petukhov that day. He had first met the Russian biophysicist earlier in the year. While Petukhov seemed eager to show his scientific findings to Toth, the correspondent felt that his work was 'only theory and far too complicated' for a newspaper story. Toth reported in his paper (12 June) that, as best he could recall, Petukhov asserted that certain particles of living cells 'are emitted' when such cells divide, that they can be 'detected and measured and that these radiating particles can carry information'. Their function could 'explain the basis for telepathy' and related phenomena.

To Toth, Valery Petukhov seemed 'like a serious scientist'. According to a card he handed the reporter, he was Chief of the Laboratory of Bio-Physics at the State Control Institute of Medical and Biological Research. He had been recommended to Toth by a dissident Soviet scientist who later emigrated. At their first meeting, the *Los Angeles Times* man told Petukhov that, once the scientist had proved this theory, he would be interested in writing about it.

Months passed. In mid-June 1977 Petukhov phoned Toth. The

biophysicist told Toth that his experiments had succeeded. He planned to describe them in a formal scientific paper; but, as Soviet authorities would certainly refuse to publish his work, he wanted to translate the paper into English and give it to Toth for publication in the West.

Toth wasn't very interested. A newspaper dispatch on a fairly obscure and highly technical series of experiments in cell function, even if linked to such a popular theme as telepathy, wasn't likely to excite either his Los Angeles editors or his readers. But when, on that fateful Saturday, Petukhov asked, with a note of urgency, to see Toth soon, the reporter offered to meet him the following Monday. No, said Petukhov, they should meet right then and there; he happened to be in the neighbourhood. They made an appointment to meet 'openly in the street', across from the apartment where the correspondent's family lived.

So, sour cream jar in hand, Toth crossed the street for a second meeting with the Soviet scientist. They talked about their mutual acquaintance, the man who had introduced them; then Petukhov took a manuscript from his briefcase. It consisted of over twenty typewritten sheets, complete with charts and photos of charts. It looked like a complex, comprehensive scientific paper, well-documented, appropriately technical.

Toth never managed to get a real look at the paper; it was then that the melodrama began. He had just left Petukhov and was walking back toward the dairy shop when a Soviet-made Fiat, the kind they call a Zhiguli, braked sharply at the curb. The car was filled with five plain-clothes men who jumped out and quite unceremoniously, as Toth put it, 'pulled me and my empty *smetana* jar inside'. Robert Toth's account continued:

'We took off, a man on each side pinioning my arms at the wrist. The man on the left, surprised and made uncomfortable by the jar, allowed me to put it on my lap. A half block down the street, Petukhov — a short, balding, nervous man in his middle 30s — turned at the sound of our car, saw a man trying to catch up to him, and began to walk faster. But a black Volga pulled up and he was hauled inside as we passed.

'Our car drove through red lights and down one-way streets the wrong way to a militia (police) station. My captors were firm and polite, offering me cigarettes once we got inside. I was ushered into a room with an inspector who declined my requests to phone the US Embassy but said a Soviet Foreign Ministry official would be called.'

Toth's situation was unique. The madcap ride through the city streets had given the incident an air of high urgency. Now he found himself in a minor police station on Moscow's Pushkin Street, isolated from diplomatic representatives of the United States, despite the fact that he

had enjoyed the status of full-time correspondent of a major US daily newspaper for a full three years.

He was, at least temporarily, in the position of an outlaw. But what, specifically, were the charges against him?

In addition to the Foreign Ministry official and a KGB agent, a man named Sparkin, the police inspector summoned a senior researcher of the USSR Academy of Sciences, Professor I. M. Mikhailov. Mikhailov was asked to provide expert testimony on the paper Petukhov had given Toth, which the police were now treating as 'evidence'. But evidence, Toth wondered, of what? It soon became clear that the correspondent was being 'detained' because he had obtained 'state secrets'.

Specifically, Professor Mikhailov stated:

'The article beginning Petukhov, Valery G., from the words "micro-organism self-radiation . . ." to the words ". . . by means of vacuum particles in space", states that within the content of living cells are particles . . . and these particles are grounds for discussing the fundamental problems of biology in the context of biology and parapsychology. There is also information about the uses of such particles. This material is secret and shows the kind of work done in some scientific institutes of our state'

It was this last sentence that raised eyebrows among observers of Soviet parapsychological studies throughout the world. Earlier, Moscow authorities on various levels had several times denied that parapsychology was being researched in the Soviet Union. A year before, Leningrad writer Vladimir Lvov had published an article in France's leading daily, *Le Monde* of Paris, in which he asserted categorically, 'The truth is simple: parapsychology is not accepted as a legitimate and official branch within Soviet science. No institute or centre of research in the Soviet Union is devoted to telepathy, psychokinesis, etc.' The Mikhailov testimony in the Toth incident directly contradicted the Lvov statement.

Robert Toth thus found himself in the incongruous position of being accused of receiving 'state secrets' developed at a Soviet institute — secrets that, in the view of at least one authoritative spokesman, weren't being studied in such institutes at all. This incongruity didn't help Toth's extremely awkward position. He said later that the charge the Petukhov article contained secret information 'was laughable, as if attempts to prove the earth is flat were classified as secret'.

This sort of comment certainly doesn't put correspondent Toth in the category of True Believers in parapsychology, or among eager purveyors of parapsychological information, whether secret or open data. He did report that the subject 'had its ups and downs' in Russia, and cited the English-language *Moscow News* as stating that, while charlatans and quacks

were active in the field, 'objective results can only come from rigorous scientific investigation of the phenomena whose causes are as yet unknown.' Toth had interviewed Edward Naumov, the Russian parapsychologist with the most extensive contacts among foreigners, but 'found the result not worth a story.' Toth briefly abandoned his journalistic tough-guy pose after his forcible encounter with 'secret' parapsychology material, and wondered out loud whether there might be something to it after all.

Professor Mikhailov's testimony on the Petukhov paper and Toth's police interrogation at the Pushkin Street Station lasted about two-and-a-half hours. At last, a representative of the US Embassy, Vice Consul Lawrence C. Napper, was permitted to come to the station. The reporter's account of his meeting with Petukhov was read aloud and translated into Russian, but Toth refused to sign a handwritten Russian version of it. KGB man Sparkin then told him he was 'free to go'.

Toth's Moscow difficulties were not at an end. The following Tuesday, Toth had a telephone call from another US Embassy official, Theodore McNamara, who asked him to come to the embassy immediately. The matter, he added, was 'serious'. At McNamara's office, Napper and two other officials were waiting. They handed Toth a Soviet note that had been delivered a half hour earlier; it contained these passages:

'The Ministry of Foreign Affairs is authorized to state the following to the American Embassy:

'On the 11th June of this year Robert Charles Toth was apprehended at the moment of meeting with a Soviet citizen, Petukhov Valery Georgiyevich, which took place under suspicious circumstances. When apprehended, the American journalist was found to have materials given to him by Petukhov, containing secret data.

'The Ministry of Foreign Affairs informs the American Embassy that in conformity with established procedure, Toth will be summoned for interrogation by the investigatory organs, in connection with which his departure from Moscow until the end of the investigation is not desired.'

Toth didn't like the sound of the last sentence, which put a big question mark on his travel plans. The incident had occurred just two weeks before Toth and his family were scheduled to return to the United States. He feared that the planned interrogation might involve an accusation of spying, and who could tell what that might lead to? He telephoned his wife, Paula, to pick him up. She came, along with their seven-year-old son, John, and they went straight home.

Within the hour, a polite KGB agent, wearing a flowered shirt and a grey suit, arrived, asked Toth to identify himself, and told him to come

to the State Security's Lefortovo centre for interrogation. Toth described the KGB centre as located in one of Moscow's seedier sections, with leafy trees whitewashed several feet up the trunk, street car tracks running through loose cobbles in the streets.

His interrogator, Major O. A. Dobrovolsky, asked, 'Do you know why you are here?' and Toth answered, 'I assume it is in connection with Saturday's incident.' To which the major replied, 'Precisely,' and warned him of his 'rights' and 'responsibilities.' Dobrovolsky, as reported in a dispatch by Toth also said,

'According to our law, you may be questioned about everything of interest to this organization [the KGB], and your statements should be real and show the whole picture of the situation. You are warned not to give unreal statements and not to refuse to answer, according to our law, Articles 108, 109 of the Criminal Code. As a witness, you may read the protocol [account of the questioning], make changes or give new statements in addition.'

When Toth mentioned that under US law he would be permitted to refuse to answer questions, he was told that this was not acceptable under Soviet law. He was also advised that he had no diplomatic immunity.

Toth then gave his account of the events that had led up to his Saturday encounter with Petukhov.

Dobrovolsky asked Toth how he gathered information, and the reporter said that it fell into three categories, among them 'official' and 'unofficial' news. He tried to make sure that the Russian translation of his words made a distinction between 'unofficial' and 'illegal' information, but his interrogator just 'smiled and shrugged to indicate that there was no difference to him.' So Toth added:

'None of the information I have ever received here has been secret, military information. The information from dissidents is aimed solely at helping themselves get out of this country, or of changing it from the inside, as some of the human rights activists want. Besides, how can you possibly contend that parapsychology is secret?'

To which Dobrovolsky replied,

'Parapsychology as a whole may not be secret information. But there could be fields of science within parapsychology that are secret. It is not for me, as it's a matter for experts, to say what is secret, and the scientist has stated that the materials you received are a secret. And you received them under circumstances where your behaviour and the information seems to be a breach of our law.'

He explained later that it didn't matter whether Toth himself knew that

the information Petukhov handed him was secret, but that his 'behaviour' in the matter 'may be regarded as spying.' The major left the room, then returned and announced they would prepare a protocol of the interrogation. The writing-up of the protocol took an hour, and arguments about its details lasted for another hour. One point Toth disputed was the allegation that he had told his interrogator that Petukhov once said in the presence of two dissidents — one of them Anatoly Shcharansky, who was later sentenced for 'treason' — that there was a theory 'according to which it is possible to pass human thought at some distance.' This, Toth maintained, he had never said, since it had never happened. The KGB people told him they would delete it from the protocol.

Eventually Toth signed the paper with this qualifying phrase: 'This protocol has been translated for me, and with its essence I have no major objections.' By that time, it was 6 p.m. He was told, 'You are finished for today' but the major added with a smile, 'until tomorrow; you are required to return at ten tomorrow morning.'

The interrogation the next day, undertaken by three KGB officials, centred on Toth's relationship to Shcharansky, whose trial was then being prepared. Toth was told that he was not being questioned as an accused person, but as a witness. At one point, the reporter cut into the multiple queries and asked, 'Why am I here? Why can't the American consul be present? What am I charged with? What's the purpose of the investigation? Who is accused? Of what?' The reply was, in effect, that this was none of his business. His testimony would be used in whatever manner, and against whomever, the authorities chose.

After this second interrogation Toth was still unsure of his fate; he didn't even know whether there would be another such session the following day. But the next morning one of the interrogators, Major Vladimir Chernish, telephoned to say 'You are no longer needed.' The US Embassy received a confirmation from the Foreign Ministry: 'There is no obstacle to Mr Toth's departure.'

The Toths quickly arranged for a flight to the United States abandoning earlier plans for a trip through Siberia and Japan. The incident ended on what Toth called 'a ludicrous note.' A Tass reporter at Moscow airport asked him whether he felt he had been 'treated fairly', whether he might wish to return to the Soviet Union at a future date, and whether he might feel 'nostalgia' for the country. Toth was simply relieved to get away relatively unscathed.

Robert Toth was quite bewildered by what had happened to him. His case had made waves in US-Soviet relations. President Jimmy Carter had expressed his government's 'deep concern' about the interrogation and the implied threat to Toth's safety. The incident had taken place

on the eve of the first anniversary of the Helsinki agreement, which had been designed to strengthen human rights.

Peter Osnos, the *Washington Post's* correspondent in Moscow, described Toth as 'an experienced science writer', who dealt with research in Soviet genetics, linguistics, and sociology. In one article, whose contents were 'openly credited to Shcharansky', Toth said that some Soviets who worked in seemingly ordinary institutions, such as a meteorological laboratory, had been refused permission to emigrate on grounds of secrecy. Toth suggested that there was some doubt, therefore, as to what really went on in those establishments. Osnos wrote that 'this story particularly interested the Soviets.'

Before leaving Moscow, Toth said that he expected that, after his departure, 'there will be press articles pretending I was a spy or that I was collecting secret information from dissidents'. He said that his experience had convinced him Soviet authorities regarded 'any information about science, not officially released, as secret.'

Toth turned out to be right. The Soviet news agency Tass said on 12 July, a month after the Toth incident, that 'competent Soviet organs' had established that the *Los Angeles Times* reporter had worked on assignments from 'American special agencies', presumably intelligence agencies. The report asserted that Toth had sought the acquaintance of scientists, including dissidents, under the guise of legitimate journalism. Concerning Toth's contact with Petukhov and his parapsychology research, Tass alleged the correspondent had planned to turn the biophysicist into 'a regular and clandestine source of secret materials from the laboratory of an institute engaged in research of a secret character.'

The *New York Times* (12 July) quoted dissident sources in Moscow as reporting that Petukhov had been released after only four days in custody, and that the director of the State Control Institute of Medical and Biological Research had been instructed to reinstate the biophysicist, because he had helped 'the KGB expose an arch-intelligence agent from one of the imperialist countries.'

The incident was re-examined later in the Moscow weekly *Literaturnaya Gazeta* (31 August 1977) by V. Valentinov and B. Roshchin, in an article entitled 'This Strange Parapsychology'. The authors took issue with Toth's 'passionate defenders'. They said it had 'transpired' that Mr Toth's friend (presumably Petukhov, whose name the magazine never mentioned) 'is not merely an amateur of parapsychology' but actually 'runs the laboratory of an institute'. As a matter of fact, this had been clear from the very beginning, when the international press identified Petukhov from the business card he gave Toth. The Moscow weekly added:

'And it was no accident that the meetings with him were fixed conspiratorially in secluded corners. Toth, to use the bare language of the documents of the investigation, was striving to transform his acquaintance into a source for obtaining espionage information. And here he was extremely interested in the activity of one institution — the kind of institution whose affairs ought to be known to only a narrow circle of people

'The correspondent of the Los Angeles newspaper also wanted to learn about these affairs, such as the "small supplement" to the parapsychological dissertations which Toth had asked the Soviet scientist to bring along and which he forgot to mention in his homeland.'

Valentinov and Roshchin, who had obviously been given access to the protocol of the KGB interrogation of Toth, then paraphrased from it to dramatize the 'espionage' allegation. They said the correspondent had received information from 'various kinds of renegades', who were 'perfectly well aware of Mr Toth's predilection for the sectors of science having a military application'. Thus, the paper said, he was 'supplied with information about specific projects of no journalistic interest to Toth'.

The article concluded with quotations from private correspondence, apparently intercepted, to Toth from Robert Waters, whom the paper identified as 'a former officer in the US military attaché's office in Moscow, now an official in the central military intelligence apparatus'. The letter was cited as quoting Lieutenant-General Samuel Wilson as speaking highly of Toth and saying he had been 'pleased that an opportunity to meet with you presented itself. The article identified Wilson as serving, at the time the letter was written, as 'director of the US Defence Intelligence Agency'.

The Toth incident was the culmination of a campaign against major US correspondents in Moscow, particularly those who had established personal contact with dissidents. Other reporters had been harrassed by Soviet authorities before Toth, and still others had such experiences later on. Certainly the implied policy Toth cited, that 'any information about science, not officially released, is secret', had more or less been an established attitude for decades. Exceptions to this rule occurred, but exceptions they remained.

When parapsychologists later asked Toth, who became a *Los Angeles Times* correspondent in Washington, what had actually been in the Petukhov paper, he confessed that during the half-minute the papers were in his hands, he had had no chance even to read a few lines. But the scattered phrases cited by Professor Mikhailov as proving the secret nature of the paper's content indicate that it dealt with areas of major concern to Soviet parapsychologists: the potential of cell particles, possibly photons, to be instrumental in information transfer. If the Petukhov papers

actually contained data on efforts in telepathic experiments to channel such functions, and if methods that revealed military potential were discussed in detail, they could be highly intriguing. However, considering the cat-and-mouse nature of the Toth incident, the papers would seem to have been no more than bait — snatched away before the first nibble.

Part Two

The Present Situation

4.

The New Mental Battlefield: 'Beam Me Up, Spock'

Col. John B. Alexander, US Army

'The analysis of the following subject matter and the views and conclusions expressed therein are exclusively those of the author. They are not intended, nor should they be construed as representing the official ideas, attitudes, or policies of the US Department of Defence.'

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Psychotronics may be described as the interaction of mind and matter.¹ While the concepts may stretch the imagination of many readers, research in this area has been underway for years, and the possibility for employment as weaponry has been explored. To be more specific, there are weapons systems that operate on the power of the mind and whose lethal capacity has already been demonstrated.²

Two subdivisions of this field have also been investigated. Mind-altering techniques designed to impact on an opponent are well-advanced. The procedures employed include manipulation of human behaviour through use of psychological weapons effecting sight, sound, smell, temperature, electromagnetic energy or sensory deprivation.³

The other area of experimentation involves parapsychological phenomena known as the out-of-body experience (OBE), remote viewing, extra-sensory perception or bioinformation, depending on the source and technique employed. It has been demonstrated that certain persons appear to have the ability to mentally retrieve data from afar while physically remaining in a secure location. It may sound fantastic, but consider the available unclassified data.

Soviet Research

It is generally believed that the Soviets and their allies are well in the

lead in parapsychological research. This belief is supported by a number of popular books that have been on the market for the past ten years. Not as well-known are two Defence Intelligence Agency reports that were released through the Freedom of Information Act. The reports were prepared by the Office of the Surgeon General and are titled *Controlled Offensive Behaviour — USSR* (Unclassified), 1972, and *Soviet and Czechoslovakian Parapsychological Research* (Unclassified), 1975.

The reality of paranormal events has been accepted by Soviet researchers, and theories have been developed to explain and study those events. The Soviets have further developed techniques to control and actively employ their knowledge of parapsychology.⁴ Included in the research has been investigation into areas such as telepathy (the mental awareness of information over distance), precognition (the knowledge of future events), telekinesis (movement of matter with the mind) and the transfer of bio-energy from one body to another.

The amount of information scientifically verified by the Soviets is voluminous and beyond the scope of this article. However, several examples will demonstrate areas in which progress has been made:

1. *The transference of energy from one organism to another.* The ability to heal or cause disease can be transmitted over distance, thus inducing illness or death for no apparent cause. While this has been demonstrated on lower organisms, flies and frogs, the present capacity for human death is still debated.⁵
2. *The existence of energy emanations from the body* has been repeatedly demonstrated through radiation field photography known as the Kirlian effect. This phenomenon, which has been widely replicated in the West, reflects changes in emotional condition.⁶
3. *Telepathic behaviour modification*, which includes the ability to induce hypnotic states up to distances in excess of 1,000 kilometres, has been reported.⁷
4. *The ability to move objects mentally* has also been repeatedly demonstrated under scientifically controlled conditions. Movement of selected objects intermingled with others has also been accomplished.⁸

American Research

The extent of parapsychological research in the United States is not well-known nor is it centrally organized. The US government is reported to have funded some research projects, but these have not been published. Frequently, the data are anecdotal in nature and are not well-accepted in the scientific community.

Unlike the Soviet research, US efforts have frequently been attacked

as inconclusive. Since the phenomena being examined are frequently beyond explanation in known scientific terms, they are often discounted as non-existent.

Russell Targ and Harold Puthoff at Stanford Research Institute have conducted some of the best known US experimentation on the ability to collect data from afar, or 'remote viewing' as they call it. Their evidence tends to support claims that relatively accurate information can be obtained through employment of these methods.⁹ During experiments, the tested subject was required to mentally visit a remote area and then later draw or describe the target site in detail. This was satisfactorily accomplished on several occasions although neither the subject nor the experimenter had prior knowledge of the target.

The bulk of out-of-body data from US research is anecdotal. Literally thousands of people have reported the experience of being discretely and consciously located *outside* their physical bodies and yet able to view themselves from that perspective with a total awareness of activities in that area. This phenomenon is frequently associated with life-threatening circumstances such as accidents, illness or extreme danger. Many soldiers who have had 'close calls' in combat have reported being in the OBE state of consciousness. Many physicians have been embarrassed by patients who, after being revived from an unconscious state, were able to repeat conversations and events that had occurred while they were unconscious.

Scientific experimentation has also been conducted with OBE. Test subjects have induced OBE states while being physiologically monitored and have retrieved data that was not available through normal means. Experiments frequently include identification of random numbers either placed out of sight nearby or at a more distant location. A distinct electroencephalogram (EEG) pattern called Alphoid has been isolated during tests, thereby indicating that this state is detectable through accepted physiological monitoring methods. Although some tests were successful, others were not, leading to the conclusion that an extremely complex phenomenon was involved.¹⁰

Another phenomenon that has attracted the attention of US researchers is that of psychokinesis (mind over matter), particularly the distortion of metal objects by mental and nonforceful physical techniques. The most common, and least practical, application probably has been the bending of forks and spoons by gentle stroking of the object. Microscopic examination of the bent or broken items has revealed a different form of fracturing than is experienced when metal items are ruptured by physical force.¹¹

The most likely explanation for this phenomenon is that the subject

is mentally generating an electromagnetic force capable of distorting or rupturing the target object. The existence of such a force has been established through the Soviet-developed means previously described as Kirlian photography.

Further testimony concerning the existence of electromagnetic emanations from the physical body may be found in the medical concepts of acupuncture. Despite common use of acupuncture in the East for thousands of years, Western medicine is only now accepting the premise that the human body can be treated for physical ailments through adjustments in *Ki*, the minute electromagnetic life force that flows through us.¹²

The ability of the mind to control our physiology is being explored medically and in other areas through the medium of biofeedback. It has been determined that the functions of the autonomic nervous system, previously thought to operate independently of the conscious mind, can be controlled. This indicates that we can internally direct our physiological systems that produce anxiety and stress. With training, a subject can learn to control fear and even bleeding. The day-to-day benefits of stress reduction in modern life have been widely touted.

A similar field, that of meditation, has also been examined. Massive amounts of data are available addressing the mental and physiological benefits that may be derived through the practice of meditation. These reports are commonly accepted and will not be discussed here. What is not as well-known is the research done on the Transcendental Meditation Sidhis Programme. Though considered controversial by some, this programme has produced evidence that individuals can be taught to physically levitate or 'fly' and manifest other physiological phenomena.

To support this evidence, Dr David W. Orme-Johnson has monitored brain functioning on the EEG and found high coherence of the right and left hemisphere.¹³ This data supports the supposition that people can be trained to employ their minds to produce physical phenomena that extend our bounds and concepts of reality.

Other areas, too numerous to mention, have also been explored. The major problem has been the lack of funding or co-ordinated effort. It has been easier to ignore paranormal considerations than to address the sticky questions raised through examination.

Military Application

The intelligence-gathering capability available through remote viewing or OBE travel is obvious. Henry Gris and William Dick report that test subjects, targeted against strategic sites in both the USSR and the People's Republic of China, were able to penetrate secured areas to retrieve desired

data via out-of-body travel. They further claim the results were verified by independent agents.¹⁴

The strategic and tactical applications are unlimited. When finally developed, this capability could ultimately allow an operator to enter an enemy headquarters at will to observe plans and dispositions. On the battlefield, one could reconnoiter an area from the physical safety of his own chosen location.

Two major problems presently exist in the implementation of this programme. Only certain individuals have demonstrated innate skills of controlled OBE, and data reliability is uncertain. These problems can be attributed to lack of observation skills of the subject as well as the complexity of the phenomena involved.

The use of psychotronic weapons has already been mentioned. Certainly, with development, these weapons would be able to induce illness or death at little or no risk to the operator. Range may be a present problem, but this will probably be overcome if it has not been already. Inventor Robert Pavlita claims that no special psychic ability is necessary to charge the generator. The psychotronic weapon would be silent, difficult to detect and would require only a human operator as a power source.¹⁵

Soviet researchers studying controlled behaviour have also examined the effects of electromagnetic radiation on humans and have applied those techniques against the US Embassy in Moscow. Researchers suggest that certain extremely low frequency (ELF) emissions possess psychoactive characteristics.¹⁶ These transmissions can be used to induce depression or irritability in a target population. The application of large-scale ELF behaviour modification could have horrendous impact.

The use of telepathic hypnosis also holds great potential. This capability could allow agents to be deeply planted with no conscious knowledge of their programming. In cinema terms, the Manchurian candidate lives and does not even require a phone call.

Other mind-to-mind thought induction techniques are also being considered. If perfected, this capability could allow the direct transference of thought via telepathy from one mind, or group of minds, to a selected target audience. The unique factor is that the recipient will not be aware that thoughts have been implanted from an external source. He or she will believe the thoughts are original.¹⁷

Conclusions

The impact that psychotronic weaponry and other paranormal applications will have in the future is difficult to determine at this time. It has been suggested that whoever makes the first major breakthrough in this field will have a quantum lead over his opponent, an advantage

similar to sole possession of nuclear weapons. Clearly, advances in any of the aforementioned areas will add new dimensions to the battlefield.

The Soviets and their allies have been working in this field for many years. Their conviction that this area has military application is evident. They continue to fund this programme and operate research centres such as those at Novosibirsk. If there were no perceived military advantages, it is doubtful they would provide financial and scientific backing.

Another indicator is the degree of secrecy that was invoked by the Soviet government on parapsychological research. The arrest in 1977 of American correspondent Robert Toth on charges that he had received secret parapsychological data from a Soviet scientist is indicative of the sensitivity in that area.¹⁸ There is sufficient concern about psychic intrusion to cause work to begin on countermeasures such as bioenergy detectors.

Available evidence supports the thesis that paranormal phenomena do occur and, under some circumstances, can be controlled. The military potential for such controlled resources has already been examined. Clearly, psychotronic weapons already exist; only their capabilities are in doubt. That is not to say that problems do not exist with the weapons and the concepts. At the present time, unpredictable systems failure and difficulty in controlling testing are major weaknesses.

The information presented here will be considered by some to be ridiculous since it does not conform to their view of reality, but some people still believe the world is flat. Other readers may view this as a conservative approach because such controversial areas as hyperspatial transmitters or Tesla wave generators have not been addressed.

The intent here is to emphasize the need for more co-ordinated research in the realm of the paranormal. Additionally, there is a need to provide leaders at all levels with a basic understanding of weapons systems they may encounter in the not too distant future.

Postscript

The following remarks by Col. John B. Alexander, Ph.D., are excerpted with his permission from an address he gave in October 1981 during a panel on metapsychiatry at the annual meeting of the American Association for Social Psychiatry. The address, entitled 'The Problem of Psychotronics: A Military Approach and Ethical Framework', is an expansion of the preceding article. I wish to acknowledge Col. Alexander's generosity in allowing me to quote from his address. Editor.

The theoretical battlefield of the next war can be characterized by

complexity that is increasing at an exponential rate. We postulate and simulate low, mid, and high intensity conflicts in every geographic area of the world. To accomplish this, we implement tactical and strategic planning with nuclear weapons capable of both achieving limited objectives, and those of mass destruction whose introduction wreaks such havoc as only a Dantaen prognosticator might envision. Concurrently, planning for defensive chemical and/or biological weapons is required while technological advances sophisticate electronic warfare and provide laser weaponry, not to mention the advent of particle beam systems. Were this not enough to confuse the command and control aspects of war, we can now hypothesize a quantum leap in complexity through the theoretical context of multidimensional realities and evidenced by psychotronic experimentation. It is my contention that within the foreseeable future the very constructs of time and space as presently conceived in consensus reality as we know it may be subject to significant revision to accommodate such subject matter areas as psychokinesis, psychoenergetics, remote viewing and superluminality.

Prior to examination of opposing research, it might be advantageous to address the basic question of the validity of research in this controversial area and meet the invariable charge of credulousness head on. Neither time nor space would permit a comprehensive exploration of paranormal research that has been done to date by extremely competent men of science. Emotional charges that 'No true scientist believes this stuff' are often levied by scoffers of the field. To those opponents, such as Mr James Randi, I have submitted that those charges are untrue unless one relegates a researcher who experiments in the field to the position of non-scientist by his own definition of what a scientist may or may not investigate.

The basic problem appears to be that the accumulated evidence not only runs counter to anticipated results but actually flies in the face of the very belief systems of many individuals. The adjustments necessary to accommodate the data presented are so extreme that the facts become denied. A classic example was printed in the *Proceedings of the Institute of Electrical and Electronic Engineers* after Puthoff and Targ published an article on remote viewing. The response read, 'I wouldn't believe this even if it were true. Until there is significant reduction of the threat to personal belief systems, emotional rejections will constantly be evoked.'

Another area that frequently draws criticism is that 'psychic phenomena' defies careful examination as it is non-repeatable in nature. There is a growing body of repeatable scientific evidence. Yet lack of replicacy can hardly be employed as an exclusionary factor. There is a classic example in a non-repeatable experience that is common to all and

extensively researched — dreaming

The state of the art must also be considered. From a truly scientific standpoint, this is a fledgling area epitomized by complex variables. Too frequently it is anticipated that 'the answer' will be simply postulated and proven. To the contrary, we are at a stage of basic research and a concerted effort in both the private and governmental sector will be required if significant gains are to be made.

Ethical Considerations

Since first publishing [the preceding] article on the subject of psychotronics, I have been aware of the controversy generated. While many have been very supportive and intellectually stimulated, several groups have emerged in opposition.

Some have suggested that some of the open ridicule was purposefully perpetrated to insure that the US does not become actively involved in psychotronic research. A second vocal group is fundamentalist Christians who acknowledge the possibilities but attribute such powers to 'the work of the devil'. Thus we have the dialectical materialists and fundamentalist Christians on the same side of the issue. A third, less organized group, exists primarily comprised of individuals who feel their intellect has been affronted as the material presented clearly does not share in our overlapping views of reality.

While I respect the rights and beliefs of all the aforementioned, I would submit that we are in fact dealing with 'normal' forces but whose parameters have not yet been defined. We have not advocated 'satanism', 'voodoo', or 'black magic', as some have attributed.

I am suggesting that there is a need for competent, co-ordinated and extensive scientific investigation of this long-neglected field. There is a basic fear in governmental circles known as the 'Proxire Syndrome' which inhibits the allocation of necessary funding. Clearly, sufficient evidence has been presented to demonstrate a prima facie case for increased research. Further Soviet efforts in the field exacerbate the situation and constitute a clear and present danger should they achieve a major technological breakthrough in this field.

To the inevitable question as to the propriety of military experimentation and application of advanced human technology, I would submit that we have no recourse but to do so. While all would agree that the world would be a safer and saner place without nuclear, biological, or chemical weapons, the fact of the matter is they do exist. In psychotronics, just as in those areas, it is naïveté to presume that if we ignore the field, no one else will venture forth. The power is neutral, it is the application that is judgmental. There are eschatological considerations, but those

must be evaluated by each individual.

Incidentally, the USSR is not alone in their interest in the field of psychotronics. The People's Republic of China has expressed interest in US experimentation in psi functioning. They have the Paraphysics Group, Institute of High Energy Physics, and Academia Sinica at Peking actively exploring the field.

Based on the adversary relationships prevalent in the world today, the geopolitical considerations weigh heavily in favour of expanded research of parapsychological issues both in the public and private sectors. The penumbra of consensus reality must be carefully explored to diminish the realm of the 'paranormal' while expanding the parameters of the 'normal'.

What has been presented will be considered by some to be ridiculous as it does not conform to their view of reality; but still, some people believe the world is flat and many others believe the lunar landings were staged in Hollywood. Other readers may view this as a conservative approach. The intent is to raise the need for additional co-ordinated scientific research in the realm of the paranormal.

Notes and References

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5. Pentagon's Secret Psychic Task Force

Randy Fitzgerald

In a manner reminiscent of poltergeists, news stories in Washington DC occasionally exhibit a tendency to rattle around in reporters' closets for months or years, to be whispered about but rarely seen. When the stories finally materialize in print, readers react with astonishment or alarm, forgetting the wealth of accumulated evidence that should have made the story an anticlimax rather than a revelation. Such is the case with two columns Jack Anderson published in early 1981 concerning the Pentagon's 'top-secret psychic task force'.

Anderson's reporters, Dale van Atta and Ron McRae, had known for many months that the American military were involved in psychic research. As McRae explains, 'I had sources telling me about this for a year. I just ignored it because I'm not that interested in the paranormal and I didn't take it very seriously. I thought it was just an eccentricity on the part of some military officers. But then this article appeared in *Military Review* and the effect was to convince me that there were people in the Pentagon who were really taking it seriously.'

In the December 1980 issue of *Military Review*, the professional journal of the US Army, Lt. Col. John Alexander wrote that 'there are weapons systems that operate on the power of the mind and whose lethal capacity has already been demonstrated'. His eight-page article, entitled 'The New Mental Battlefield' discusses in general, unclassified terms American and Soviet research into remote viewing, Kirlian photography, bioenergy and related parapsychological effects. It was a relatively innocuous article for which Alexander was paid a \$30 honorarium.

'I wrote the article based on my own interests as opposed to involvement in any project,' Alexander says. 'I thought if there was any reaction it would all be internal [within the army]. I thought people would tell me I was crazy or something. But I never imagined that the public

furor would be like it is.'

That *furor* — perhaps we should more accurately describe it as a 'media' rather than a 'public' *furor* — unleashed soon after the first Anderson column appeared on 9 January 1981. Referring to psychic research as 'futuristic fantasies' conducted by Pentagon supporters of 'voodoo warfare', McRae reported that from a closely guarded basement room in the Pentagon a psychic task force, budgeted at \$6,000,000 a year, works to narrow the alleged ESP gap between the United States and the Soviet Union. A follow-up column on 4 February had McRae outlining a National Security Agency project to use ESP in cracking Soviet codes. Rep. Charles Rose, Democrat of North Carolina, a member of the House Committee on Intelligence and probably Congress's most vocal defender of psychic research, was quoted as advocating a kind of Manhattan Project to develop psychotronic weapons.

By now other media were clamouring for the story. McRae received phone calls from reporters for *Omni*, *Science* 81, *Discover*, ABC's *20/20*, CBS's *60 Minutes* and newspapers from Hamburg to Jerusalem. His agent began circulating a book outline asking for a \$200,000 advance. McRae said he intended to milk the story for all it was worth.

'It'll be a straight, reportorial book exposing the extent to which the US government is involved in military applications of parapsychology. We won't make a judgement on it,' McRae promises, although he is quick to add that in general he views psychics as 'a bunch of cheap magicians who don't have any more paranormal powers than my dog'.

Discover produced the most luridly sceptical of the follow-up articles. Calling the psychic task force mission 'nonsense' and a waste of tax money, the magazine boldly announced, 'There has never been a shred of legitimate evidence to support the murky claims of parapsychologists'. With information apparently gleaned from McRae, *Discover* revealed that the US Navy has 34 psychics under contract: each is paid about \$400 a month to track the movements of Soviet submarines. The navy, as the military routinely does in these situations, denied the story.

New York psychic Shawn Robbins was one of those approached to work on the navy project. 'A navy officer in civilian dress came to my home last year wanting me to do remote viewing' Robbins told a *Fate* reporter. 'He met with me twice. The navy wanted me to tell how many submarines were in a particular area. The money I got was a foundation check.' Robbins says she can't remember the name of the foundation, nor would she reveal the name of her navy contact, since 'there may be future work involved'.

After Anderson's second column appeared, the Soviet embassy on 16th Street just a few blocks from the White House distributed a press

release trumpeting Soviet scientific advances in parapsychological research. That seemed a rather predictably unpredictable response for a government which over the years has alternately ridiculed psychic phenomena and then, as in the case of *Los Angeles Times* reporter Robert Toth, has refused to permit its scientists to discuss the subject with Western writers for fear of jeopardizing 'state secrets.' The circumstances seem to suggest that the press release may have been intended to serve a subtle yet insidious function in the CIA/Soviet KGB rivalry.

For nearly three decades the CIA and KGB have conducted disinformation campaigns designed to spread confusion about new military armaments each side is developing. Psychic research apparently became a pawn in this spy intrigue during the late 1950s, when a French publication declared that the American military had successfully used telepathy to communicate with crewmen aboard the atomic submarine *Nautilus*. The article probably was fabricated and planted but soon thereafter Soviet scientists were once again allowed to pursue psychic research after many years of having had their work suppressed.

A similar situation occurred in 1970 when *Psychic Discoveries Behind the Iron Curtain*, by Sheila Ostrander and Lynn Schroeder, was published. The Soviets soon withdrew official recognition of scientific studies of the paranormal while members of the United States Congress began badgering military authorities not to allow the Soviets to open a 'mind warfare' research gap over America.

American intelligence and military agencies have been as secretive as the Soviets when it comes to revealing even an approximation of the budget allotted to psychic projects. McRae's estimate of \$6,000,000 spent is based — by his own admission — on nothing more than a guess made by one of his sources. In his *The Search for Superman*, science writer John Wilhelm quoted an Atomic Energy Commission security officer who claimed that in 1975 the government supported between 30 and 40 classified projects investigating the psychic realm; most were camouflaged under such categories as biofeedback and sleep and dream research. The price tags ranged from \$47,000 for a navy study of remote viewing to \$80,000 on a NASA contract to develop an ESP-teaching machine.

Three intelligence agency reports evaluating Soviet psychic research claims, each declassified and given wide distribution in Congress and the military, have probably done more to increase the level of funding for parapsychology in the USA than all of the reported successes of our own psychics combined.

The first report, prepared by the Office of the Surgeon General in 1972, was entitled 'Controlled Offensive Behaviour — USSR'. A second 'Soviet

and Czechoslovakian Parapsychological Research' (1975), was prepared by the army's Medical Intelligence and Information Agency; like the first report it was declassified by the Defence Intelligence Agency. The third report was prepared for the CIA by five scientists at AiResearch Manufacturing Company in California and was released in 1976. All three studies come to a similar conclusion: that the Soviets are spending large amounts of money on secret KGB research which their scientists believe will yield breakthroughs revolutionizing espionage and warfare.

'I believe the Soviets are actually building prototype equipment for psychic warfare,' Dr J. W. Eerkens, a physicist who helped write the CIA report, says.

We have no way of knowing for certain how long and how seriously agencies of our government have been involved in investigating the paranormal or in monitoring Soviet interest in this field. If we did know, we could make some basic assumptions about whether the current hype about 'mind warfare research gaps' is a justifiable concern or simply nothing more than a scare tactic which like 'bomber gaps' and 'missile gaps' is intended to help inflate the overall Pentagon budget. My own experience with the CIA may offer some clues in this regard.

On 17 June 1979 I filed a request with the CIA under the Freedom of Information Act for access to all parapsychology-related documents in agency files. After the CIA acknowledged receipt of my request, it did nothing further for six months. Finally I threatened legal action under the FOIA appeals procedure. A week later CIA information officer Mark Brandon telephoned.

'We have your request processed,' he told me. 'We're releasing about 500 pages. But I should forewarn you that it's mostly just trash.'

It was. For two hours I sat in a CIA reading room skimming through translations of superficial and contradictory Soviet literature on psychic phenomena. The titles skipped from 'Parapsychology: Fiction or Reality?' to 'The Phenomenon of Skin Electricity'. It was as if a CIA employee had taken a vacuum cleaner and randomly passed it over agency files marked 'weird'. Several of the documents had absolutely nothing to do with parapsychology. One was simply a translation of a Russian scientist's attempt to debunk the ancient-astronaut theories of Erich von Daniken.

Once again I wrote to the CIA. I pointed out that I had specifically asked for access to documents concerning research the United States government was conducting. If this material could not be released because of national security considerations, I wanted the CIA to put it in writing.

Two more months passed before I received nine CIA documents, mostly internal memos, totalling 21 pages. This time nearly all of the

material dealt with research the CIA had initiated or contemplated; much of the information was previously released to the Church of Scientology. Obviously, where there were 21 pages, some referring to ongoing CIA projects, other related documents must exist. But spokesmen for the CIA refused either to confirm or deny the agency possessed additional documents, thus making it unnecessary for them to cite national security as grounds for withholding such materials.

Nonetheless the released material is revealing in several respects. Three of the documents are from January and April 1952, a period in which the CIA was first developing a drug-testing programme called Artichoke, later nicknamed Project MK-ULTRA. A document dated 9 April 1952 discusses whether ESP capabilities are affected by drugs and observes that 'using barbiturate drugs such as sodium amytal, the ESP fell off and was restored by the use of caffeine'. Another of the documents specifically mentions possible Artichoke applications of ESP.

It appears that from the very beginning drug experimentation and parapsychology were inextricably linked in the CIA's programme to harness and manipulate the human mind. Former CIA officer Victor Marchetti says these drug and brainwashing experiments, rather than being terminated in the mid-1960s as the agency claims, were gradually redirected back 'into the realm of parapsychology'.

'When I was a member of the CIA Director's staff in the late 1960s, the agency was still deep into drug experiments,' Marchetti reports. 'Furthermore, the scientific spooks were then progressing into parapsychology, experimenting with mediums in efforts to contact dead agents, with psychics in attempts to divine the intentions of the Kremlin leadership and with even stranger phenomena.'

The most intriguing of the FOIA documents is a four-page memo, dated 7 January 1952, which proposed turning ESP into an 'atom bomb' of espionage by recruiting a team of psychics who would undertake spy assignments for the CIA. It suggests a three-year developmental programme as a first step in making 'a serious effort to push the [ESP] research in the direction of reliable application to the practical problems of intelligence'.

The individual who wrote the memo, probably a CIA staff psychologist, left no doubt what he thought the agency position on the paranormal should be. 'If, as now appears to us as established beyond question, there is in some persons a certain capacity for extra-sensory perception, this fact and consequent developments leading from it should have significance for professional intelligence services.' The memo writer, after discussing the problems of replicating successful ESP experiments, concludes, 'It looks as if . . . the problem of getting and maintaining control

over the ESP function has been solved'.

It is known that Duke University parapsychologist J. B. Rhine conducted his first secret psychic research project for the Army in 1952. While there is yet no direct evidence that the CIA programme was ever funded, we can, however, venture a reasonable guess. As Marchetti and other former agency employees have pointed out, the CIA never releases all of what it has accumulated on any given subject — not to Congress, not to the President, not to anyone. What it does reveal is known in the trade as a 'limited hang-out'. This information is designed only to provide clues or to sketch the parameters of a particular area without giving away the depth of the agency's involvement or interest.

Significantly, the documents the CIA has released concerning its own work in parapsychology are concentrated in three areas:

1. How ESP is connected to the agency drug programme
2. How ESP could be applied to problems of intelligence
3. How the agency 'has a production capability' to control animal brains from a distance (21 April 1961 memo).

We know the CIA initiated a long-term programme of drug experimentation in an effort to control the human mind. We know too that the agency undertook 'guided animal' studies to make robots out of dolphins, dogs, cats and other creatures. Similarly, there is strong reason to suspect that the CIA embarked, as far back as 1952, on laboratory studies and active monitoring and recruitment of apparently psychically-gifted persons. These efforts continue to this day.

One of the nine CIA documents is a reprint of a bulletin published in 1969 by the Maimonides Dream Laboratory at Maimonides Medical Centre in Brooklyn, announcing a series of tests of ESP, psychokinesis, remote viewing and precognition. Among those who participated was Shawn Robbins who says she was told that part of the funding 'came from a government agency' and was funnelled through charitable foundations. Nearly a decade later, it was a former Maimonides employee who introduced Robbins to Naval Intelligence as a prospective remote-viewing contract worker.

The media in general were hardly justified in viewing the Anderson columns, despite the several new details they provided, as anything particularly significant. In June 1977 newspapers worldwide had headlined the Soviet detention of *Los Angeles Times* newsman Robert Toth for having allegedly received 'state secrets' about psi particles from a Russian scientist he encountered on a Moscow street corner. Of course, as the press accounts emphasized, 'US officials in Washington expressed scepticism about the allegations against Toth, saying that parapsychology

is unlikely to involve secret military information.

Five days after Toth's arrest, *New York Times* reporter Flora Lewis wrote a lengthy account of what immigrant Soviet scientists had to say about KGB parapsychological research. She concluded that ESP had indeed become a fixture of Soviet attempts to develop psychotronic weaponry. On 7 August 1977, John Wilhelm was given nearly two complete pages in the editorial section of the *Washington Post* to explain a series of CIA-supported remote-viewing experiments at Stanford Research Institute in which several psychics allegedly succeeded in mentally viewing and describing a secret military satellite-spying installation in Virginia. *New Times* magazine devoted eight pages to the same topic eight months later.

In July 1979, *Omni* featured a story on Rep. Charles Rose who believes that remote viewing has military and espionage implications, although he concedes that the process 'is not yet as accurate as satellite photography'. The following year other publications carried the story of how the navy has a submarine-tracking programme using psychics. The former director of the project, Capt. Robert Skillen, described how psychics were training navy and CIA personnel to develop their own remote-viewing abilities.

The media reaction to the Anderson columns tells us less about how long a memory the press has and more about how easy it is to manipulate public policy questions using leaked information. McRae's original sources for the columns were in all likelihood sceptics of the paranormal. By publicizing the military and intelligence agency involvement with psychics, these sceptics inside the Pentagon and the scientific establishment hoped to eliminate what they believe to be frivolous use of tax money. Meanwhile Congressman Rose and several Stanford Research scientists intimate that some of these sceptics may have suspicious motives for wanting American psychotronic research stopped while the Soviets proceed with theirs.

We must view this intergovernment struggle from the larger perspective of the overall debate over defence priorities. Should we build more tanks or concentrate on devising strategies to disable the other side's tanks? Should we simply construct more missiles or develop a capability using futuristic concepts to disable the other side's missile personnel before they can ignite our destruction? The controversy is many-sided and the issues are sharp and divisive. The continuing debate about military applications of psychic phenomena is only one, small, cutting edge.

The media *furor* over psychics raises once again the same old, largely unanswered questions of what the government knows about psychic phenomena and when it got that knowledge. Is government interest in the paranormal legitimate or just part of a disinformation campaign to confuse the Soviets? Is this research an ongoing policy of the military

and CIA or merely a by-product of the eccentricities and superstitions of a few high government officials?

Perhaps we can find a partial answer to these questions by asking a few questions of our own. Would the army and CIA spend almost 30 years (since 1952) and untold millions of dollars investigating and reinvestigating something that didn't exist in the first place? If this is so and it is all part of an effort to confuse the Soviets, why go to such extraordinary lengths to keep the results so secret so long? Or have the experiments produced such an espionage potential that the cloak of national security must always remain lowered?

Finally, can we really expect that a relatively few well-placed paranormal believers in the bureaucracy would be able to perpetuate their idiosyncratic projects, decade after decade, administration after administration, without producing bona fide cost-effective results?

If you think the answer is yes, then you must believe that the children of hardened sceptics grow up believing in Santa Claus and the Tooth Fairy.

6. Battle of the Minds

Dennis Stacy

15 June 1984, 01:30 hours: Orbiting at a height of 70,000 miles above the earth's surface, an American VELA satellite detects an intense, one-second, double-pulsed burst of light over the Atlantic Ocean, off the southwest coast of Africa. At the same time, ELF communication with the nuclear attack submarine, *Houston*, suddenly ceases. Running at periscope depth, the *Houston* has suddenly exploded from within — the victim of a Soviet hyperspatial howitzer.

01:31 hours: Telepathic communication with SADDOR — satellite-deployed dowsing-rod — reveals the presence near Newfoundland of a Soviet Echo II Class nuclear sub. In a closely guarded basement room at the Pentagon, staff telepathists swing into action and begin arming an Hieronymous Mark IV by feeding it an aerial reconnaissance photograph of the Soviet target. Within microseconds its electromagnetic signature has been calibrated and the Russian submarine erupts in a blinding, double flash of light, one flare following a third of a second behind the other.

High overhead, in the inky blackness of interstellar space, VELA confirms the second nuclear explosion. World War III — the first psychotronic war — has just got underway.

Implausible as this chilling scenario may sound, there are those who think that the capacity to wage war with psychic weapons is an immediate and deadly threat. Lieutenant Colonel John Alexander, writing in 'The New Mental Battlefield', cover story of the December 1980 issue of the army's professional journal *Military Review*, says outright 'that there are weapons systems that operate on the power of the mind and whose lethal capacity has already been demonstrated.'

In fact, proponents of psychotronics argue, events similar to those described above have already been recorded. VELA satellites, for example, *do* exist; twelve pairs of them have been launched into high orbit since 1963, their function to monitor violations of existing atmospheric nuclear test ban treaties. On 22 September 1979, and again in December 1980, VELA satellites did detect low-yield nuclear explosions of unknown origin, both of them in a remote, 3000-mile expanse of open water off the southwest coast of Africa. And despite an exhaustive investigation of the September blast by a panel of civilian scientists under the auspices of the White House Office of Science and Technology, the two explosions remain shrouded in controversy and security strictures.

The panel's final report ruled out a nuclear configuration altogether. It was first thought the intense burst of light might have indicated a reactor accident aboard a Soviet Echo II Class nuclear submarine, but reports of such a ship in the area soon proved unfounded. Next the panel turned its attention to superbolts, rare discharges of lightning capable of packing the explosive equivalent of 2000 tonnes of TNT, or about one-tenth the energy released by the atomic bomb dropped over Hiroshima in 1945. VELA had recorded dozens of superbolts previously, most of them in the Pacific Ocean near Japan, and none of them bearing the characteristic double-pulse signature of a nuclear explosion. Other theories were also considered, including the possibility of a combination of natural phenomena, such as normal lightning activity coupled with a meteor, or even reflected sunlight. In the end, however, the September blast was ruled a phantom, a false instrument readout stemming from the random collision of a VELA sensor panel with an incoming micrometeorite.

There the matter might have died a quietly lingering death had it not been for the second mystery flash of intense light detected in December 1980. It rather stretched the credibility of coincidence to suppose that another micrometeorite had collided with the same VELA satellite over the same stretch of the Atlantic Ocean.

An independent analysis undertaken by the Defence Intelligence Agency concluded that the first explosion *had* been the result of a low-yield nuclear weapons test. Unfortunately for a politically besieged Carter Administration, neither the DIA nor other of the intelligence gathering agencies could determine who might have been responsible, although the list of likely candidates included Israel, Pakistan, India, and the Praetorian government of South Africa. Rather than admit that a new, unidentified member had joined the exclusive nuclear club by way of the back door, Carter and cohorts opted for the safe, 'random collision' theory.

Other recent events of dubious determination have been linked to

Soviet psychic warfare experiments. A Jack Anderson column appearing in early January 1981 warned of an East-West 'ESP gap' and pointed darkly to the 1963 sinking of the US nuclear submarine *Thresher* as one of the first destructive salvos fired by psychotronic means. According to Anderson's informants, a little-known catastrophe which rocked the Ural Mountains of the Soviet Union in 1958 was the result of 'a bungled ESP explosion'. Critics of psychotronics contend that the disaster, which it is now agreed probably did take place, was either the result of spontaneous eruption of a nuclear waste storage facility or a conventional explosion that ripped through an experimental germ warfare laboratory, releasing deadly bacteria over a wide area of rural Russia.

The Soviets, Anderson argued, are busily engaged in developing an armoury of psychotronic devices that will include science-fictional weapons like 'hyperspatial howitzers', capable of transmitting 'a nuclear explosion in Siberia to the White House lawn with the speed of thought'. Is this what happened in September 1979, and again in December of the following year? Common sense says not; paranoia says anything is possible, especially when it involves the demonstrated human tendency to seek out the military application of every branch of modern scientific research from quantum mechanics to parapsychology.

To counteract the Soviet psychotronic edge, Anderson reported, the Pentagon has established its own 'top-secret psychic task force', budgeted last year alone with some \$6 million. Estimates of Soviet psychotronic spending per year range anywhere from \$50 million to \$500 million. Furthermore, the Russians are known to have been interested in microwave and mind-manipulating studies since the 1930s and 40s, giving them a chronological advantage that will prove difficult, if not impossible, to surmount.

Exactly how microwave propagation will mesh with available psychotronic technology remains to be seen — perhaps as a carrier, or amplifying wave of bioenergy. Clearly, however, the Soviets are more concerned with its potential effects on the biological organism than are the Americans: witness the nearly twenty year continuous bombardment of US Moscow Embassy personnel with microwave pulse repetition rates of from five to fifteen Hz. These cycles are known to be psycho- and biologically active, although there is a good deal of international disagreement regarding safe microwave exposure standards. American standards for some microwave frequencies, for example, are as high as 10,000 microwatts per square centimetre. By way of abrupt contrast, Soviet exposure levels are as low as five microwatts per square centimetre. The Chinese who, like the Russians, base their standards on the results

of epidemiological studies of radar workers and operators, have adopted a 50 microwatt safety level.

The question that springs immediately to mind, of course, is: what do Soviet-Sino scientists know about microwave radiation and its deleterious effects on living organisms that Western researchers are either ignorant of, or choose to ignore in the face of an ever proliferating number of microwave ovens, hand-held walkie-talkies, and Citizens' Band radio sets?

We do know, for instance, that it was the Russians, under pioneering studies conducted by Dr Shandala beginning in World War II, who were the first to recognize the bioeffects of over-exposure to microwave radiation. Among the symptoms catalogued by Dr Shandala and his associates were changes in blood pressure and heart disease patterns, sweating, headaches, thyroiditis, disruption of concentration processes, and increased instances of diabetes. Other researchers have since noted that low level doses of microwaves can result in irritability, fatigue and loss of libido. On the positive side, some frequencies of microwave radiation appear to be absolutely beneficial and are already being employed to promote healing and to successfully irradiate certain forms of tumorous tissue.

Getting back to the issue at hand, it seems evident that microwave transmitters will be one means of affecting enemy psychology at remote distances. American army experiments have already demonstrated the feasibility of making voices 'heard' inside the head by way of microwave broadcasts. Even if such techniques are severely restricted in their ability to induce behavioural changes in, say, enemy troop concentrations, the possibilities of instantaneous communication among willing recipients are obviously staggering. And so are the more bizarre potentials proposed by other psychotronic weapons such as 'photon barrier modulators', allegedly capable of inducing death or illness in target organisms miles removed from the control sample.

Psychotronics itself appears to be the work, if not totally the work, of two Czechoslovakian researchers, Dr Zdenek Rejdak, who founded the International Association for Psychotronic Research ten years ago, and Robert Pavlita, a retired inventor of industrial machinery, who claims to have designed and built some eighty 'psychotronic generators'.

For the most part, Pavlita's small, hand-held devices are hardly the sort of thing to strike fear into the hearts and minds of enemy soldiers. Let alone a sophisticated weapon with which one would transport a nuclear explosion from Siberia to the White House lawn. And there, even sympathetic critics contend, lies the rub.

Many of the effects Pavlita is said to reproduce — attracting or repelling small sticks of wood, for instance, while hand-holding one of his generators and 'willing' the desired direction — can be closely replicated through no more mysterious means than common electrostatic phenomena and/or thermal convection currents given off by body heat. What makes some researchers even less charitably inclined to accept his psychotronic claims is that Pavlita charges his generators, privately, in a back room. 'Out of sight, out of mind' . . . as the old saying has it.

Devices similar in operating principle have long existed in this country under such generic names as 'radionic', 'psionic', or Hieronymous machines. The common denominator is a device of extreme simplicity — sometimes nothing more than an electrical or bioenergy conductor — with which the operator, or sensitive, enters into a kind of psychic rapport, in much the same way that a dowser relates to his willow rod.

Radionics proposes that all minerals, plants, diseases, etc., have their own specific 'vibratory rate', or electromagnetic signature (not unlike the principles of modern spectrographic analysis). The late English paranormalist, T. C. Lethbridge, proposed that even *thoughts* had their own particular and unmistakable signs.

Hieronymous machines are based on similar lines, employing photographs said to 'capture', or encode, an object or organism's individual wavelength. By treating the photograph, say, of a cotton field with insecticide, and wishing death to all boll weevils therein, radionicians argue that remarkable results have been obtained. Targeted insects do not necessarily drop dead in their tracks; they may simply 'get the message' and migrate to a less inimical atmosphere.

The practical drawbacks to the current state of the psychotronic art are twofold: (1) the transfer of information from mind to machine, and (2) the extremely low power wattage with which these instruments operate. Increase the information flow between mind and machine, increase the power and amplification wattage, and psychotronic weapons may well step out of the pages of science-fiction into reality.

Indeed, the first problem seems to have been solved more than seventeen years ago — although no one is exactly certain how. The device is called the Neurophone, designed and developed by one Patrick Flanagan of somewhat dubious 'Pyramid Power' fame. As it now exists, the Neurophone is nothing more than a supersophisticated hearing aid. It allows for direct communication between a crystalline electrical circuit and the brain's nervous system. How Flanagan managed (accidentally!) to crack the neural code for audio data is not known, but that the Neurophone works as advertised there can be little doubt.

Coupled with the on-going progress of the Defence Advanced Research

Projects Agency (DARPA) in programming computers to recognize human electroencephalograph (brainwave) patterns, the Neurophone, coming from the other direction, promises to establish direct linkage, communication and 'understanding' between man and computer — and other electronic machines (i.e. missile control panels) as well.

Future prospects of such a bioelectrical technology are truly awe-inspiring. And the application of this technology to mind control and other militaristic operations threaten to make Orwell's vision of 1984 look like a timid exercise in paranoia and imagination.

7. Psychic Warfare

Ron McRae and Sue Merrow

Picture this sign stuck in the window of a corner shop: 'Madame Zodiac, Psychic. Palms Read. Horoscopes Interpreted. Russian Submarines Tracked'.

Laughable? Only if you're the kind of eccentric who thinks it's amusing when Uncle Sam throws American taxes around on weird sci-fi projects. The fact is that the United States Navy pays 'Madame Zodiac' and 33 other so-called psychics \$400 a month each to plot the movements of Soviet submarines. That's \$163,200 a year — peanuts by Pentagon standards, but only a small part of the military and intelligence community's research into parapsychology, or extra-sensory perception.

The Navy stoutly denies that it employs sub-chasing swamis, but the *Investigator* has uncovered a long record of the admirals' fascination with the possibility that psychics might somehow be able to read the minds — or the secret instructions — of Soviet submarine commanders as they zigzag through the world's oceans.

Dr J. S. Lawson Jr, technical director of the Naval Electronic System Command, told the *Investigator*: 'I've thought for 20 years that ESP is the way to fight submarines.' As early as 1952, in fact, a top secret Navy document suggested that psychics be used to pinpoint hidden submarine pens.

In 1977, the Navy shelled out \$5,111 to a self-styled psychic named Charles Whitehouse of Virginia Beach for a device he called a 'multi-spectral image analyser'. Whitehouse assured the gullible admirals they could locate a particular submarine by inserting a photograph of it in his machine. And only last year, the Navy tested some professed mind-readers, including New York seer Shawn Robbins, to see if they could chart Soviet Navy manoeuvres.

So far, results have been as elusive as the Soviet submarines. But the ever-hopeful Pentagon keeps trying. Psychics and so-called 'psychotronic' devices, which supposedly measure or amplify mental powers, are being tested for their ability to break codes, locate hidden missiles and penetrate guarded military installations.

Advocates of these spooky projects, using the old 'they laughed at Columbus' routine, insist that psychic weapons are as revolutionary, and potentially as important, as the atomic bomb. Physicists and other sceptics insist with equal vehemence that the projects are ridiculous. Despite the criticism, the experiments continue, at the taxpayers' expense. The CIA, the space agency, the National Institutes of Health, the National Security Agency and the armed services all have research programmes on one area of parapsychology or another.

All of these projects are cloaked in the deepest secrecy. The obvious reason is national security. But from the few bizarre examples that have leaked out, another possibility for secrecy suggests itself: embarrassment. Even a true believer might be reluctant to admit spending money on such a loony gimmick as an anti-missile time warp — a variant on Dr Wonmug's time machine in the comic strip 'Alley Oop' — which would intercept incoming Soviet missiles over the North Pole and cause them to detonate thousands of years ago.

Like so much military spending since World War II, the outlays on our Ouija-board warriors have been justified as an answer to a perceived threat from the Kremlin. But the history of this branch of research is almost a caricature of the pervasive East-West rivalry.

Research in the military potential of ESP had a low priority at the Pentagon during the 1950s, and if it existed at all in the Soviet Union, it was not officially sanctioned. Then, in 1960, the French press reported that telepathic experiments had been made aboard the US submarine *Nautilus* while it was chambered in the ice under the North Pole.

The French press reports were probably fabricated out of whole cloth, but parapsychology researchers in the Soviet Union — every bit as hungry for their share of the defence budget as are their counterparts in this country — seized on the stories as an opportunity to win approval for their own experiments.

That did it. A few years after the *Nautilus* reports, stories of questionable accuracy began surfacing here and there about amazing Soviet advances in voodoo warfare. One apocalyptic account suggested that the Russians were amassing an Army of 'two million trained psychics' whose mission was to subjugate the world for the Kremlin.

The Pentagon was alarmed. Was there a 'psychogap' in the making?

Clearly, what was needed was money — and there were plenty of charlatans willing to help the generals ward off impending attack by the Soviet psychic army in return for a few thousand dollars — or a few hundred thousand.

Some of the psychics managed to penetrate the US Treasury — if not the secret recesses of the Kremlin. For example, in the early 1970s Stanford Research Institute scientists Harold Putoff and Russell Targ claimed to have proven that psychics could project their minds and through 'remote viewing' see inside any military installation in the world. The SRI psychics for whom these incredible claims were made were Pat Price, now deceased, Ingo Swann and Uri Geller, who also claims the ability to bend spoons by mental force. Swann and Geller have since been exposed by professional magicians as simply gifted illusionists.*

Nevertheless, SRI's 'remote viewing' experiments with Price, Swann and Geller persuaded the intelligence community, and especially the Navy, that psychic research was worth a serious effort, and of course a serious expenditure of money.

In 1973, the CIA and the National Security Agency arranged a top secret demonstration of 'remote viewing'. It was called 'Project Scanate' and its results so awed some government officials that one exclaimed, 'There's no security left!'

Swann and Price were given geographic co-ordinates and asked to describe the site. Swann sketched a target island in the Indian Ocean. Price did even better: he gave a detailed description of a secret military facility in Virginia, and even purportedly read code-worded files ('Cueball', '14 ball' and 'Rackup') locked inside a top secret installation that monitored Soviet space flights.

For his next act, Swann turned his psychic eye on the Soviet Union itself and described a supposedly secret installation in the Urals in amazing detail. He even told the astonished test sponsors that the secret base was staffed by 'an unusually high proportion of women.'

Security experts in the 'Project Scanate' audience were not convinced. But enough top brass in both the CIA and the Navy were impressed to push for expanded psychic research.

Since the Scanate test, Putoff and Targ have publicized their findings widely, which has allowed independent investigators to run their own tests. These experiments have been generally negative and none has brought the spectacular results claimed for the Scanate performance.

* It is not true that Swann and Geller have been so exposed. The professional magicians only claim the two are illusionists and that their effects can be reproduced by sleight of hand. No evidence exists to prove that Swann and Geller are other than gifted psychics. [ED.]

The Navy was unruffled by evidence of improper procedures in the Scanate test, however. In the summer of 1977, Swann and five other Stanford Research Institute subjects were taken in a Navy research submarine 2,000 feet down to the floor of the Pacific. There they predicted correctly that the sub would find lost anchors and parts of sunken ships. The Navy did not disclose whether the research site was, perhaps, the scene of a World War II naval engagement.

This was the same year the Navy bought Charles Whitehouse's \$5,111 'spectral image-analyser', the machine that could supposedly locate a Soviet sub by ingesting its photograph. Whitehouse has refused to disclose how his gadget performed in 20 days of trials, but the Navy bought it, and hired Whitehouse to train two officers and five enlisted men in its operation.

The Navy's obsession with psychic weapons was a modest bonanza for the Stanford Research Institute. In 1975, the Navy gave SRI a \$50,703 contract to determine if psychics could detect remote electromagnetic sources. A year later, it threw in another \$26,000 to find out if the mind-readers could exert any influence on magnetometers, which measure magnetic fields and are important in submarine detection.

By all odds the most bizarre research undertaken by our sea-going psychonauts, though, was their investigation of the so-called 'Backster Effect'. That's the phenomenon of plants supposedly reading human thoughts. You can see the devastating effect this could have: smuggle a psychic philodendron into the Soviet Presidium's council chambers, and the Kremlin's darkest secrets could be ours — presumably shuttled to the Pentagon by carrier aphids.

Cleve Backster is a polygraph operator who claimed to have discovered that plants attached to a lie detector will 'faint' if someone thinks about plucking a leaf, and vegetables' growth will languish if they take a dislike to the gardener. Many amateur horticulturists have long suspected things like this, but Backster actually tried to prove it by 'interrogating' a plant that had been present at a murder. The police were persuaded to march 20 suspects past the plant, but the leafy witness was unable to finger the killer.

Some of the Air Force's interest in parapsychology is based on concern for security of nuclear weapons. If Uri Geller can bend a spoon by sheer will-power, might someone similarly gifted be able to move the quarter-ounce trigger of a bomb the one-eighth of an inch necessary to explode it? Or could a mind-reader pick the brain of a missile officer and learn the code words that control the weapon's release? The James S. McDonnell

Laboratory is conducting top secret studies on this.

The Army has not been lagging in ESP research. In 1972, the Defence Advanced Research Projects Agency sent a team to evaluate Stanford Research Institute's claimed results with spoon-bender Geller. The team was headed by Dr George Lawrence, a psychologist who is open-minded on the subject of parapsychology. With him were Ray Hyman, an accomplished magician and ESP debunker, and Dr Robert Van de Castle, a University of Virginia sleep and dream expert and a past president of the American Parapsychological Association.

The team's report was totally negative. Hyman was moved to suggest that Geller be sent on a tour of the Soviet Union, in the hope that he would defect.

As a result of their evaluation, the Army grew cool toward some psychic weapons development — but not completely turned off by any means. In 1976, the Army awarded a \$145,000 contract to check into the 'aura' seen around human beings by so-called Kirlian photography. The researchers found that the 'aura' was an easily explained interaction of body moisture and the electric field. Army investigators even managed to get photos of the 'auras' surrounding a wet sponge, a bowl of spaghetti and a used condom.

When the always-available Stanford Research Institute proposed a \$3.5 million study of 'remote viewing' in 1977, the defence research agency flew in a team of investigators and SRI's proposal was quickly rejected.

But it is the Army's 'psychic task force' that has reported the most alarming possibilities of psychic research. As Jack Anderson reported several months ago, the secret psychic task force, operating in a room in the Pentagon basement, has come up with some hair-curling predictions of Soviet mastery in the ESP field.

According to retired Lt. Col. Thomas E. Bearden, the Russians have already deployed third-generation psychotronic weapons. These include the 'photonic barrier modulator', which can induce death or illness from thousands of miles away with the ease of a Haitian witch doctor; the 'hyperspatial howitzer', which can transmit nuclear explosions instantaneously to any point in the world, and the 'Hieronymous machine', which Bearden contends sank the US nuclear submarine *Thresher* in 1963.

Ludicrous as all this may seem, psychotronic weaponry has its staunch believers in government. In December 1980, *Military Review*, the straight-laced professional journal of the US Army, published an article entitled 'The New Mental Battlefield: Beam Me Up, Spock', by Lt. Col. John B. Alexander. Alexander's assertions are startling. Here are a few:

- 'Psychotronic weapons already exist, and their lethal capability capacity

has already been demonstrated.'

- 'The ability to mentally move objects has also been repeatedly demonstrated, under scientifically controlled conditions.'
- 'Research done on the Transcendental Meditation Sidhis Programme . . . has produced evidence that individuals can be taught to physically levitate.'
- 'The intelligence gathering capability of remote viewing is obvious.' Note that he says 'capability', not 'potential'.

An important point about Alexander's claims is that he's writing about Soviet research, not the Pentagon's. His assertions go beyond any experimental results reported in this country. And his article presumably constitutes an update of a Defence Intelligence Agency study in 1972, which predicted, with something less than certainty:

'Soviet efforts in the field of psi research, sooner or later might enable them to do some of the following:

- 'A. Know the contents of top secret US documents, the deployment of our troops and ships and the location and nature of our military installations.
- 'B. Mould the thoughts of key US military and civilian leaders, at a distance
- 'C. Cause the instant death of any US official, at a distance.
- 'D. Disable, at a distance, US military equipment of all types, including space craft.'

Whether the Soviets' Star Wars scientists have actually progressed to the deployment stage, as Alexander seems convinced they have, there's one federal agency that's taking no chances: the Secret Service has commissioned studies on ways to protect the President from the Kremlin's mind control. And senior agents from both the Secret Service and the CIA have been required to take courses in mind control offered at universities in the Washington area, to prevent them from falling under the spell of Soviet psychics.

8. Soviet Psychic Warfare?

Christopher Bloom

Parapsychology — like politics — spawns rumours. Is the United States military using psychics for espionage? Are the Soviets trying to harness psychic energy to use against the United States in some future war? Will the next war deploy psychic rather than military forces? A few federal agencies are currently funding parapsychology research in America: are they fronts for covert military operations?

These are some of the rumours that have circulated among parapsychologists in the States since it became known that the US military helped fund psychical research projects undertaken in the early 1970s at Stanford Research Institute in Menlo Park, California. Subsequently SRI received a \$47,000 grant from the Naval Electronics Systems Command to encourage research in remote viewing.

Rumours of top-level military interest in psychic research have been rampant since Sheila Ostrander and Lynn Schroeder visited the USSR in the 1960s and reported the Soviet military commanders' interest in parapsychology. And at the 1979 annual convention of the Parapsychological Association (held in August 1979 in Moraga, California) Barbara Honneger, a graduate student at John F. Kennedy University, reported on the secret interest high-level US government officials and agencies are beginning to take in parapsychology.

The truth or fiction of many of these rumours has now come to light, thanks to two major top-secret documents recently released as a result of the Freedom of Information Act. The first of these documents, 'Soviet and Czechoslovakian Parapsychology Research', is a hitherto classified 71-page report which the Department of Defence commissioned in its attempt to keep tabs on what Soviet scientists are learning about psychic phenomena. The second, entitled 'Controlled Offensive Behaviour — USSR', surveys the military uses the Soviets might be planning to make

of results stemming from their parapsychological research.

The first report, written by Louis Maine and John D. LaMothe, surveys what the military had learned about Soviet parapsychological research up to 15 April 1975. According to the preface, some of the material was based on 'intelligence reports' to which the authors had access. This suggests that the military still possesses other classified material concerning parapsychology. It is clear that the compilers of this report were concerned with military uses which might be made of controlled psychic phenomena, for it deals with telepathy, telepathic 'behaviour modification', 'storage' and use of psychic energy, remote viewing, and so on.

A great part of the report is a sort of 'state of the art' analysis of parapsychology in the Soviet Union and Czechoslovakia. These sections are based on Soviet and Iron Curtain literature readily available to the general public. Also included is a general history of Soviet parapsychology dating back to the 1920s. As this material is available in such volumes as Leonid Vasiliev's *Experiments in Mental Suggestion* (reissued in 1976 as *Experiments in Distant Influence*), these sections of the report reveal nothing new. But they do indicate that about 1975 the US military was interested in keeping abreast of what the Soviets were up to. The authors also note, '... It is important that the increased degree of sophistication which has occurred in Soviet ESP or telepathy research since 1960 be understood'.

The 1975 report is concerned mostly, however, with what Czech scientists call 'psychotronics', the study and use of psychic energy. Psychotronics made its greatest advances as a scientific study when Czech inventor Robert Pavlita began developing psychotronic 'generators'. Pavlita claims that these little devices which he builds can store psychic energy for later production of psychokinetic effects. On a more sinister note, Pavlita claims that his generator can kill insects and small animals: one has merely to point the device at the target. While Pavlita has given a few informal demonstrations of his devices, he has not allowed them to be tested critically by Western parapsychologists. Thus, whether they can genuinely control psychic energy is an open issue.

Nonetheless, the US military was apparently concerned with possible military uses of psychotronics. Linking it with the use of 'telepathic behaviour control', the military saw two possible psychic threats to civil populations outside the Soviet Union. Since the 1930s the Soviets have been interested in the induction of hypnosis by telepathy over great distances, and the US military was justifiably concerned about the implications of this research. Psychotronics appeared to be just one method of manipulating the human mind and body from a distance.

'Outside of the Soviet and Czech research on the manipulative

possibilities of PK and psychotronic generators, the emphasis on manipulation by means of telepathy still involves the use of hypnosis,' the report reads. 'Many Soviet and Czech scientists are using this technique as a means to try to identify the "carrier" of telepathy but others may be conducting such research for more devious reasons.'

The document goes on to state: 'Dr Stefan Manczarski of Poland predicted that the field of telepathy will open new avenues for spreading propaganda. He feels that . . . telepathy can be amplified like radio waves. Telepathy would then become a subtle new modus for the "influencers" of the world. Some Western followers of psychic phenomena research are concerned, for example, with the detrimental effects of subliminal perception techniques being targeted against US or allied personnel in nuclear missile silos. The subliminal message could be "carried" by television signals or by telepathic means.'

'The potential applications of focusing mental influences on an enemy through hypnotic telepathy have surely occurred to the Soviets. The bulk of recent telepathy research in the USSR has been concerned with the transmission of emotional or behavioural impulses and the study of physiological response to PK exercises etc. In their exploration of telepathy, they are seeking the eventual capability to reproduce and amplify the phenomena so that control is feasible. Control and manipulation of the human consciousness must be considered a primary goal.'

As for Pavlita's psychotronic devices, ever since they became known to the West, there has been speculation that Soviet and Czech scientists have been building huge psychotronic generators and are currently beaming deleterious psychic energy at the United States. One well-known US parapsychologist with whom I spoke told me that Soviet scientists are actively using secret psychotronic generators to alter US weather. Such ideas have always struck me as the result of borderline paranoia but they seem to be proliferating. If such generators *do* exist (which is doubtful), the US military apparently was not aware of them in 1975. The Defence Intelligence Agency's report points out:

'In their present form and size, Pavlita's devices could probably exert an effect on humans at only relatively short range. It is possible that their size could be enlarged or their energy amplified, thereby extending their range. If the Czech claims for these devices are valid, biological energy might be an effective antipersonnel weapon. It would be difficult to defend against, since it apparently penetrates most common forms of insulation, and its reported effects (changes in brain wave characteristics, disturbance of equilibrium, dizziness) could result in personality changes or physical discomfort which might alter combat effectiveness.

'Soviet or Czech perfection of psychotronic weapons would pose a

severe threat to enemy military, embassy or security functions. The emitted energy would be silent and difficult to detect electronically (although the Soviets claim to have developed effective biological energy sensors) and the only power source required would be the human operator.'

The document adds that 'no information is available on Czech efforts to develop psychotronic weapons.'

Just as enlightening as what the US military learned about Soviet and Czech parapsychology was what it did *not* learn. Toward the end of the report the Defence Intelligence Agency lists nine gaps in its knowledge of Iron Curtain research. Among these is an admitted need for more information on (1) the construction of psychotronic generators, (2) whether the USSR military is recruiting psychics for research purposes, and (3) whether the Soviets are actively using their knowledge in an attempt to disrupt US personnel or communication systems.

The Defence Intelligence Agency's report on 'Controlled Offensive Behaviour' is somewhat more disturbing. It was drawn up by the Medical Intelligence Office, the Office of the Surgeon General and the Department of the Army and written primarily by John LaMothe, one of the authors of the report on Soviet and Czech parapsychology. This report was written in 1972 and scheduled for declassification in 1990.

This paper surveys Soviet research on and methods for psychological control of the human mind. More than 175 pages in length, it covers Soviet research on such topics as psychological manipulation, hypnosis, psychopharmacology, and the effects of light, colour and sound on the human mind and body. One large section is devoted to parapsychological phenomena as techniques leading to 'controlled behaviour'.

It is clear that much of this information prompted the Defence Intelligence Agency's in-depth survey of Soviet and Czech parapsychology three years later. But this report differs from the 1975 report in that it is more directly concerned with the far-reaching military implications of parapsychology. In fact, according to this report, Iron Curtain support for parapsychology research was instigated by the Soviet military and KGB and ' . . . the energy and resources being allotted for the work' were specifically encouraged 'because of its military implications especially in mind manipulation and controlled offensive behaviour'.

Apparently the US military thinks that Soviet parapsychology researchers are interested in the phenomenon of 'apports'. The report states that the Soviets would have an important tool if they could learn how to control the production of apports. It is also apparent that our own military has developed a similar interest, for reference is made to a document prepared for them in 1970 by G. A. Welk — 'Proposed Use of the Apport Technique as a Means to Strengthen the US Intelligence System'

The report states: 'According to Welk, a costly weakness in our intelligence system, to a large extent, is an inability to use effectively the resources of the science of parapsychology . . . Whenever parapsychology is mentioned, most people are likely to think of ESP. However, there are other types of parapsychological phenomena which are just as important militarily as ESP. Welk claims, based on many Soviet sources, that the so-called "apport" technique is likely to meet valuable intelligence needs. When fully developed, this technique would make possible the abduction of actual objects (including documents) in enemy territory and their transfer to friendly territory. Objects so abducted are known as "apports". They could be returned to the point of origin without the enemy becoming aware of this temporary abduction.'

The report shows clearly that the US military was (and probably still is) concerned about the military advantage the Soviets would have if they learned to 'materialize' objects from a distance. The authors of the Agency's report feared — or at least suggested — that Soviet diplomats might eventually be able to sit in their offices and steal vital documents from foreign countries! They especially noted the potential espionage uses that controlled induction of out-of-body experiences might have.

What can we conclude from these now declassified Defence Intelligence Agency reports? Are concerns over the military use of psychic powers well founded or not?

On the one hand, belief is growing among some US parapsychologists that psychic forces may be effective and reliable, should another war break out. Ingo Swann, a top US psychic, has written a novel entitled *Star Fire* about the first psychic war. The idea for the novel, claims Swann, came from information he received clandestinely from apparently top-level government sources. Duane Elgin, a futurologist on the staff of the Society for Psychical Research, has written a hypothetical scenario for a psychic war and predicts one may come by the 1990s.

On the other hand, to use psychic power effectively, one must first control it — and there is little evidence that the United States or the Soviets have learned to produce psychic phenomena on demand. The whole concept of psychotronics is suspect since to date there is no evidence that Pavlita's devices work the way he claims they do. Even the Defence Intelligence Agency concluded in 1975 that Soviet scientists seem to be having the same problems harnessing psychic potential as Western parapsychologists have had. So although the Defence Intelligence Agency reports suggest that . . . the Soviets may very well be the first to identify the field forces involved [in psychic phenomena] and the means by which they are generated . . . the day they'll do this is far in the future.

9. On Some Matters of Concern in Psychic Research

Michael Rossman

How Real Are the Dangers?

Controlled experiments at the Maimonides Medical Centre in Brooklyn have shown that people can transmit specific images to the minds of others in certain receptive states of wakefulness or dream.¹ Soviet researchers have used electrophysiological monitoring of telepaths to transmit coded signals between Leningrad and Moscow,² and have induced hypnotic states in distant subjects housed within electromagnetically shielded chambers.³ Recent quantitative studies with a number of psychics in England, France, Denmark, and the United States have demonstrated that they can bend and fracture metals,⁴ cause temperature changes within sealed containers (or affect the measuring instruments),⁵ influence subatomic processes of radioactive decay (or instruments responding to these)⁶ and magnetic fields,⁷ and exert directly measurable forces at a distance.⁸ Investigators in Czechoslovakia, Scotland and the United States have measured the changes in plant vitality induced by psychic healers, psychotronic and radionic⁹ devices, map-dowsing, and thinking good or evil thoughts.¹⁰ Field studies in Pennsylvania and elsewhere have measured the effectiveness of radionic devices in inhibiting or killing crop pests.¹¹ The Leningrad psychic Nina Kulagina has stopped a frog heart kept artificially beating in the laboratory.¹²

As such examples accumulate, the task of wishing them away begins to require as much imagination as the task of facing their implications. What they validate is not so much the existence of the phenomena in question, as the essential accuracy of most previous human testimony on this matter. What they promise us, besides wonder and mystery and untold possibilities of human good, is danger — spiritual, certainly, but also of the most mundane kinds.

For our general experience in 'harnessing' nature suggests that the forces

involved in these examples can be isolated, focused, and amplified by a variety of biological and/or inorganic means. There is presently no logical reason to suppose otherwise; and the many cultural traditions that affirm this are now finding at least partial support from researchers who seem to have shown that certain of the mysterious energies can be mechanically focused and modulated, stored in material objects, and retransmitted.¹³

It is crazy to consider the grim scenarios that follow from this — or crazy not to? If images can be implanted in dreaming minds with compelling force, the next Nixon may use a psychic bullhorn to pacify public opinion: Whole squadrons of 'frogs', hamlets of 'gooks', and dispersed populations of 'nigger commie queers' might experience simultaneous cardiac arrest as the result of a well-tuned vibration. Such images are the comic of the horrible; they are also coldly logical. In even fractional, imperfect control of any of the psychic phenomena now under study, we may recognize unprecedented potentials for new varieties of political, military, and industrial espionage and sabotage: for selective influence or assassination; for deep and subtle invasions of privacy; for totalitarian practices in education and in the larger society; for disastrous pollutions or imbalancings of the psycho-ecosystem; and on and on.

Such potentials, as well as ones more benign, are no less visible now to those in positions of power with strong reasons to make use of them than they are to neutral researchers¹⁴ and utopian visionaries.¹⁵ They have always been visible to the weavers of fantasy; and during the past quarter-century science-fiction writers have explored them extensively, as if in literary precognition of the social impact of the technologization of psychic powers. If few people have taken their paranoid dreaming seriously (besides the two million followers claimed by Scientology's founder, ex-science-fiction writer L. Ron Hubbard), this may be due not only to widespread disbelief in the reality of psychic powers, but also to the very nature of the equally widespread¹⁶ belief in their reality. For even among those who have found them real enough to experience, psychic phenomena have generally been understood as essentially uncontrollable, too delicate and unpredictable in their production and effects, too dependent on 'antirational' contexts, too disjunct from ordinary experience and the technological world, to be harnessed by scientific method and cold machines in the foreseeable future.

Were this judgment accurate, the examples cited above would be no more than the anomalies they seem, updating the old legends but still only pivots for speculative fiction, still good for an evening's escape after the other dreams of reaching the moon and cracking the atom had come too suddenly true. But certain recent developments suggest that this

judgment is itself now a wishful fantasy, and that controlled psychic technologies are both more possible and more imminent than is generally assumed.

The legendary 'unreliability' of psychic powers may prejudice their scientific investigation, but it does not preclude their use. Indeed, the very tools of statistical method that have been used since J. B. Rhine's researches in the 1930s to 'tame' this unreliability and give psychic phenomena such scientific standing as they have had are now being applied to their technological development, particularly in the field of information transfer (where, in crude terms, enough redundancy may render individually unreliable psychic perceptions reliable in their aggregate).

Moreover, common sense tells us that a balky tool may still be useful, particularly for mischief; and that the difficulty psychokinetic agents have in moving even a feather no longer disqualifies them as weapons. The economic, industrial, and military systems of our civilization have quite recently become dependent on the manipulation of materials and energies radically more subtle and delicate than those formerly employed. The problems with crystallization of nuclear reactor walls and with the stability of nuclear wastes are critical enough without the possible psychic dimensions that seem to have been suggested in the lab.¹⁷ The variety of reports about psychic influence of data storage on magnetic tape suggest that no data base may be secure from disruption.¹⁸ The reported bending of a light beam by a psychic has similar implications for the new laser and optical fibre systems of information processing now under development. Other laboratory reports suggest psychic interference with microelectronic circuitry,¹⁹ and the sudden failure of the ARPA computer network while Uri Geller was being tested near one of its nodes remains unexplained.²⁰ The human aspects of our systems have likewise become radically more vulnerable to interference, as is clear most dramatically when we calculate how brief a muddling of how few minds might trigger nuclear holocaust.²¹

Meanwhile, the questions of reliability and rationality are being approached from other angles. Researchers have begun a systematic mapping of the physical conditions, the physiological and psychological states and preparations, which are conducive to the functioning of psychic powers,²² and though their tentative understandings have so far been used mainly to enable further research, they are more broadly applicable. A convergent front of research is presently applying education psychology and biofeedback technology to the problem of the actual training of psychics, with some success.²³

These last paragraphs suggest that misusable psychic technologies are

indeed feasible, but tell us little about the timing of the danger. To judge its imminence we must look more broadly at the present character and pace of scientific inquiry into psychic phenomena, and consider some ways in which it has already blurred the traditional sharp distinction between the psychic and the material realms.

How Imminent Are the Dangers?

The State of Military Application

There is currently little concrete evidence to suggest that agencies of the United States are seriously involved in developing psychic technologies for military applications. Among domestic researchers, opinion is quite the reverse; they complain that the brief quickening of interest which psychic research enjoyed during the mid-1970s has waned, and that government and industry alike have withheld support from promising (but at best rudimentary) work. Even those most sensitive to the moral and other implications of clandestine projects report few rumours worth pursuing.

Though the rumours involved are not nearly so bland, the overt situation in the Soviet sphere appears much the same. Early psychic research there, more adventurous and utilitarian than J. B. Rhine's pioneering efforts in the States, had suffered in the wars of scientific ideology during Stalin's regime and was forbidden after 1937. During the 1960s it came again to flourish in several Eastern European countries. Over twenty state-supported centres of research into psychic phenomena were in operation by 1968, when two North American journalists, Ostrander and Schroeder, made a tour of noted Soviet researchers and wrote up what they were told in a sprawling, sensational report called *Psychic Discoveries Behind the Iron Curtain*. This book posed to a broad public for the first time the question of whether the United States was engaged, perhaps unwittingly, in a 'psychic arms race' with the Soviets.

The years since seem to have dissolved this sensation. The Soviet cultural climate has hardened again in many ways, and psychic research seems no longer so favoured. Official disavowals and critiques have appeared in key journals; mutual access and conferences among researchers have been inhibited; their foreign contacts have been discouraged and their former main spokesman and contact-man with the West, E. Naumov, has been imprisoned. In such respects psychic research has seemed nearly as much in the doldrums in the USSR as in the United States, and the idea of a 'psychic arms race' has grown somewhat stale and implausible in the absence, during the past eight years, of convincing evidence from either side to support it.

For that matter, serious doubt has been directed toward many of the researches and interpretations which Ostrander and Schroeder reported, and toward many of those cited above or made otherwise public since. Serious researchers are nearly unanimous in their cautious attitudes about how few experiments can be taken seriously and how limited are the deductions which can be made from them; and few speculate that the prospects of useful or misusable psychic technologies have been significantly accelerated during the past decade.

In short, there appears to be no responsible ground to the idea that dangerous technologizations of psychic powers are imminent. The suggestion seems at best a staple of paranoid speculative fiction, and at worst irresponsible for the way it sensationalizes a field of inquiry which deserves better, and distracts attention from many more genuine and present problems.

First Signs in Paranoia Gulch

Yet we cannot rest secure in this conclusion, unless we believe absolutely that 'psychic powers' are simply not 'real', or invoke some other *ad hominem* principle — for example, that they cannot be controlled, nor used for bad ends — to dismiss the whole issue. To think otherwise — to think that psychic powers, though mysterious, are quite real or may be shown more rigorously to be so — means that we must entertain the stark lines of reasoning developed earlier in this essay. And worse, it leads us almost immediately to the brink of certain vertigoes of paranoia: one ancient, intrinsic in the subject; one modern, present in our history. Both are coldly logical, quite unresolvable, quite mad, and make responsible discussion of the matter somewhat difficult. Yet so many recent paranoias about what government and industry were doing to us have turned out to underestimate the actual case, that there seems no responsible course but to acknowledge the unresolvable issues in the psychic case.

The first paranoia is classic: the shaman conjures darkly in his hut, attached by uncertain loyalties to the tribe. *If psychic powers are real and can be extraordinarily developed, there is no way for those not sharing this development to know whether it has not only occurred but has been used to conceal the fact that it has occurred.* This possibility is intrinsic and unavoidable, since (as much observation and theory suggest) the reality of any single power more or less implies the reality of all, and since simple employments of these powers for their own concealment can readily be conceived. Moreover it has motivational force, for modern life tells us quite plainly that any power developed for military or commercial advantage is kept secret so long as it is advantageous and possible to do so. If the power itself can be used for this secrecy, so much

the better; this is the strategy of choice, as the old myth of the evil magician who clouds men's minds reminds us.

To entertain this proposition seriously is to court a certain madness. It leaves no way to deny that fifty High Rosicrucians, or some other unlikely gang, may be running the whole world, for any lack of evidence may be explained by their hypothetical superior powers. Over this precise, generic precipice of paranoia, a host of researchers and other investigators of psychic phenomena have recently, as since time immemorial, tumbled. Andrija Puharich and Uri Geller are only the most public of some dozens of notables in this broad field, many with more sober and sound credentials, who have come to believe that some band of political entities, terrestrially or ethereally based, is running the show in this fashion; and the varieties of popular belief in similar scenarios are still multiplying.

More generally, and seemingly worse, it leaves us unable to be certain that anything is as it seems to us. With this uncertainty carried to extremes one can argue anything, and reasoned discourse becomes impossible. Yet it is this same uncertainty which we most deliberately and most fruitfully engage; for the most vital thrusts of modern physics, psychology, politics, philosophy, and art have indeed revealed our reality to be different from what we had perceived it to be, and moreover in revealing the differences have often suggested forces to account for our prior misconceptions. Our inquiry into the psychic must engage this uncertainty again, and directly — for to accept that telepathic interactions of some sorts happen at some times is to open the possibility that such interactions may significantly determine many varieties of human behaviour, including even our acts of inquiry into the psychic, in ways which we may be unable to recognize or rule out for quite some time; and to reconstrue the relations of matter and consciousness is to open the domains of physics and biology to a similar unsettlement.

In short, this formal uncertainty, one of several, is intrinsic to psychic inquiry. We well may consider its most paranoid expressions, like the Rosicrucian or Hoovan conspiracies, to be possibilities whose probability is too vanishingly low to take seriously; and reckon similarly that there is little likelihood that psychic occurrences can amount to more than an occasional mild perturbation in ordinary consciousness and life. Still this uncertainty remains, like a formal symbol foreshadowing the second, more immediate paranoia, whose probability is not so vanishingly small.

For the general lack of solid evidence regarding the military development of psychic technologies is a fact which should not, in our age, be automatically construed at its face value. Even without the persistent anecdotal evidence that such development is, in fact, now in progress, the argument for this development is indirect but strong, and may account for the

lack of solid evidence. Indeed, it is so plausible that it may actually have generated this development, a 'psychic arms race' sprung from the fear of the same.

Again the scenario is ancient: as hostile tribes prepare for battle, their hidden shamans strive to invoke the powers that will grant advantage. The possibility that psychic forces can be used to military advantage may seem low; yet that possibility is in itself a *fact*, an actual conception which may motivate behaviour. This fact began to assume modern historical substance sometime during the years 1933-1948, in the military era preceding the Cold War. The reasons are twofold. In this era modern ('scientific') inquiry into the psychic began to take shape; and in it several ancient developments of organized warfare assumed their contemporary form. In new immediacy and deeper degree, the enterprise of science became the prime engine of war, under State control; its purposes came to be shaped by the prospects of military (rather than general) advantage; the job even of fundamental research came to be to sort *systematically* through the possibilities of advantage to see which could be realized; and States developed to an unprecedented degree both the tendency and the means to conduct such enterprises in secrecy.

There is no strong reason to expect psychic research to escape these developments. Instead, the advantages promised by even the most primitive 'domestication' of any psychic power are so significant that, regardless of our own sense of their possibility, we must consider the likelihood that those in the military profession whose job it is to inquire into even unlikely possibilities have done so already, and have done so in secret.

The first modern evidences of this date — there were earlier military uses of psychic powers in Czechoslovakia, as since time immemorial — come, in fact, from the pre-Cold War era, though they were not made fully public for a quarter-century. In the United States during World War II, the parapsychologist J. B. Rhine was secretly employed by the military to study whether dogs might be trained to use ESP to find mines (they could), and Gaither Pratt was funded by the navy to study ESP in homing pigeons (unsuccessfully).²⁴ In the Soviet Union in 1940, Stalin himself conducted a series of positive experiments in espionage with the noted psychic Wolf Messing.²⁵ That psychic research flourished in the Soviet Union until its sharp discouragement after 1937 suggests that Soviet authorities may have remained more interested in it than they appeared to be, and that perhaps the concealment was strategic.

Even from this early era, we must take such reports not simply as accurate indications of the quantity, quality, and success of military psychic research, but rather, in each regard, as representing the tip of an iceberg

whose secret proportions we can estimate only indirectly. The present primitive state of non-military psychic research (in the West), and the anomalous character of such early reports, suggests that early military research was neither extensive nor useful; but this conclusion is only somewhat less speculative than its opposite.

As the Cold War progressed, the scientific struggle grew more intense and extensive, as military establishments sought not only thermonuclear but biological and psychological tools of warfare. Given the interest already demonstrated by both sides, it is less reasonable to assume that psychic research was simply neglected during the 1950s than to assume it was undertaken more seriously and systematically, and in deeper secrecy. Its accomplishments may well have been negligible; but perhaps they were as fruitful, proportionately, as the non-military psychic researches of the Soviets in the 1960s and the West in the 1970s have been — which is to say promising but inconclusive and thus motivating more research. Given that the first conclusively useful military psychic technologies may develop from relatively isolated or 'accidental' research breakthroughs — for so the present state of paradigm-shift pregnancy promises — there is a slight possibility that such a breakthrough occurred during this early period. The chances of this happening secretly rather than publicly are perhaps proportional to the energies invested in secret research; the event itself, of course, would be kept even more secret than the research.

What Information Can We Trust?

Such speculation might be empty, were there not a subsequent history of events to connect it to. But even unsupported it would still be fully appropriate to its subject, given the modes of thought which we may reasonably assume govern the military developments in question. From the Cold War era on, the problem of assessing military research has grown more difficult. The mere lack of information has become more menacing as procedures of secrecy have grown more habitual and efficient,²⁶ and the meaning of most news about what has failed or been rejected has become altogether indecipherable ever since modern strategies of information management were adopted as primary tools of war and extended in 'peacetime' as well.

To put it so is to be polite. The harsher truth is that during the Cold War certain modes of thought, derived perhaps equally from games theory and paranoid hysteria, came to characterize global politics, and the military strategies underwriting it. (One widely noted landmark of this development was Herman Kahn's *On Thermonuclear War*, which reflected less Kahn's own mind than the dominant policy attitudes. We may note that the minds that could think seriously about building a 'doomsday bomb'

designed to destroy all life, as a strategic act of deterrence, were of a different sort than those which cautiously calculated the odds of a crust-igniting nuclear reaction two decades earlier; and that they may not have found the prospect of psychic warfare 'unthinkable' either.) The extent to which paranoid mind-games have determined America's own political and military operations since then has become somewhat visible only recently through the unfolding story of the CIA. One must read representational accounts²⁷ to appreciate the states of consciousness involved, for they are as aberrant, convoluted, and rich in implication as any to be found in the lunatic fringes of psychism.

In particular, a world view once rather narrowly confined to the domain of classic intelligence operations (espionage and counterespionage) has now come more broadly to guide military and political affairs. Its rich textures of paranoid strategy now involve us all by design in a reality in which, in the extreme and quite generally, no report or interpretation of events can be believed except through first-hand experience. As citizens we already experience the social textures of this maddening reality, prefigured in Orwell's *1984*; but what the recent fictional and factual literature on the CIA has made more clear is that the manipulators of information and minds themselves lose track of what is real and what is not.

What then is to be made of such current apparent facts as these?

(1) E. Harris Walker, whose approach to matter-consciousness interaction and parapsychological theory seems among the most interesting in the West, continues to develop his ideas in his spare time from his regular job in an army weaponry-development base, having tried fruitlessly for years to interest official agencies in sponsoring it;

(2) The recently declassified, though still significantly expurgated, Defence Intelligence Agency report (DST-1010S-387-75, 1975) titled *Soviet and Czechoslovakian Parapsychology Research* is clear about the complete seriousness and relatively advanced state of that research, but seems to conclude that it is still some (unassessable) distance from realizing any of the military consequences so clearly indicated.

These matters may be as they seem; or they may not. A person in Walker's position could conceivably be playing a double role, less isolated than he seems, or be ordered to endure the isolation for strategic reasons; or he might be the unwitting victim of deliberate strategic neglect. The DIA report might conceivably be designed to convey a false impression either of what is known about the actual advancement of Soviet efforts, or about the echelons of decision in which that knowledge is shared; its writers might have participated in this not deliberately, but by being deceived by other agencies on which they depended for information.

Such possibilities are not cut from the abstract cloth of paranoia, but modelled forcefully in contemporary life. There is every reason to expect that secret psychic research will be disguised in such fashions, and that the energies devoted to the disguise, and its complexity, will depend directly on the significance and promise of the research. There has been, to my knowledge, no significant effort made outside the military to assess the state of clandestine psychic research during the thirty years since it became, at least in embryo, an historical fact. Any effort more serious and concrete than represented by this essay must deal explicitly with the possibility that its disguise as well as its state may have been developing for many years, and may be quite difficult to penetrate fully.

The Soviet Side of the Race

In this ambience of unresolvable uncertainties and paranoia, as the Cold War era gives way to the 'Thaw', the next signs of a psychic arms race appear, in the controversy about experiments conducted on the US atomic sub *Nautilus* in 1958. French tabloids sensationalized the story that the *Nautilus* was engaged in testing ship-to-shore telepathic communications; documents were cited. Official denials followed. There is no simple way to construe the matter: speculation is strong that the story, whether true or false, was planted by a group of Soviet parapsychologists who hoped, through their government's reaction to the news, to reap tolerance and active support for their own undernourished efforts; yet this story itself may have been CIA-inspired to cover the leak. In the era of information manipulation, everyone can play.²⁸

What is certain, however, is that a fundamental military consideration was at stake. Both deterrence and control of its awesome weaponry now depend upon sub-to-shore communications that are vulnerable to disruption in crisis. Military planners tried to turn much of Wisconsin into a low-frequency radio transmitter to cope with the problem. Whatever other means the United States was exploring in 1959, the Soviets had good reason to be respectful of psychic research in this vital area — for though the results were not declassified for many years, they themselves had been engaged since at least 1956 in successful ship-to-shore 'biocommunications' (telepathy) experiments, monitoring mother animals as their offspring were killed far away.²⁹

The subsequent development of such primitive means remains obscure; perhaps the Soviets have gone no further on this line. Of similar US work there is likewise no public trace. The *Nautilus* with its debated experiments and the Soviet sub with its slaughtered rabbits drift face-to-face two decades away, a myth (?) confronting a reality, constituting together an isolated yet unmistakably formal announcement of a psychic

arms race in fact in progress on at least a rudimentary but vital level.

Since then the action has been, in its fashion, brisk. Apparently reacting to the specific content of the *Nautilus* rumours, which indicated that US scientists had proven that the 'telepathy' involved did not depend on radio waves, the Soviet authorities reversed their twenty-year policy, permitting L. L. Vasiliev at last to publish his findings on distant telepathic influence (which came to similar conclusions) and to open a unit for parapsychological research at an official institute. These events keynoted a sudden public flourishing of psychic research in the Soviet Union and Eastern Europe, which progressed steadily through the 1960s.

In this fashion the public action of Soviet psychic research picked up from where it had been discontinued two decades earlier. Had there been no secret Soviet research already in progress, this resumption would have seemed largely a response to the news that the United States was researching military uses; and doubtless the Soviets would have initiated secret research simultaneously. Were the tale of the *Nautilus* fiction too, the psychic arms race would thus have begun in 1959 as a design forming from the pure cloth of paranoia. But the scattered, belated evidence that secret Soviet research was in fact undertaken in the 1938-1958 period, perhaps continuously, implies a more complex picture:

1. The new wave of public research represented an extension of prior military research (which perhaps also accelerated at this time). It was supported and managed for this purpose; and its reports from 1959 on must be assumed to omit and perhaps to camouflage significant results of prior and current secret research. In particular, the results released in Vasiliev's work may have been a significant stage behind the actual state of Soviet research into military application, and perhaps into theory as well.
2. Had there been much likelihood that the *Nautilus* story was in essence false, Soviet authorities would have had reason not to advertise to potential competitors that they were beginning or accelerating research with military implications. Their prompt public action suggests instead that the Soviets had both reason to accept the story as true, and reason not to camouflage the fact of the acceleration of their competing research. This in turn suggests that the United States' own secret research had been in progress for some time before 1959; that the Soviets were well enough appraised of its state to judge that their published work throughout the 1960s would not significantly advance it; and that they knew by then that the fact of their own involvement in secret research was known to the United States.

3. If so, then the public and declassified appraisals of Soviet psychic progress that appeared in the West from 1968 on, in apparent response to the public rumours of a developing Soviet psycho-military capacity, were predated by an earlier series, still classified; and the Soviet choice of Vasiliev's work to inaugurate the overt unfettering of psychic research was not only a public response promising competition in a technological race, but an esoteric diplomatic message between nations in a competition already privately acknowledged — as if to say, 'The game has been revealed; now let it become overt'. Such signals, by tradition, are couched symbolically. A decade later, when the dangers of Soviet commitment to this game had become more fully public, the United States seemed to respond in similar symbolic fashion, as astronaut Edgar Mitchell conducted telepathy experiments from orbit on his own initiative, with worldwide publicity.

As the 1960s progressed, the flourishing of Soviet and Eastern European research produced a rich, suggestive literature of findings and ideas, whose highlights were surveyed in *Psychic Discoveries Behind the Iron Curtain*. Most Western responses to *PDBIC* lost sight of the whole as they focused on legitimate critiques or dogmatic doubts about details of the work reported, faulting the two journalists for excessive enthusiasm. Yet what they reported was precisely a serious scientific enthusiasm, which could not be dismissed by scorn from afar, and a political enthusiasm, less direct but too apparent to discount.

The Soviet and Eastern European scientific establishments were bound to even harsher orthodoxies, and armed with the same 'debunking' arguments as were used in the West to dismiss psychic research. If in their face this enthusiasm prospered, it was due not simply to the freer cultural climate of the time, but also to official recognition and support, now public as well as clandestine — and motivated not by abstract ideology of the Lysenkoist sort which had been used to (nominally) forbid psychic research but rather by concrete hopes of useful technologies, already more clearly promised than had been publicly announced.³⁰ To the extent that many applications suggested by the supported research were patently military, the state policy decisions involved in this support represented a low-key but explicit commitment to a psychic arms race; and the subsequent shifts of public posture (and of scientific posture within the field) contain little to suggest that this underlying policy has been abandoned or even de-emphasized.

Taken even with its critiques, the resulting overt research was formidable in its promise, developed relatively rapidly, and attracted increasing international attention from 1963 onwards. The American journalists

of *PDBIC* surveyed the scene at its peak, just as an apparent repression was setting in. Trimmed of excessive enthusiasm, the story they brought back was coherent as a tale of frontier exploration, and notable moreover for two additional consistencies. Often, in various countries, they heard vague or guarded rumours that clandestine military research was in progress; and often scientists expressed keen fears that psychic research would be turned to dangerous uses, and urged the journalists to bear this warning to the West.

Who took this warning seriously is not clear, as this 'sensationalized' issue was dodged by *PDBIC*'s critics and has since found public print mainly in the pages of the *National Enquirer* (which has by default fallen heir to an important task, and not done badly at it). But as in physics, so in psychic research: the act of observation perturbs the phenomenon observed. And so in journalism, for the Soviet authorities may have taken the warning seriously enough. The 'sensationalization' of potential Soviet parapsychological military capabilities begun by French journalists in the late 1960s may well have been a factor in provoking the quite sudden reversal, in early 1968, of some aspects of official attitudes toward psychic research. The initial attacks on the subject and its researchers, in *Pravda* and *Literary Gazette*, were followed by a series of cautionary papers in technical journals. Conferences were restricted; researchers were dismissed from their posts. As Western attention continued to increase, the measures of discouragement grew sterner: by 1974, after *PDBIC* had been quite widely read and the Voice of America had transmitted a discussion of the book into the Soviet Union, the parapsychologist E. Naumov — who appears in *PDBIC* as the Soviet researchers' key contact man with the West — was sentenced to two years hard labour for a semi-related petty offence, and remanded to a psychiatric 'treatment facility'.³¹

The general dis-spiriting effects of these measures were evident to many Western observers; some took them to indicate simply that Soviet authorities were again discouraging parapsychological research. But to judge by such of the subsequent decade's work as has been publicly translated in the West, overt psychic research was not greatly stunted, and serious pursuit of many promising studies continued.³² The measures seem instead to have been meant principally to inhibit international contacts (as they did) and perhaps mutual contacts as well; and to place researchers on notice that their work and conduct were of strong interest to the state (and were presumably to be monitored more closely as such).

Coming as late as they did, these measures were probably not meant to conceal the fact that the Soviets were pursuing research with military

consequence, which presumably was a secret shared by the United States and inevitably becoming public. But they may have served quite well to help conceal the *substance* of that research; and the increased difficulty of contact with Soviet scientists was likely accompanied by more careful control of the literature available to Western interpretation. The 1975 Defence Intelligence Agency document mentioned above notes at its end, in tacit complaint, that information on almost every key practical aspect of Czech and Soviet research — on Pavlita's psychotronic generators, on biological energy detection instruments, on psychics' effects on magnetic tape, on psychic screening programmes, etc. — has not been obtained.

As for what prompted these measures, this tightening of policy, we may look to their timing. Being contemporaneous with the general hardening of climate in the Soviet sphere, the moves were plausible, implying nothing special about the research in question, and apparently precipitated by the intrusion of foreign attention. To question this neat picture would be paranoid. Yet, as the DIA study notes, the Soviet reaction to *PDBIC* was unconvincing³¹ (and not only because Naumov's arrest took place four years after his role was fully publicized in the West and his activities curtailed); and the abruptness of the 1968 *Pravda* attack was likewise arbitrary enough to justify speculation.

The timing of the tightening may instead have been prompted mainly by internal military developments, and the occasions adopted as convenient to camouflage this fact. If secret research, which presumably was more advanced, progressed as rapidly as overt research did during the mid-1960s, it may well have reached a mark of serious achievement by 1968, signalling the need for redoubled security; and the vague but urgent warnings *PDBIC*'s journalists collected may have reflected this fact, or indeed have been meant as its safe expression. Further achievements might (as quite plausibly suggested in *The New Soviet Psychic Discoveries*) have prompted the sudden call of Soviet premier Brezhnev, in June 1973, for the United States to agree to a ban on research and development of new kinds of weapons 'more terrifying' than existing nuclear weapons,³⁴ as well as the imprisonments of researchers in 1974-5. *NSPD*'s authors also read the 1977 Moscow arrest of American journalist Robert Toth for allegedly receiving parapsychological research secrets as reflecting, in the excuse chosen, a renewed tightening of research security. In any case, if the domestic researchers I've asked are accurate in their opinion, information about Soviet parapsychological research has been subject to significantly tighter control ever since 1968-70 — lending credence to the notion that this research grew generally more serious and more sensitive at this time.

Such biographical details of the psychic arms race remain to be

deciphered and substantiated. Only this much seems clear: such a race has been in progress, from the Soviet side at least, for two decades and perhaps for four; and its biography is probably at least as complex as the version suggested here. Its terms have evolved: one speaks no longer of 'psychic powers', but in the Soviet Union of 'biocommunications' and in Czechoslovakia of 'psychotronic energies'. As this essay earlier implies, though some extremes of the research involved are bizarre, others extend quite continuously into more ordinary research in physics and biology. *This continuity means that the psychic arms race cannot be isolated from the broader arms race* — for the US and Soviet militaries have been exploring the effects of various electromagnetic frequencies upon bodies, behaviour, and cognition for at least a quarter-century, though most of the research remains classified on both sides.³⁵

It is against this background, this possible biography, that the *imminence* of danger from 'psychic technology' must be considered. The public condition of parapsychological research in the Soviet sphere has continued to advance; current estimates place its budget at some \$100 million annually. Sophistications of dowsing are now employed extensively in mineralogical and archeological exploration,³⁶ while investigations of biomagnetic sensitivity proceed in the institutes; and the broader range of psycho-energetic and biocommunicative studies is finding similarly benign and exciting application in such fields as pedagogy and medicine, as *The New Soviet Psychic Discoveries* attests.

It is reasonable to fear that covert research has also advanced during the 1970s. The paranoia remains unresolvable, unchanged in its essence since Stalin tested Messing: the years since have only made it more plausible, and harder either to wish away or to resolve. All that is new about the current crop of rumours is that they no longer concern research, but specific applications — and international ones, at that — instead, and thus convey perhaps a sharper suspicion of the imminence of danger than did the rumours of previous years.

Three Rumours

1. The irradiation of the United States embassy in Moscow began in 1962, and alarmed US authorities precisely because its purpose was mysterious. Speculation at first concerned attempts to eavesdrop on or interfere with electronic communications, as the intensities of the microwave radiation involved were far below the levels acknowledged in the West as biologically significant. Better information was soon available from secret US research inspired by this situation; and much later Paul Brodeur's journalism³⁷ made public a new dimension of technological danger and scandal, in the blind pollution of the

electromagnetic environment by microwaves (from TV broadcasts, ovens, etc.) licensed as 'safe' at levels a thousandfold more intense than those already demonstrated by Soviet scientists to be of biological significance.

Such realizations turned Western paranoia to the idea that the Soviets might be trying to cause physical damage to the embassy employees, or to disorient them by affecting their nervous tissues. Records were scrutinized for unusual incidences of cataracts, cancers, migraines, and strokes; unusual incidences were found. International protests were lodged; one victim sued the US government. Still the Soviets persisted in beaming microwaves at the embassy's windows, even after these were shielded in 1976. The reasons for their persistence remain mysterious, as does the logic of the seemingly arbitrary patterns of frequency and intensity they have employed.

The sensational relation of low-level microwaves to gross physical damage has continued to dominate public discussion of the embassy enigma, which has quite ignored the possibility that Soviet science, being more advanced in investigating electromagnetic biological phenomena, may have had a subtler purpose than the physical damages (which may have been only its by-product).

Yet in private the possibility was not unnoticed — for already in 1975, before the resumption of the microwave beaming was widely known, the DIA had reason to list, among the nine key information gaps noted at the end of its assessment of Soviet and Czech parapsychological research, the question: 'Is there any evidence of clandestine use by the Soviets of apparently electromagnetic . . . devices against personnel, equipment, or radio and TV stations?'³⁸ From its own research and the Soviet literature, the DIA had known for a decade that high-frequency EM waves might be used to affect human behaviour not simply through the raw energy, but through the encoded *information* such waves could carry; and the extensive involvement of Soviet parapsychological research in this area could not but make it suspect in the embassy irradiation.

The subsequent insouciance with which the Soviets continued the coded irradiation, no longer clandestine and apparently defended against as well as American resources could manage, perhaps suggests confidence that its meaning would not soon be deciphered. Altogether, unless it were indeed just an arbitrary ploy to present a perturbing conundrum, the mark of some advanced science is on the affair still. And here the mystery rests, still unresolved, perhaps somewhere in the fluid area where psychic research expresses itself through and extends the known frameworks of science and technology.

2. A second rumour has both older and more recent origins. The simpler

works of Nikolai Tesla, the Yugoslavian genius of electromagnetism, underlie modern power transmission and other key electronic applications; yet his 'wilder' ideas were neglected, though he demonstrated long-distance wireless transmission of electricity in 1897 and claimed confidently that the technology involved could be extended to manipulate global electromagnetic fields in ways both massive and precise, to transmit power and information, to modify weather patterns, and more. Authoritative interest in Tesla's ideas was suddenly rekindled in the West when the mysterious massive bursts of high and extra low frequency EM waves which had perturbed global communications since late 1976 were seemingly identified as originating from two massive new Tesla facilities in the Soviet Union.³⁹

Though Tesla worked in the United States, his archives are now in his home country of Yugoslavia. The Soviets had questioned his associates before their deaths and revived his work.⁴⁰ They were candid in admitting that tests were in progress, opaque about their purpose, and definite in their refusal to stop the series then under way. Western speculation centred at first on the possibility of over-the-horizon radar or new weaponry in the satellite-killing race, both of hot strategic importance — the latter being more plausible, as Tesla's ideas indicated control of charged-particle beams for weaponry and for unprecedented defensive shielding. But the guessing broadened after the Soviet transmissions began to generate low-frequency standing EM waves on a global scale, and satellite observation appeared to correlate them with remarkable meteorological phenomena. The collapse of a standing wave was alleged to have triggered a ground explosion in Newfoundland in mid-1977;⁴¹ that autumn, a perhaps unrelated but inexplicable series of atmospheric explosions on the East Coast led President Carter to call for their investigation. One observer suggests that the 'sudden and uncharacteristic' move of the Soviets in the 1977 SALT negotiations, to add to the ban on artificial manipulation of weather patterns for military purposes, a specific ban on electromagnetic means of modification was prompted not simply by their researches into such technology, but by the immediate fact that a major experiment had escaped control, creating major and unexpected perturbances of atmospheric electromagnetic fields, which only slowly decayed.⁴²

Here the matter rests in June 1978, a proximate salient of technological paranoia in an age increasingly characterized by such. It may well have no direct connection with research on violations of the EM paradigm; but its disconnection from the humbler modern reaches of Soviet parapsychological ('biocommunications') research is not so certain. The standing waves involved resonate in the Earth's ionospheric cavity in

the low frequency ranges that characterize the electrical activities of human brains. Many experiments have shown recently that neural activities can be entrained ('driven') from outside in these frequencies, grossly altering physiological and psychological states. The possibly subtler functions of such standing waves as carriers of information have been suggested by Western parapsychological researches for some years,⁴³ and likely — in view of their emphasis on bioelectronic monitoring as a research tool — have been investigated in some depth by Soviet scientists. Indeed, the study of the biological dimensions of all 'extraordinary' electromagnetic (and other field-and-force) phenomena is centred as strongly in biocommunications research as elsewhere among the Soviets, and must, unless the guiding policies are quite blind, be a fundamental dimension of the development of Tesla technologies.

There is, in short, no longer a clear line to be drawn between research into 'psychic phenomena' and advanced military applications, even in the design of antimissile defence systems. The possibility that Tesla technology may also be adaptable to distant mass psychophysical manipulation, through direct entrainment or more subtly, stands now not only as a modern version of the old nightmare about bad magic, but as a small yet concrete factor influencing policy calculations on both sides, pulsing in the Earth's atmosphere each time the great Tesla magnifying transmitters at Riga and Gomel crank up to 75 million volts to unleash their 7 Hz signal.

3. The third rumour interprets no public phenomena, such as the embassy enigma and the recent weird weather. Hopelessly unverifiable, it came to me as a photocopy of an edited version of someone's privileged account of a secretive meeting in Czechoslovakia in which one man translated for him another's report on events which he in turn may have known of only second-hand. With no supporting evidence or means of checking, there would be no reason to pay it attention, but for the fact that such accurate information as does surface about clandestine affairs from persons responsibly concerned, as the links in this chain claim to be, is transmitted through such means; and for the pertinence of its message.

The report says simply that Robert Pavlita has tested 'with favourable results' a device for the Czech Ministry of the Interior, to greatly simplify the task of security agents in detecting the illegal crossing of borders by persons and documents, and that he is working, under Czech or Soviet direction, on a distance-independent weapon to cause loss of muscular control and paralysis.

Such a report might well have surfaced, or been fabricated, at any time during the past decade. Begun in the late 1930s, Pavlita's work seems

to have attracted major attention in Czechoslovakia in the early 1960s, and soon after in the Soviet Union, as one of the most promising and potent salients of parapsychological research. His 'psychotronic generators' appeared to accumulate a non-electromagnetic ('psychotronic') energy from ordinary biological sources, which could be stored, manipulated, and redirected to accomplish a variety of phenomena classically described as 'psychokinetic', 'telepathic', and 'clairvoyant'.⁴⁴

Ten years have passed since other Czech scientists told foreign journalists that they had seen Pavlita use one generator to disorient a human subject, and had themselves used another to kill flies. Few details about the construction and operation of psychotronic generators have since been released to Western eyes, ostensibly for reasons of potential patent protection; certain benign claims for their effects on plant growth and water purification were criticized in 1972 by a formerly favourable Czech parapsychology official. No evidence of secret research has surfaced, though the Czech military is said to fund most overt psychic research, and must surely have checked out Pavlita's work in secret.

And now this document appears — a misinterpretation, a paranoid delusion, a mischievous lie — or perhaps only what it seems, a straightforward report through a chain of parties kept anonymous to protect the source. '[Professional] A. said that the device was highly dangerous and that he thought the West should know about it. Eastern European countries would be using it in the future . . . with very serious consequences.' Perhaps.

On the other hand, since strict control over Pavlita's seemingly simple appliances has kept them out of Western hands, since the available literature is quite vague, and since each demonstration to Western observers has been in manifestly uncontrolled circumstances where the results might have been deceitfully achieved by other means, psychotronic generators may be a hoax. If so, it has been a hoax of increasingly high standing in Czechoslovakia and the Soviet Union for at least sixteen years, to judge by reports, and has become a hoax elaborate enough and pointed enough in its implications to have required governmental-military support for its perpetuation. To think so is to conclude that the Soviets had reason to establish false lines of research as early as 1963, when Pavlita's work became well known. But why would they establish lines so clearly (if falsely) threatening, other than to cover lines of actual development that were in fact at least as threatening?

The United States in the Psychic Arms Race

Had there been no psychic arms race, it would have been necessary to invent one — for in the modern conduct of war and politics through

technological development, every move for significant strategic advantage dictates a move to match or counter it. The possibility of a Soviet military psychic advance became overt by 1959, when Vasiliev's work was honoured; obvious by 1963-4, in the public extent of research and in its findings; and glaring by 1968-70, indeed a mild international sensation. At any of these stages the United States might well have responded by initiating (or accelerating) military psychic research, as well as related espionage/counter-espionage operations. By 1970, indeed, not to do so would have been fundamentally stupid or blind, and perhaps criminally irresponsible — for even a pacifist might choose to seek means of defence against weapons potentially so powerful in the hands of users with such a prior track record; and whether we trust our own elected officials and their appointees or not, for them not to have done so would have been a betrayal of their duties, as well as sheer incompetence.

Thus runs the abstract logic for US complicity with the Soviet Union in creating a psychic arms race. And indeed, the overt picture of US entry into the race, scanty as it is, dates largely from 1971 onward, when this logic became public and inescapable. It portrays a grossly belated and reluctant recognition of the strategic problem, and (as of 1978) a response so scattered, slow, and casual as scarcely to be serious. And so it may be. As dogmatism knows no limits and as the subject of psychic phenomena still excites more-violent disbelief than any other among mainstream scientists, there is much force to the opinion prevalent among domestic researchers that US government and military agencies still do not take psychic research seriously, have undertaken almost no independent work, and have been so inept as to get nowhere with what they have undertaken.⁴⁵

On the other hand, this image is precisely what one party in such a race would wish to project for as long as possible, and might take considerable measures to project, according to its estimate of the stakes. Were the *Nautilus* story apocryphal, the United States still had cause at any time from 1959 to begin tending this image, feigning complete innocence. Were the *Nautilus* story true, the US maintained this image not simply for its own sake, but as a by-product of primary efforts to conceal all that could be concealed — not only direct and indirect research, but the degree and extent of government commitment to it (for in the United States, as in the Soviet Union, such matters are reflected in what receives public support and how).

In any case, this image of innocence and lassitude has been patently suspect since 1971. Given the journalistic hullabaloo by then, the fact that half the populace believes psychic phenomena are real, and the fact that certain basic Soviet experiments were, like the building of a

nuclear device, reproducible by a bright college student with a machine shop or lab (and indeed, as in the case of plethysmographic monitoring of telepathic transactions, were publicly duplicated as early as 1962⁴⁶), it is scarcely credible that not even a subordinate military or government agency chose to inquire seriously into the matter, or, in our relatively democratic system, that those who found such inquiry tangibly promising would submit to having it then discontinued by dogmatic higher agencies, without appealing beyond the chain of command to the highest levels, and then to the public if necessary.

It would be fancifully paranoid to argue that the *lack* of recent military memoirs complaining of laggard US commitment to psychic research implies that that commitment is well under way. Yet in so far as the possibilities above are unlikely, it is likely instead that the obvious initial researches were indeed undertaken by the agencies obviously concerned, from 1971 (at the latest) onwards, under high and perhaps highest authority; and obvious measures taken to conceal, protect, and extend the inquiry. If so, this means not only that the public image of innocence and backwardness is distinctly and perhaps quite substantially at odds with the clandestine situation, but also that this image is itself an artifact, deliberately maintained.

This is to say that the recent and present public condition of psychic research in America is not 'natural', but is a *political artifact*, as surely as it is in the Soviet Union, if perhaps less rigorously and thoroughly so; and that researchers have had to contend not only with the intrinsic difficulties of their subject and of society's attitudes to it, but *unwittingly* with difficulties and influences arising from the political management of their work's climate, support, and nature. To the extent that work and data have been classified, the public field has been devitalized and inhibited. To the extent that recognition and research-and-development funds have gone to secret work in preference to promising non-secret research begging for funds, unnecessary difficulties for overt research have been perpetuated, morale and progress have been stunted, and *the very texture and emphases of the publicly-developing field have been indirectly, partially determined*. This much is true if so much as one dollar has been spent in secret for a Tobiscope or a literature search; though more likely, given agency-project financial habits, the amount invested by now bears comparison with the pitiful total funding of civilian research.

Beyond this, we can only speculate. Precisely to the degree that secret findings were considered promising, strategic logic suggests more active management of the public situation. This might begin with 'witting' influences exercised indirectly through government, industrial, philanthropic, and educative agencies to fund research into areas of

particular interest, or more likely not to fund, or to withhold permission for, general work and specific projects which would result in publication of findings already known or suspected to be of strategic importance. More overt intervention — for example, classifying certain findings of civilian researchers or directing them to desist in pursuit of certain lines — would be an equally logical but more compromising move, as disclosure of the fact would announce this more active policy, and perhaps what it is concerned to protect. (Yet this has perhaps already begun. Sections of a preliminary report discussed below were deleted at the request of NASA before its final publication.⁴⁷)

Still, we may expect that any competent 'witting' agency (and though the CIA etc. have sometimes seemed ludicrous, it is folly to dismiss them so) will keep itself properly informed of the progress of domestic affairs, either directly by informants or agents in each significant centre of activity, within and outside established institutions (or, more likely, in our avid, permeable society) by outside gatherers of information such as journalists and similar well-purposed move-about. There are indeed rumours that some civilian researchers are at least engaged in secret work for the military, related to work that they have published. To state this without their names would seem to cast an unjust paranoia over the whole field, had not Rhine⁴⁸ and others⁴⁹ established this possibility by example long ago, and Putoff and Targ more recently. Whether covert arrangements and influences extend more actively to less well-known researchers' surveillance of their peers, and into the affairs of presumably independent researching groups, is only a cruel surmise. But I have heard suggestions that deliberately misleading findings have been announced and published by researchers other than those named here.

In short, to open our minds to the notion that the US government and military are seriously interested in psychic research is to entertain this rat's nest of logical paranoia and to provide civilian psychic researchers, already courting the occupational disability of paranoid delusion traditional in their profession and perhaps intrinsic in the subject, with all manner of wild explanation for why their work has been slighted or perhaps even influenced to fail. Yet the political-strategic shaping of the civilian field of research is already a fact, a formal condition and influence. The pending question instead is how far it has gone and may yet go.

No public answer can be accessible save through the co-operative effort of a significant and diverse body of researchers taking the question seriously. To my knowledge, this has nowhere been done. Still less have researchers begun, or are even prepared (save perhaps a few, on a personal basis), to engage the subsequent question, now clearly pending, of how

much and in what ways military-political considerations should be allowed to determine this development of their field. Such difficult and uncertain tasks of judgment indicate the 'military front' of the broad responsibilities suggested in this essay's final section; their pertinence is easy to grasp in theory, and easier to discount or ignore in practice.

Notes Toward a Biography

As in the Soviet case, these notes on the United States' part in the race are meant not only to argue that the race exists, but to attempt a first, loose sketch of its form and biography, as one tries to reconstruct a hominoid from a few scraps of jawbone, given some comparative knowledge of similar beasts. The sketch is to be altered, filled in, redated by new discoveries and evaluations. Perhaps the early traces are no more than that, and the race began in earnest in the mid-1970s; perhaps it is heavier in the cybernetic haunch, as some signs from both sides indicate.⁵⁰ With such cautions in mind, like an amateur fossil-hunter I lay out these few fragments gathered from the surface, without tools to dig beneath.

1. The formal secret employment of civilian psychic researchers by the American military during World War II has already been noted. (As a national precedent, it was weak; dowsing and clairvoyance had been used successfully in Czech military campaigns during World War I,⁵¹ and the 1925 Czech army handbook *Clairvoyance, Hypnotism and Magnetism* by K. Hejbalik remains a quaint reminder of the age before high secrecy.) As section 13 below indicates, the American military retained some continuity of interest in the psychic during the late 1940s and early 1950s. By 1958, according to the *New York Herald Tribune's* military editor (13 July 1958), a remarkable array of parapsychological research projects were being considered seriously in various branches of the armed forces, as well as at Rand and Westinghouse.
2. In *Biological Radio Communications*, a major study of public Soviet research and methods published in 1962 and quickly translated by the Defence Documentation Centre,⁵² the author discusses or alleges in detail recent US military interests in psychic research, in particular the 1958 telepathy experiments conducted on the ill-fated *Nautilus*. B. B. Kazhinskiy claims that a Rand Corporation memo to President Eisenhower helped set up the experiments; that Westinghouse's Friendship Lab was involved in their execution, and that the air force as well as the navy were involved. The parties named seemed unanimous in their denials.

His account, like the earlier French journalism it appears to reinforce, is automatically suspect, as the lines of research it reports are so like

those that deprived Soviet scientists had reason to lobby for that they may well have been responsible for the story — rather than its being a Soviet (or other) intelligence artifact to embarrass the US and/or provide a pretext for the public promotion of psychic research. On the other hand, the specific research lines are, so to speak, intrinsic in the material, and the domestic published papers on such subjects as biological entertainment of the human brain by low-frequency EM radiation that began to appear no later than 1965, often from military research centres, may be read to imply that a more intensive research effort, mounted secretly for military reasons, could easily have been capable of undertaking the supposed *Nautilus* experiments. And perhaps the capability need not have been generated *ab initio*, as a special project; for soon after Hiroshima the study of electromagnetic as well as other radiative interactions with human substance and behaviour became a prime military focus, with research capabilities developed and camouflaged that might well have been readily adaptable to the alleged *Nautilus* research.

3. Andrija Puharich reports having been employed by the US Army in the late 1950s in research on extra-sensory perception.⁵³ By 1959, Czech work published on a British psychic research journal⁵⁴ had described a crude but convenient technology to monitor and utilize telepathic information transfer (biocommunications), which by 1962 was employed enthusiastically at the Newark College of Engineering as one tool of the small but ambitious PSI Communications Project.⁵⁵

The project was designed to grasp psychic powers and turn them to use, and has since persisted — becoming in its fashion an exemplary pilot venture in extending crude 'psychic' technologies of information acquisition, forecasting, decision making, and personnel selection and training into the industrial community (a subject neglected in this essay's focus on the military front). From the start, its promising findings and operation provided a convenient domestic model, if one were needed, of the sort of research that might well be engaged more intensively in secret. Given the prior involvements noted above, and resurgent Soviet publications, the US military could scarcely have failed to be interested unless their own research efforts already left them little to learn from supporting such a fledgling venture, and perhaps something to lose by being identified with it.

Instead, the military appears to have been actively uninterested about the NCE/PSI Project; which reason applies may perhaps be inferred by what happened before the project began. For some time its organizers have been negotiating a contract with the air force to support the project, given the work's promise (initially concerned with telepathic monitoring) and NCE's sponsorship, they were convinced that the air force's

commitment and the contract were firm. Shortly after NCE accepted sponsorship, an air force researcher elsewhere 'decided to try an ESP test at a nearby women's college, using a new machine . . . He couldn't find any ESP',⁵⁶ and is said to have submitted his negative report to all departments of the government and military. On this basis the air force is said to have backed out of the contract. The journalists and participants reporting this express polite scepticism toward the purported motivation (in a 1974 book which, though it is co-authored by the writers of *PDBIC* — who brought us the 'psychic arms race' sensation in the first place — and is otherwise quite extensive in its applications it notes, contains literally no word of reference to potential military applications, besides the Kazhinskiy *Nautilus* story and this single sentence of scepticism).

Five years later, in this essay's context, the air force's excuse seems flimsy, as abrupt as any Soviet change of nominal party line — for what competent military would base its research priorities on such meager negative evidence, precisely when its opponent was starting to sound serious about the matter? Instead we may properly wonder whether their researcher's debunking experiment and the pretentious publication of its results were supported by the need for an excuse to help camouflage an effort growing quickly more serious; as well as whether the protracted negotiations of the aborted contract inspired the air force (unlikely) or were used by them (less unlikely) to design their own venture, similar but clandestine.

4. It is customary, in circles critical of psychic research to express ingenious scepticism about how the results reported might be otherwise explained; and thus it is fair to question these circles' behaviours in the same way. Puharich had no way of knowing whether his employment were also a test for further employment, more secret and significant, by the army, for which he was judged inappropriate, and from that time on (1958-9), no negative evidence (such as his lack of future military employ, or the air force's NCE/PSI reversal) can be trusted. We are left to interpret such actual events, transactions, and responses as are considered above (both the *Nautilus* 'rumour' and the Soviet response are events); and on balance it seems to me, from these, more likely than not that the psychic arms race entered a new, and probably a first, stage of seriousness and continuing development on both sides during the late 1950s. It is less likely that this stage involved the development of any significant applicable technology, other perhaps than primitive apparently non-electromagnetic, means of distance communication, applicable not only at sea but potentially in space.

5. Space communication was clearly a key potential of telepathy research from the late 1950s; or rather, this potential, evident since the late 1930s.

then became relevant. Indeed, some researchers think that this was the prime consideration moving both Soviet and US authorities to inquire into parapsychology in general and telepathy research in particular, just after Sputnik I was cast aloft and the future dimensions of war became clearer. Mitchell's naïve experiments in orbit publicized this possibility for the United States in 1971, but more sophisticated explorations of it may well have begun with the first manned orbital flight in 1961 — or soon after, as by 1963 a top NASA official reaffirmed reports that telepathy research was a 'top priority' in the Soviet space programme.⁵⁷

The advanced electronic physiological monitoring techniques essential to space flight are kissing cousins, at worst, to the corresponding instruments of psychic research, whose modern forms were in fact enabled by aerospace spin-off. The inclination to research telepathy in space rather than just on Earth was perhaps influenced by the popularity within the aerospace field of the myth, encoded by Arthur Clarke in imaginative literature⁵⁸ long before it was seared (vaguely) in the public mind by the movie *2001*, that psychic capacities unfold more fully in space. The resulting experiments would most likely have been encoded among the astronauts' biotelemetric records, scarcely distinguishable from orthodox experiments, records and perhaps accomplished through the same instruments, possibly unbeknown to the astronauts themselves and/or the first echelon(s) of ground crew dealing with the data. The further processing and interpretation of the data might likewise have been well concealed. Ironically, military research on space telepathy is vulnerable to the same problem that prompts it in the first place. Biotelemetric transmissions are susceptible to global eavesdropping; one side may have had at least the crude descriptive knowledge of physiological reactions during telepathic transactions to enable it to monitor how intensely the other side was conducting such experiments, if not their precise content.

It is strongly rumoured, among serious and cautious domestic parapsychological researchers, that such experiments in fact have taken place on the US side, as well presumably as on the Soviet side; and moreover that they have indeed revealed surprising things about human psychic capacities in space conditions. No details attend the rumours; they have only the (credible) probity of their successive bearers, each with confidences to keep and credulities that cannot be assessed. That such experiments have not taken place seems quite improbable. That their 'surprising results' fit the mythic script seems perhaps as improbable, and much too coincidental; yet if so, remembering that science fiction also called the shots on the atom bomb, we may come again to question what faculties of the psyche are involved in imaginative literature.

6. Whether US involvement in the psychic arms race grew serious as the 1950s ended or only a decade later, during the 1970s it began to become public in a variety of ways. That the military had inescapable cause to be looking into psychic phenomena became open knowledge in the parapsychological research community, given the failure of the vital ARPA computer net while Geller was being tested at SRI in 1974 and the fact that earlier, from the same base, the psychic Pat Price 'flew in' to NORAD headquarters in Colorado, 'read' a secret document in a locked filing cabinet, and reported it to the resident researchers, who in turn verified the 'hit' through military channels.⁵⁹ (Indeed, rumour among researchers had it that the sudden visit of a Department of Defence emissary to SRI after the ARPA disruption was to discredit Geller 'to get him the hell out of there'⁶⁰)

7. Despite this, the official military attitudes remained as rigid as ever. Dowsing was reported to have been widely used by American soldiers to locate tunnels during the Vietnam War.⁶¹ The practice seems to have derived from domestic ('folk') uses of the technology rather than authoritative design; it came up for official consideration in the marines and was officially rejected (for vague reasons), while informal use continued to spread, and the allied South Vietnamese navy used map-dowsing to locate lost craft.

Through the early 1970s conferences and publications centred in Soviet efforts clearly announced both the development of dowsing ('the biophysical method') as a useful archaeological and geological technology with patent military applications, and the extent of Soviet commitment to this development. Yet in the United States, government funds to research dowsing were made available only to one small project at an out-of-the-way state university⁶² and by 1977 Christopher Bird, who had been perhaps the foremost public advocate of dowsing in the United States (in particular, the key public translator and publicist of the Soviet advances), had essentially given up trying to interest official agencies.⁶³

Since dowsing seems both the most accessible and controllable of the psychic powers and the one least threatening in its immediate applications, and its scientific investigation and technological development have been gaining international respectability even more rapidly, perhaps, than Kirlian photography, this rigid posture of indifference is slightly bizarre. That in the face of the various evidences presented, the official minds involved should have been so phenomenally and uniformly closed seems an explanation as unlikely as it is convenient. Yet if the posture were deliberate, it has gone on quite too long and rigidly and perhaps become dysfunctional, for US civilian research in dowsing will be years in establishing and exploring on its own turf what the Soviets have already

managed on theirs. (Or so it appears, though private industry has already likely begun to research dowsing's applications to oil and uranium prospecting given both domestic traditions⁶⁴ and Soviet publications. Such activity would be subject to the usual commercial secrecy, and would not bear mention here but for the fact that military authorities had strategic reasons both to promote such industrial applications and to enforce their secrecy.) The posture now suggests less a strategic design than a cramp of paranoid, or guilty, secrecy.

8. The public funding of parapsychological research that began in the 1970s both softened and reiterated this posture of official indifference. By 1973 the National Institute of Mental Health had given small grants for studies in telepathy, precognition, and clairvoyance.⁶⁵ Government funds underwrote research on dowsing at Utah State University, on psychic healers in low-income Appalachia, on homing pigeons.⁶⁶ NASA let a contract for research involving 'remote viewing'; the Naval Surface Weapons Centre studied Geller's influence on the alloy Nitinol (which some credit as the most secure demonstration of his 'effects'; the paper is said to constitute the first psychic research released by the Department of Defence⁶⁷): military departments awarded small contracts for the development of primitive machinery to screen for and train psychic abilities.⁶⁸ The Military Operations Research Society and JSGOMRAM (a think-tank consortium in the defence sphere) invited presentations from civilian parapsychological researchers,⁶⁹ the Rand Corporation undertook a major survey of the Soviet research literature, while developing for the government a system ('Delphi') of technological forecasting compatible with the techniques for precognitive selection and training the NCE/PSI Project was then publicizing;⁷⁰ the engineer who developed new dowsing equipment for the marines established a civilian firm closely tied to the military to develop biosystems equipment to exploit human sensitivity to energy fields;⁷¹ and so on.

Such evidence of support blessed a fair variety of inquiries. Together they symbolized the United States' official commitment to psychic research, and to the military competition which was both its motivation and its consequence. Yet taken all together, they added up to small potatoes at best. Overt government funding constituted but a tiny fraction of domestic parapsychology's low budget during this period (1970-78), which likely did not exceed one per cent of Soviet overt funding during any year.⁷² Nor was the research supported seminal, except in so far as every experiment in parapsychology cleaves basic ground these days. Rather, taken together, they seemed to represent a basic introductory set, retracing grounds already somewhat explored or, if venturing onward, doing so in plenty of company — nowhere demonstrating any particular

concentration or enthusiasm, and indeed in most areas pretty much limited to one tentative or token involvement.

The picture implied — of a military and government just now beginning to recognize the psychic domain as possibly legitimate; cautiously, uncertainly, and erratically dipping a toe in the water, in no hurry to take the plunge — is reasonably consistent. It would be more credible were there not so many indications that the research involved is not casual and indirect, but of strong and immediate strategic concern.

If in fact the United States has been secretly pursuing psychic research and development since 1970, then this pattern of support and relation has a different meaning. The policy seems to have been to commit funds almost exclusively to secret work rather than to distribute them between the hidden and the public domains, creating through the latter both an (exposed) military capacity and a general enrichment. If so, this practice has been less graceful than the Soviets' and likely less functional, having produced a situation in which two quite disconnected enterprises of psychic inquiry proceed, the public one (and thus both) stunted and malnourished. The overt recognition and support given parapsychology seem then neither grudging nor uncertain, but rather precisely minimal — as if to establish relations with the public effort in apparent response to the growing pressure to do so; but otherwise to hold aloof, perhaps from risk of revealing (to both a foreign enemy and its own public) how seriously the United States is pursuing the race.

9. 'Remove viewing' through clairvoyant or 'out-of-body' experience is as strategic a capability as (space) ship-to-shore telepathy, and more flexible, being adaptable to various species of espionage. Overt US involvement in this research perhaps began in 1973 with the award of a NASA contract to researchers at Stanford Research Institute (SRI).⁷³ Under the title 'Development of Techniques to Enhance Man/Machine Communications,' their report concerned not only crude electronic means of screening for and training psychic perceptual abilities, but a series of hardware-less experiments in remote viewing to further test subjects chosen by these means. Their report emphasized the double-blind methodologies used to prove that remote viewing with talented percipients could indeed be remarkably accurate not simply on occasion, but more often than not when performed under consistent protocols. But the deeper interest of the underlying work lay in the protocols themselves, which suggested the development of ways to determine when remote views were accurate — not by external verification, but through internal consistencies in the descriptions, in the processes of interaction within the percipient-assistant 'viewing teams', and in the subjective and objective experiences of percipients.⁷⁴

The researchers involved were careful to state that the remote-viewing experiments were not funded by the NASA contract, and were reported only 'for completeness'; there is little reason to doubt this, or to think that they themselves had covert knowledge or purposes — beyond those necessarily involved in their participation during this period in more-secret researches into military application of the same technology.

The report's interest is less substantive than symbolic — for all the elements of an advanced military technology are presented in embryo, like the components of a bomb not yet assembled, under the aegis of a civilian institute well known for its Defence Department work, and involved with the CIA as well. The selection and training of talented percipients; the development of observational teams and protocols; the enhancement of their capacities and accuracy through feedback and interpretation of sophisticated electronic monitoring — each element was *demonstrated* here (as it had by now been in other experiments) in isolation, in a rudimentary form whose potential for further development was not quite clear but quite promising. The strategic potential of the whole package was unmistakable.

Yet to believe appearances, little has been made of it since at SRI or anywhere else in the United States (except for the small work noted below, in section 13).

10. In embryo here also — indeed full-fledged, though minute — is the set of social relationships that go with the development of advanced military technology. These include, besides the institutional relationships noted above, the interdigitation of public and clandestine work, in several stages. Moved perhaps by both national loyalties and the need for their work's support, leading figures of civilian research make themselves and their knowledge accessible to government and military inquiry; contract openly with such agencies (e.g. NASA) to do research, and in part pitch their choice of research toward such contracts; decide what research to publish when partly in response to the wishes of the sponsoring agency (see 47); undertake classified and perhaps increasingly secret work of specifically military character; undertake their public work in knowledge of at least some of its secret ramifications, and thus with a somewhat different sense of its technical nature and social meaning than they can express in print or conversation even within their profession; and perforce conduct their personal and professional relationships in this complex, perhaps somewhat schizoid, light.

To recognize all these factors embodied in this example is not meant to cast undue emphasis upon the researchers involved, for the factors are quite general, nor meant to impugn their characters. From all I hear, they are generally well-regarded and well-liked, with admirable motives

and persistence in science's cause. Moreover, one of them tells me, they are committed to open publication of their findings and have avoided certain lines of research (such as Kulagina's reported stopping of a frog's heart), whose immediate implications seem negative and whose results would likely from the start be subject to military classification. Still, where the line is drawn is perhaps somewhat arbitrary, as civilian and military interests (and positive and negative potentials) are so inextricably intertwined, and is certainly not controlled by the researchers alone. The researcher in question is frank in agreeing that in so far as his research and writing, and that of his colleagues, depended on access to classified material, or extended classified lines of inquiry, it would necessarily be classified in turn; he also says, carefully, that he cannot deny having done such work.

In this regard, as in the narrowly economic, their case can well be read as sad tribute to the difficulties of supporting independent civilian research. Still in this context it illustrates the character of the social relationships which we may expect the conjunction of militarism and psychic research to involve and (re-)generate. Were this cited case unique, its scenario would still predict what further advances of psychic research may well entail, both technologically and sociologically; and tell us clearly that in such respects parapsychology is no different from any other branch of science in modern society. As it is, we may wonder also what further extensions of domestic civilian psychic research have already been performed by the CIA and other military agencies, through the 'moonlighting' efforts of established researchers (whose overt work need not be directly in 'psychic' areas, and is more likely to lie in electronic or bioelectronic ambits) or through scientists whose work is completely secret.

11. In this last regard we must note the curious potential which the retardation of civilian psychic research has generated. Though psychic research is still largely outcaste from mainstream science, the interest of scientists — both young and established, from many disciplines — in investigating psychic phenomena is increasing much more rapidly than are the institutional and private opportunities for such research: for a certain fire is being rekindled in the Western imagination under stress. There is thus a pool of talent and energy potentially available which is perhaps more amenable to recruitment into military and/or clandestine work than might otherwise be the case. This possibility is modelled in recent history by the explorers of rocketry, who, in the course of seizing what opportunity they could to advance the ultimate goals of their science and technology, found its short-term nature transformed from *rocketry* to *missilery* (or, as the jest about Werner von Braun's work for the Nazis

has it, 'He aimed for the stars, and hit London'). It is also modelled from the employers' end by such practices as the CIA's recruiting bright young classical scholars, restless with their field's lack of jobs and lustre, to engage their talents of decipherment on more fertile ground.

To take this simply to cast suspicion upon individual students and researchers who have let their interest in the psychic fall idle or have vanished with it from sight is perhaps unfair, and certainly to miss two social points. The first is that even a generation (or, among scientists, two or three generations) after Hiroshima and a decade after the United States' massive random display of high-tech destruction in Vietnam, after the revelations about biological-warfare preparation, weather modification and the rest, there exists no general dialogue among students of the many disciplines involved which might help them individually and collectively to prepare their moral and functional engagement with these issues.

The second point is that the existence of this pool of resources potentiated toward military recruitment, through the lack of civilian engagement and professional dialogue, is neither a static nor an accidental condition. At the least, this condition is convenient for such recruitment for controlled and secret works as does occur. Moreover it is actively sustained by military, and perhaps government, policies. To put it bluntly, an *intelligence* agency and the military knowing what they have known, and engaged as they have been since at least 1973 and more likely the late 1950s, have long had sufficient cause to inform the broad public and the scientific community — as well as such branches of government as concern legislation, health, agriculture, education, etc. — about what research is worth pursuing for the sake of science, human good, and defence if necessary. Were secrecy (weaker than total concealment of this interest) still genuinely necessary, it could be managed as a public enterprise — offering perhaps the opportunities of public influence which seem to have produced a relative deceleration, if not a full suspension, of the nastier research into bacteriological and chemical warfares.

That intelligence has not so informed and influenced civilian policies has been a decision condoned on levels of government as high as have been fully informed (perhaps the presidential, and perhaps from as early as 1959, as suggested above). The resulting influence on the development of civilian research has been no less forceful for being indirect. From this unnecessary starvation of a field, the potentials for its militarization (if not perhaps for its ultimate military efficacy) are generated or emphasized. Thus runs one cycle in the ecology of the matter — demonstrated in embryo by the way the researchers mentioned above, after the simple but signal and powerful experiments involved in these instances, were reduced again to hustling a minor navy contract to sustain

their patient work one small step further, for lack of civilian enthusiasm and support.⁷⁵

12. Another mode of remote viewing, not clearly distinct from clairvoyance, involves 'out-of-body' experience, or 'astral travel'. Since publishing his remarkable early research in 1971,⁷⁶ Robert Monroe has gone on to establish an exemplary private research facility or 'flight control centre' in Virginia, bringing together in practice the technological elements of the NASA report above (section 9), and representing perhaps the most concerted and sophisticated present domestic civilian model for training, monitoring, and supporting the use of a psychic power. Were the military lacking in imagination, Monroe's lab might well serve it as a guide (and perhaps has, for he is widely respected and well visited); but more likely the lab may serve us as a (minimal) model, somewhat behind the state of the art, of efforts already mounted secretly.⁷⁷

No evidence of such has surfaced yet. All that seems known is that NASA has employed a team of two astral travellers to 'fly' out to Jupiter and take a look, in advance of the Jupiter fly-by mission still drifting toward rendezvous in slow trajectory.⁷⁸ The compared results will doubtless be more classified than the fact of the experiment was — which is a shame because, military nuances aside, it represents a certain triumph of human imagination, integrating old technologies and new.

13. As for the CIA, who knows? Proposals to organize parapsychological strike forces to mess with the minds of Soviet leaders, justified on the grounds that they themselves were developing such techniques, were advanced to the highest levels of the US government as early as 1950.⁷⁹ They were seemingly ignored. Yet the CIA had been researching 'invisible' means of death since at least 1949, and the evidence of its activities suggests that such experiments, perhaps not unofficial, might have been undertaken at any time from this date onward.

The potentials of telepathic contact and influence, experienced so vividly a decade later by the hippies of the first acid wave and realized most vividly in the Manson gang's programming practices, could scarcely have been obscure to men with the wit to exploit shellfish toxins and trick cigars in colonial management, as they amassed global quantities of LSD while researching how it might be used to disorient and incapacitate entire civilian populations.⁸⁰ Nor were they overlooked. During the late 1950s, army recruits on field manoeuvres were tested for ESP performance while under the influence of LSD;⁸¹ given the CIA's intensive and somewhat macabre research with the drug during this period, there is reason to suppose that it was involved in these tests, as in others of 'strike force' character. (Nor was the government's cultural climate as unilaterally closed to such ideas as it is generally pictured to have been. As early

as 1952,⁸² the State Department was using the sorts of visualization exercises which now form the basis of such 'consciousness-expansion technologies' as Silva Mind Control to train its operatives in their intuitive psychic faculties. Possibly the sources of such 'overt' ideas and of covert CIA psychic research were not unconnected.)

Officially the CIA's attitude, like the military's generally, remained scornful of psychic nonsense: long before the Geller controversy, the CIA called in professional magician John Mulholland to debunk psychics.⁸³ Or so the story goes — though here it may perhaps be classed with the air force's debunking of ESP and DOD's debunking of Geller as a convenient exploitation of superstition (not about psychic phenomena, but about the closed-mindedness of the military), meant, by the 1970s, to fool no one but the American research community and public.

This cover has proven remarkably durable, perhaps because of its complex emotional appeal. Even today, in the face of the logic of recent revelations, scarcely a researcher in the land entertains the notion that the CIA and military have taken psychic research seriously. Yet where should we place our bets, given the evidence? As the 1970s dawned, the CIA (and its nameless extensions) was partially exposed as a semi-autonomous policy and military agency, of uncertain extent and influence, operating on the highest (and lowest, basest) levels of domestic and international politics. By 1973-4, the first details of a covert research programme into mental and behavioural control — which had been running continuously since at least 1951, and had consumed at least \$25 million (dwarfing the civilian psychic research budget) — began to emerge.

Under such picturesque names as 'Artichoke', 'Midnight Climax', and 'MK-Ultra', the programme involved at least forty colleges and universities and as many other institutions and agencies in such a variety of research into the control of operatives and prisoners, individuals and masses, locally and at a distance, that no pattern was clear at first. But 1977's crop of revelations, pursuant to Freedom of Information Act query, have fleshed out the picture somewhat. In substance (intent being still somewhat mysterious), the programme represented a *systematic* search for technologies of control. For mind control, in particular, the programme explored at least hypnosis, chemical agents, ultrasonics, optical and other electromagnetic radiations. Those directing the programme seem to have been up-to-date on the potentials of every technique that might prove useful, and thorough in their attentions. There is no reason to think that they ignored psychic agencies, or gave these a more cursory examination than other agencies received.

The FOIA documents released so far indicate only the persistence, but not the extent and quality, of this examination.⁸⁴ CIA memos from 1949 and 1950 suggest a training programme for defensive measures to hypnosis and telepathy, and describe an 'in-house' demonstration of clairvoyance. One from May 1951, listing projects, refers to a civilian parapsychologist continuing work emphasizing practical psychological applications. In August 1951, Project Artichoke begins. For seven months a sub-chain of memos describes the determined approach of a notable civilian psychological researcher.⁸⁵ He is already working, with a staff of eight, on secret projects for two other (presumably military) agencies interested in animal telepathy and related matters; the contracts were for \$30,000 and \$54,000. Though these have not yet generated useful results, he claims both to have located remarkably dependable human psychics, and to be developing reliable statistical methods of interpreting 'weaker' psychic information processes; he proposes a CIA contract to explore the intelligence applications, in part because he is anxious to keep his work from public knowledge.

The ensuing memos are careful — at times explicitly — not to specify the CIA's own interests in the psychic. All that leaks is one opinion that the CIA has undertaken a 'long study' of ESP in conjunction with Project Bluebird; and another test that the CIA's thinking about ESP 'has not apparently reached a very high stage'. But the memos take him quite seriously as a researcher, and 'the outstanding authority on ESP in the United States' (Rhine?) is called in to consult with one CIA research wing. In the end his proposal is politely refused by this wing, on the grounds that practical results appear too distant and uncertain. Yet mixed with this strain of opinion, in the memos, is another of intense interest, apparently led by the Assistant Director for Scientific Intelligence. In April 1952, the ASDI (or so the documents released so far suggest), acting for his wing of the CIA, writes the rejection letter to the researcher — adding in a postscript, 'I am undertaking a new assignment in the near future and will no longer be the logical recipient of correspondence from you . . . address [it] to [censored] who will get it into the proper hands'. One month later a memo from the Security Officer notes that 'this Office has been interested in the operational possibilities of parapsychology and [ESP] for some time . . . some further exploration . . . would be desirable'; and that he has asked his staff to explore anew the researcher's proposal.

And here the chain of released memos breaks off, a year before Project MK-Ultra — more extensive, intensive, expensive and sensitive — phases in to supplement Project Artichoke. I am told by FOIA/CIA researchers that essentially all of the substantive files of MK-Ultra seem to have been

destroyed before their public release became possible. The next 'psychic' memos to be released date from August 1961, initiating subproject 136 of MK-Ultra to provide laundered support for a (different) civilian university researcher investigating the functional relationships between personality factors and ESP skills, and other factors affecting the use of ESP communication. In noting him as 'one of the few . . . sophisticated [researchers] willing to orient his efforts along these fundamental lines', and cautioning that 'it is not expected that answers will emerge from [his] initial efforts' the memos reflected the public appearance of this fledgling field — as did the intelligent but rudimentary methods detailed in the actual research proposal. It is more comforting to accept them as the state-of-the-art then, and to assume that this contract's \$8,579 was all that the CIA spent for psychic research that year, than to wonder whether the contract had also the ulterior purpose of testing the researcher for employment in more sensitive MK-Ultra subprojects, as yet not declassified, which had carried on where the 1951-2 memo chain broke off.

Nor did they. By the early 1970s, according to Gris and Dick,⁸⁶ CIA agents in the field reported that the Soviets were able to influence telepathically the behaviour of people, alter their emotions or health, and even kill at long distance (psychokinetically?). Of the CIA's own research, only the 1973 tests conducted at the Stanford Research Institute have so far surfaced. In these, the physicists Putoff and Targ employed the psychics Swann and Price in astral projection. It has been noted that the two accurately described the contents of confidential files in a secret domestic military base (section 6); it is further reported that they described in detail a Soviet facility hidden in the Urals and one in China, and that CIA 'ground truth' agents in these countries confirmed their descriptions.⁸⁷

That this is the main psychic morsel to surface so far through the FOIA guarantees us no more peace than does the general quality of the quarter-century of clandestine research (nominally terminated in 1973) now acknowledged as its context. On the face of it, the programme was mostly a flop, an accumulation of dud efforts into unfruitful and sometimes bizarre means, often ineptly pursued. And certainly this image of fumbling amateurs at work is comforting for a democracy to hold, if it must tolerate ungovernable skullduggery at its core in the first place. But it is also a convenient image for dissembling, not only to a foreign foe but to an American Congress and increasingly suspicious public; recent events show there is no telling how these CIA files were edited during the two-year court effort waged by John Marks, co-author of *The CIA and the Cult of Intelligence*, to have them made public.

Again the paranoia is unanswerable, and again logic compels it. For we can expect, not only *ab initio* but from the consistent evidences of hedging each time issues of disclosure have come to the test (even since the CIA supposedly came clean), that any evidence of research, psychic and other, which was genuinely considered to be of ('national') strategic or security importance, would have been scrupulously withheld from release. In this light the isolated 'morsel' above bears examining again. As a test, it was coherent, serious, and useful; it represents the *minimal* level of sophistication we must assume any other secret psychic research to have had from at least this time on. The same holds for any secret applications, among which must be counted this very means of espionage reported.

With this tool, apparently confirmed, at hand, precisely when the mind-control programme was nominally discontinued, it seems unlikely that the CIA and other agencies to which it (occasionally) reports would have refrained from its further development and use, were the requisite psychics found (or trained through Monroe's methods, which suggest that the requisite talents are less scarce than is usually supposed). Beyond this, it seems likely that this one project, whose report we have, lent credence not only to its particular technology, but also (as many other evidences cited above did, and in concert with them) to the general quest for psychic technologies. Finally, it is probable that nothing useful to the Soviets was revealed in this disclosure, as they likely had cause even by 1973 to assume from their own work that US research and application were at least this advanced.

In short, and given that the information so far made public has likely been tailored, the CIA's research directors seem to have been less malign clowns than serious men doing a relatively competent job; given their premises, one can fault them at most for not being more thorough. How much more may remain to be revealed is uncertain. At a press conference in late 1977, shortly after John Wilhelm's account (see ⁸⁷) linking the CIA with the experiments above was published, the CIA's new director Admiral Turner admitted casually that the CIA had indeed been working with a psychic (apparently Price) who could describe remote places, but added that he had died recently and had not been heard of since.⁸⁸

Turner's remark lends some support to Wilhelm's account of these experiments, and perhaps also to his report of another CIA contract study published in 1976, titled 'Novel Biophysical Information Transfer Mechanisms' and funded at \$30,000. Though citing no other explicit CIA involvements, Wilhelm suggests that the CIA's (and NSA's) involvement in the 1973 SRI tests may have been influential in intensifying military attention to parapsychological research. As later examples he

mentions a 1975 navy contract to SRI for \$50,700 to investigate psychic sensing of remote electromagnetic sources; a supplemental navy contract of \$26,000 in 1976 to see if psychics could (as has been indicated) affect magnetometers; a 1976 DARPA contract for \$145,000 in the loosely related field of Kirlian photography; and by association the decision of McDonnell Aerospace Foundation, offshoot of a major defence contractor to sponsor continuation of the work in 'dream telepathy' initially funded by the NIH (see above). The west coast Veterans' Administration Hospital with the secret biofeedback/telepathy project, and the midwest VA hospital with the 'out-of-body travel' project, he finds harder to classify beyond claiming information that they exist, as the relevant officials apparently would not discuss the projects with him. Nor does he attribute military sponsorship to the venture in mid-1977, in which six SRI subjects allegedly went 2,000 feet deep to experiment with 'remote viewing' under water, though he cites a participant from NASA's Jet Propulsion Laboratory as the source of the claim that their submarine visual observations verified psychic observations made before descending.

All these details taken together amount to no avalanche of military attention, but rather to evidence of tentative interest only somewhat less scattered and primitive than the evidence of the two previous decades. As Wilhelm points out vividly, some ranking military research officials are vehement in regarding psychic research as a waste of time, and have cancelled at least one scheduled project; and even among military and intelligence personnel most intimately connected with the projects so far publicized, a basic scepticism still largely rules. All this is as it should be, this picture of rudimentary grudging inquiry only now perhaps accelerating — or rather as it would be, were it accurate or a defensive fiction.

14. And here the matter of the CIA and psychic warfare rests, to my knowledge Seymour Hersh, the exemplary demon of investigative journalism (whose work on biological warfare research opened up this broad topic of exotic military technologies, well before his My Lai reportage made his broader reputation), regularly receives twenty-page reports from various persons alleging incredible CIA ventures into brainwashing and mind-control, Frankensteinian technology, conspiracy with the UFO monsters. What can he do with their muddles of paranoia concerning dimensions themselves so unlikely but rubbish them or pass them on to the curious, since there are more substantial, vital, and immediate matters to look into than he and all the serious journalists of the land can deal with anyway?

I imagine the documents he gets are scrawled by hand or typewritten single-space with narrow margins and poorly reproduced, as are those

which reach me — such as the ones from this fellow Steen Kaare H. in Denmark, which have come in the mail irregularly for three years. H. claims that he has been the victim of experiments in telepathic control conducted by military psychologists of the Danish secret service since 1966. He didn't realize where the strange voices and commands came from until he uncovered direct observers in 1971; since then he has been trying to get someone official to listen to him, but no one will take the idea seriously. His letters are obsessive, frantic yet disciplined, with the grandiose cold-logic of paranoia; he suggests that the experiments were (are) conducted in conjunction with US intelligence agencies, since the US had reason to keep its NATO allies adequately advanced in espionage methods and potentials (and perhaps to perform its own research so far afield).

His letters are no more disordered than might be expected from someone to whom this had actually happened, and no less. Sometimes he encloses letters seemingly from another man, B. of Holland, who caught up with H. by mail a year after his own odyssey began. The Amsterdam clairvoyant R. allegedly perceived a 'spying-plot' of the CIA in 1974, itself employing parapsychological means in the context of a broader interdisciplinary effort; and B. set out to warn the Portuguese and other embassies in The Hague about the dangers of CIA manipulations 'which do undermine the independence and democracy of peoples'. B's English is quaint but not otherwise disorderly, given his flight to Geneva after what he perceived as a series of threats and incidents, not psychic but concrete. He took his case to the civil rights division of the United Nations; and says the president of the Swiss Federation of Human Rights informed him of three cases similar to his, divided between the CIA and the KGB.⁸⁹

Please forgive me, H., for not responding to your letters since 1976, in particular to the one requesting a place to stay for a time while you were in America. I thought you were probably crazy, and we were too overloaded that season to deal with more stress; and if you were not, you seemed quite too dangerous a man to have my family connected with. Nor had I collected until now the data to suggest plausibly that the CIA et al. might actually have had the means and purposes to do what you describe.

15. Finally, the attitudes of domestic researchers deserve mention. For some time now they have had no reason to doubt their subject's military interest. Most with whom I have spoken report overt contacts and inquiries from this military agency and that — polite, oblique, occasional, persistent — besides what official observation may be unannounced. Everyone knows that Soviet participation in the international conferences

vital to any such frontier science (and held largely on Soviet turf) is stage-managed by the KGB, and that at least one major conference has been run by an overt KGB official; most suppose also that the US military has at least informants, and likely representatives, among Western participants in such affairs. Yet everyone is quick to say that the CIA et al. have shown no special interest in his or her own work (some being quite offended by the question); and almost all say that although they suppose the possibility can't be ruled out entirely, they really don't think that the United States has bothered to involve itself at all seriously in psychic research, although they're not so sure about the Soviets.

What else would one say, whether or not one were involved in such research or had other reason to dissemble? But the information is not quite useless, for it perhaps encodes the psychic state of domestic (civilian) psychic research and researchers. It embodies a tension, a cognitive dissonance, between the evidence of clandestine interest perceived (and reinforced by the broader evidence this essay sketches), and the possibilities of interest perceived; between researchers' own vital sense of the potentials of their work, and their sense of the strength of social motives associated with these potentials. This dissonance is neither abstract nor static: it is an historical phenomenon and substance, dynamic, maintained both by covert deliberate policies, the slowness of old superstitions to yield, and by complex, scarcely conscious avoidance of deep fear and potential shame. And this dissonance is growing as history, research, military development, and journalism all proceed.

The shame and fear involved in this dissonance, if such there be, are in some ways unique to psychic research among all the sciences. For what makes psychic phenomena (among which we must include magic in general) both so violative and so fascinating to the rational imagination — and either way unbalancing of inquiry — is twofold. They intimate forces, powers, causalities, and meanings which lie beyond our civilization's present narrow capacity to socialize, both cognitively and functionally, yet which are unleashed by human agency and will: in this contradiction, being effectively ungovernable. And the forces involved are not only exterior and indirect, but extend directly to our most intimate mental and physical being as well as to the metaphysical quick.

For these two concerns the ancient image of the evil wizard, prying into one's inmost secrets and controlling one to do his will by magic or by telepathy and psychokinesis, will serve for our day. The image is terrifying, repulsive, fascinating, a secret fantasy of shameful power — all these at once, for we are creatures of our culture, whether consciously so or not. It cannot fail to haunt in some degree the imagination of any researcher who has not grown up quite innocent of comic books and

fantasy, for it is through such faithful means, themselves an evolved survival trait of human culture, that we receive the quintessential pedagogy of the past.

In sad fact, the militaries of both sides seem now to be assuming together the bad wizard's role — inasmuch as such emphases and results of their secret labours as now seem principal concern precisely the voyeur's irresistible 'eye' and the seizure (if only by bioentrainment) and muddling of men's minds — and to be in advance of the civilians on both sides exploring the good wizard's role of healing the sick and blessing the crops. Given the ancient dreads and shames already half-awakened by their own work — for the psychic is the only realm of science with DANGER! and BEWARE VIOLATION emblazoned explicitly across its gate from long before — and necessarily held at bay, however unconsciously, researchers may well find it harder to gauge their social situation accurately, and be less inclined to try.

Future historians may find some such ideas useful to explain, despite evidence and logic which could be gathered by any modestly inquisitive stranger to the field, why researchers chose both singly and collectively to ignore for so long the social issues consequent to their work — as if struck dumb by a bad spell.

Footnote

I have devoted more space to detail the traces above (there are more) of US military involvement with psychic research than I have to Soviet military involvement, both because the former is potentially more open to our scrutiny and control, and because the case for US involvement is the weaker. As my main concern has been simply the prior one of establishing that a 'psychic arms race' of unknown magnitude is actually in progress, I have tried only to put forth a plausible case for each sides participation in the race, without arguing who is ahead or what to do about it.

Still I must note that the few others I know to be actively concerned with this question — all with access to more information than I have had — might well disagree with my balance of attention, and my interpretation. Almost unanimously, they have come to think that the US military has indeed paid negligible attention to psychic subjects; and that the Soviet military is not only far in advance, but is now actively employing psychic technologies on a global scale. Some see the threat to national security and global peace as grave and imminent, and are trying to arrange briefings for Department of Defence and Congressional officials, to spur the US to belated response. Another surmises that the long-windedness of the US's engagement has been due not simply to

native closed-mindedness, but to successful espionage — whether by one of the 'moles' now rumoured to have been operating at high levels within the CIA (whose mission might well have included inhibition of US psychic research if the Soviets took theirs seriously), or at more distance, through psychic manipulation.

Myself, I don't know what to think. The premise that 'psychic powers' may be controllable makes almost any scenario possible, and I have skirted the pit of paranoia enough to wish no further engagement. Yet even the newspapers call me to heed my more paranoid friends — for how else can I read the protracted drama of the 1978 match between Korchnoi and Karpov for the world chess championship, in the light of this essay?

Korchnoi the challenger, Korchnoi the defector, began disastrously, being behind 4-1 by the seventeenth game. But he hung in gamely, depending for support not only on his chess associates but on the presence of two advisors from a Western spiritual group (one whose traditional yogic practices open psychic doors, and whose modern connection with the CIA had long since been widely rumoured). After his protest succeeded in having a key Karpov aide — the Soviet parapsychologist Zoukhar, said also to be a colonel in the KGB, who sat quietly with dark glasses in the front — removed from among the spectators, on the grounds that Zoukhar was trying to 'hypnotize' him, Korchnoi made an amazing comeback. By the 34th game or so he was even with Karpov at 5-5, and was one win away from a comeback triumph unprecedented in chess history. Then, apparently, some pulling of host-country strings achieved a quick switch: Korchnoi's spiritual advisors were deported, Dr Zoukhar reappeared inscrutable in the audience, and Korchnoi's game collapsed completely, as the patriot Karpov won the next game, and thus the whole match.

What an *opéra bouffe*, what a feast for satire! It is nonetheless so for knowing that the Soviet Union has for thirty years taken international sporting competition with the utmost seriousness as a major focus of peacetime political competition and would likely have used whatever they could to assure the patriot's triumph over the defector. That what we witnessed, in global publicity, was at least the first clear modern public use of the *idea* of psychic weaponry as a psychic weapon seems indisputable, and has its funny side. Even the notion that the drama was more, was exactly what it seemed — the first open employment of parapsychological weaponry in international conflict — has its charm, given the quaint, sublime arena chosen.

Yet humour fails me when I wonder why, if this is so, the Soviets have chosen at this time to so dramatize their interests and capabilities; and I am left astride an abyss like that into which Puharich stared over Geller's

shoulder. And like Puharich in *Uri*, I grasp at the thin reeds of data for reassurance: measure, measure *something*, something outside the self. What can be measured but money? Charles Tart, a leading US academic researcher into 'paranormal' consciousness, has studied domestic funding of civilian parapsychological research, and accounts it at \$520,000 a year currently.⁹⁰ His latest estimate of overt Soviet research puts it at some \$50-\$100,000,000 annually, favouring the higher figure. That this 1:100 ratio holds also for covert research, and that the budgets involved comparable magnitude, seem each to be reasonable surmises. That both overt and covert work, and the overall US/Soviet disparity, are increasing, seems clear.

It all adds up to trouble, looming in miasma. And I am left to numb myself against the formless fear, each time my more-impassioned informants, like modern prophets of apocalypse indeed, interpret such current signs as above (under *Three Rumours*) to represent developments that may, by all the logics of this essay, wrench our lives. Yet what paralyzes me, beyond writing this essay, is not this fear but a numbness closer to home and heart.

I envy my fellow-inquirers who have been able forthrightly to act as proper citizens, who have dared to take their paranoia, assessment and concern straight to their government, even if so gingerly, to ask it to get on the stick and defend them and advance science, as it ought. For whatever is real in all this, I wish them well for us all. Given even the funding figures above, the move seems justified as a short-term response. Yet I cannot join them fully in it. What inhibits me is not a one-time-red-diaper-baby's reluctance to speak ill of the Soviet Union, as I sorted out the admirable from the ghastly in its system long ago; nor is it even the deeper revulsion I feel at the cold logic of begging my government to arm itself against the high-tech Godless Communists who will enslave men's minds — a revulsion based less in abstract pacifism and distaste for mind-rot, than in having lived my whole life in struggle within and against an epoch in which this hysteria served to support and excuse the massive regimentation and corruption of our society, our lives, our minds.

No, what divides me most, and divides my response, is the simple sense that in the long run, and perhaps even the short, I have little more reason to trust my government with these arms than to trust any other. These words are bitter for me to say; their hurt endures. Still I suppose we must try. This essay will perhaps be used to support the effort; it could not have been written to refuse this; thus, though divided, I am fully complicit.

As such, I am entitled to one prophesy. For the effort to have been

a chance of being responsible, it is not enough simply to petition the government to respond to danger and promise, arouse the citizenry to support it, and bring in the United Nations. No, a responsible effort must involve civilian professionals and citizens further and more directly, in unprecedented and perhaps bitterly-contestable ways, in the governance both of military science and of strategic posture. To the extent that questions of national security, as seen by those who define them, are genuinely involved in psychic research, and in the absence of much sign to support the radical openness and pacifism I once dreamed might be possible in my time, I can see no first steps toward this responsibility that do not also involve in effect extending the already established culture, values, and organization of the military to still greater influence upon civilian psychic research and all that may follow from this. And like Cassandra I cry, *Woe! Woe!*

Notes and References

The technical notes are illustrative rather than exhaustive: in almost every case a fair number of other specialized references might be cited to the same effect. A more extensive guide to the literature may be found in the following books, listed here with abbreviations used below:

- EE *Executive ESP*, D. Dean, J. Mihalasky, S. Ostrander, and L. Schroeder, Prentice-Hall, New Jersey, 1974.
- FS *Future Science*, J. White and S. Krippner (eds), Anchor Books, New York, 1977.
- PDBIC *Psychic Discoveries Behind the Iron Curtain*, S. Ostrander and L. Schroeder, Prentice-Hall, New Jersey, 1970.
- NSPD *The New Soviet Psychic Discoveries*, H. Gris and W. Dick, Prentice-Hall, New Jersey, 1978.
- PE *Psychic Exploration*, E. Mitchell and J. White (eds), Putnam, New York, 1974.
- SS *Supersenses*, C. Panati, Quadrangle, New York, 1974.
- SCPR 'Soviet and Czechoslovakian Parapsychology Research', Defence Intelligence Agency, DST-1801S-387-75, 1975.

¹ Krippner's and Ulman's works are well known. E.g. see EE, 107.

² PSDIC, 21-3.

³ EE, 14; PE, 125; SCPR, 29.

⁴ Taylor J., *Superminds*, Viking, New York, 1975; C. Panati (ed), *The Geller Papers*,

Houghton-Mifflin, Boston, 1976; Hill, S. and Mattude, R. D., 'Psychokinetic Stretching of an Aluminium Bar', Orsted Institute, Copenhagen, 1976.

⁵ PE, 88-9, 536; 'Probable Psychokinetic Effects Produced in a Thermometer', *Psychoenergetic Systems*, 2, 1977: pp.31-7.

⁶ SS, 245; PE, 183-6.

⁷ PE, 536-83.

⁸ This conclusion seems evident at least in the line of Soviet psychokinetic experiments from Kalugina (SS, 235) to Ermalayev (NSPD, ch.1).

⁹ Such terms are used for devices which appear not to work through known (electromagnetic, mechanical, etc.) means.

¹⁰ See Tompkins, P. and Bird, C., *The Secret Life of Plants*, Harper and Row, New York, 1973; SS, 96; FS, 267, 372-5. The works of Cleve Backster and the Findhorn community have been widely reported. Marcel Vogel's work (see PE, 289-312) deserves more attention.

¹¹ FS, 372-5.

¹² NSPD, ch. 3. Reported also in classified US documents (see SCPR, 58).

¹³ Pavlita's work claims this. It is even more likely for psychic powers replicable within the EM paradigm (see SCPR).

¹⁴ For example, Peter Maddock, at the September 1975 Institute of Parascience Conference in London (communication from S. Hjortso). The ethical concern of orthodox scientists has more often been to protect people from fraudulence, as in the symposium 'The Application and Misapplication of Findings in Parapsychology' at the 1975 AAAS Annual Meeting.

¹⁵ In particular, Duane Elgin, 'The Ethical Use of Psychic Energy', Stanford Research Institute, 1976.

¹⁶ During the 1970s, polls showed that the majority of Americans shared this belief.

¹⁷ See notes 4 and 6.

¹⁸ SS, 109; EE, 158; PS, 451-64.

¹⁹ PE, 538-9.

²⁰ Communications from Alan Vaughan and John White.

²¹ SCPR, 30, implies that the possibility concerned US military planners by 1975.

²² See SS, 194; EP, 74; Puharich, A., *Beyond Telepathy*, Doubleday, New York, 1962; Appendix B; PS, 223.

²³ NSPD, 114; Hill, S., 'Operant Training of Extra-sensory Abilities', in J. Stoyva (ed), *Biofeedback and Self-Regulation*; many examples now appear in literatures of various disciplines.

- ²⁴ Communication from Alan Vaughan.
- ²⁵ *PDBIC*, 42-4.
- ²⁶ Political secrecy has lately become more difficult to maintain in the West, but it is not clear that military-scientific secrecy has suffered.
- ²⁷ For example the spy novels of John LeCarré, and such accounts of the CIA as L. Fletcher Prouty's *The Secret Team*, Ballantine Books, New York, 1973.
- ²⁸ *EE*, 14-15; *PDBIC*, 6-7.
- ²⁹ *SCPR*, 12; *PDBIC*, 33.
- ³⁰ *EE*, 10, indicates that by 1974 NASA interest in this area was overt. 'In 1963 the Kremlin issued an edict that top priority was to be given to psychically related sciences'. *SS*, 11. See also *PDBIC*, 253-4.
- ³¹ *PDBIC*, 59-67, 256-7, discusses the immediate impact of the reversal, connecting it also with the general tightening of control of Soviet scientists in 1968; *SPCR*, 4-6, and *NSPD*, 43, add later details. Naumov's case is discussed in *SCPR*, 5-7, and *NSPD*, 292-339.
- ³² Indeed the range was remarkable. See *NSPD*.
- ³³ *SCPR*, 5. This opinion, and its contexting interpretation of Soviet parapsychological trends, are cribbed directly from a *New Scientist* article, 13 February 1975.
- ³⁴ *NSPD*, ch. 24.
- ³⁵ 'Soviet parapsychology research is . . . indistinguishable from conventional Soviet physiological research', *SCPR*, 9.
- ³⁶ *FS*, 346-65.
- ³⁷ Brodeur, P., *The Zapping of America*, Norton, New York, 1977, and 'Microwaves', *The New Yorker*, 13-20 December 1976.
- ³⁸ *SCPR*, 63.
- ³⁹ This account relies largely on 'The Application of Tesla's Technology in Today's World', Lafferty, Harwood & Partners, Ltd, Montreal, January 1978. See also Einhorn, Ira, 'A Disturbing Communique', *Co-Evolution Quarterly*, Winter 1977-1978, 74-77, and *Washington Star*, 29 October 1976.
- ⁴⁰ The sources cited here say also that the Canadian government has been looking into Tesla's technology, and that small-scale 'psychic' weaponry descends from papers confiscated by the FBI from Tesla's safe when he died in 1943. Some papers were passed by one agent into civilian circulation.
- ⁴¹ 'Analysis of a Phenomena [sic] Occurring at Bell Island, Canada, on 2 April 1978', Planetary Association for Clean Energy, Ottawa, Canada.
- ⁴² 'The Application of Tesla's Technology in Today's World', Lafferty, Harwood

- & Partners, Ltd, January 1978: pp 30-33, and circulated communication from A. Michrowski.
- ⁴³ Notably by I. Bentov.
- ⁴⁴ *FS*, 421-30; *PDBIC*, ch. 28.
- ⁴⁵ Communications to author from many researchers.
- ⁴⁶ *EE*, 33.
- ⁴⁷ Or so my source interpreted the matter. When I questioned one of the researchers involved, he explained that the deletions were on legitimate procedural grounds (rather than substantive) freely subscribed to by the researchers; and that the deleted material was subsequently published (see note 111). Even given that the researchers had no way to know fully NASA's motives in the matter, this might make the incident irrelevant as an illustration here — were it not that he led me also to understand that they were then in contact with, and doing intimately related research when they could not in the first place discuss in public publication, owing to its classified nature.
- ⁴⁸ Letter from A. Vaughan.
- ⁴⁹ See section 13 on p.137.
- ⁵⁰ Cybernetic readout and interpretation of telepathic transmission, 'aura' or 'bioplasmic' states, etc., is still early in its development and perhaps more advanced than publicly credited yet; both sides are also investigating techniques of man-machine communication, with 'cyborg' development in mind. See, for example, *SCPR*, 25.
- ⁵¹ *PDBIC*, 320-21.
- ⁵² Kazhinskiy, B. B., *Biological Radio Communications*, Clearinghouse for Federal Scientific and Technological Information, Springfield, Virginia, AD 415, 676, 1 April 1963. See *EP*, 14-15; the authors seem sure the story is fraudulent.
- ⁵³ This was long before Uri. As a researcher both of telepathy and of psychedelics, he was a logical researcher for the military to check out, given the interests indicated in section 13.
- ⁵⁴ Figar, Stefan, 'The Application of Plethysmography to the Objective Study of So-called Extra-sensory Perception', *Journal Society for Psychical Research*, 40, 1959.
- ⁵⁵ For the project account see *EE*, especially ch. 2.
- ⁵⁶ *EE*, 16.
- ⁵⁷ Communications to author from several researchers. See also *SCPR*, 12; *PDBIC*, 33, 92-3 (re the NASA official).
- ⁵⁸ Clarke, A. C., *Childhood's End*, Sidgwick & Jackson, 1964.
- ⁵⁹ The incident is discussed in more (and slightly different) detail by John

Wilhelm in the 7 August 1977 *Washington Post* (Outlook section); and mentioned in *NSPD*, 292. The details here derive from a closer and earlier source.

- ⁶⁰ I don't know whether they had tangible grounds for this inference.
- ⁶¹ American scientists were surprised to view their first films of it in the Soviet Union. This discussion depends on *FS*, ch. 19, and other papers by C. Bird.
- ⁶² *EE*, 147, The Soviet attention to American dowsing in 1955, cited on p. 149, is of particular interest.
- ⁶³ Communication to author from C. Bird.
- ⁶⁴ *FS*, ch. 19.
- ⁶⁵ *SS*, 12.
- ⁶⁶ Communication to author from S. Krippner.
- ⁶⁷ Byrd, E., 'Uri Geller's Influence on the Metal Alloy Nitinol' in Panatou (ed), *The Geller Papers*, Houghton-Mifflin & Co., Boston, 1977.
- ⁶⁸ For example, the army's 'Life Force Detector' (letter from W. Cassidy to *Coevolution Quarterly*, unpublished).
- ⁶⁹ *EE*, 88.
- ⁷⁰ *EE*, 88-91. The interest military officials showed in this compatibility was (seemingly) abandoned precisely when the two techniques to be mated had shown clear promise separately — as in sections 3 (p.128) and in 9 (p.133).
- ⁷¹ *EE*, 145.
- ⁷² The Soviet Budget in 1974 was about \$21 million (*SS*, 11). A. Martinez, in the *Los Angeles Times*, 28 July 1975, estimated a US yearly average of \$100,000. More recent estimates appear at the end of this chapter.
- ⁷³ Contract 953653 under NAS7-100; SRI Project 2613. My summary here refers to the working draft.
- ⁷⁴ This interpretation is mine, gathered from the researchers' oral and written reports, and other work on bio-electronic monitoring.
- ⁷⁵ They tell me this contract enabled their report in 1975 of the incomplete work omitted from the final draft of their NASA contract (note 73).
- ⁷⁶ Monroe, R., *Journeys Out of the Body*, Doubleday, New York, 1971; see also *PE*, ch. 15.
- ⁷⁷ *National Enquirer*, January 1972, reports without detail Soviet accomplishment of astral travel in the lab.
- ⁷⁸ Widely rumoured by sources credible to me.
- ⁷⁹ Letter from Rolf Alexander to Julius Stulman, 24 March and 10 April 1951. See also Alexander's book, *The Power of the Mind*, Werner Laurie, London, 1956.

⁸⁰ Serious researchers into the CIA tell me that CIA employees were involved not only in giving LSD to others, or forcing it upon them, but in taking it themselves. The crucial period seems to have been from late 1951 to early 1953, while LSD was being explored through Project Artichoke. Most members of the CIA's technical services staff, and some in other divisions, seem to have had psychedelic experiences, some several times. The culture, context and purposes of their uses all differed radically from those of later (and earlier) civilian users. Still, if the latter's experiences are any indication, during this period some CIA staff may well have come directly, through quite intimate, deep, and vivid experiences, to believe that telepathy and kindred phenomena are real and worth investigating. If so, this perhaps influenced not only the subsequent CIA involvement with psychic research noted here, but also such episodes as the alleged *Nautilus* experiments.

- ⁸¹ According to an internal memo whose copy I have misplaced. The date here is approximate.
- ⁸² Interview of Stanley Krippner in *Psychic*, January-February 1976.
- ⁸³ *New Scientist*, 11 August 1977.
- ⁸⁴ I am indebted for these documents (though not for their interpretation) to Marty Lee of the Assassination Information Bureau, who is preparing a remarkable book concerning the CIA and psychedelic drugs.
- ⁸⁵ The timing, general content and internal details of these memos, and the length of their censored names, suggest that the researcher was again Rolf Alexander. If the letters of note 79 are not forgeries, Alexander was by then so obsessed with the idea and imminence of psychic power that he invited Stulman (unsuccessfully) to help him organize a small group who would achieve a benevolent 'parapsychological dictatorship' over the entire world, vanquishing all political evils, before spreading the power to all humankind. And no wonder! Alexander had devoted himself to psychic research since the late 1910s, when as a postgraduate student in Freud's Vienna circles he had joined a small group studying parapsychology. Their teacher became a 'behind the scenes' manipulator of international diplomacy. Another group member held the chair of parapsychology at Bonn, counselled the imprisoned Hitler at Munich, and prepared the training programme for the stormtroopers 'whose parapsychological offensive was really responsible' for Hitler's rise to the Chancellorship, as well as for the mental confusion among Allied leaders that enabled the Nazi triumphs in Czechoslovakia, Poland and France. Yet another member founded a 'school of parapsychology' in Russia shortly after the revolution, whose discoveries in time were used to force false confessions in domestic political trials and to again cloud the minds and spirits of 'free world' leaders.
- All this Alexander believed. What then could he do as a patriot of 'free creative capitalism' but press his services upon the President and CIA, in between trying to form a private benevolent tyranny? If he found no more acceptance than

the partial record shows, his account seems only the compact myth of an earlier 'psychic arms race, likely involving seeds of historical fact greatly misinterpreted. Still it is instructive to note that if this researcher were indeed Rolf Alexander, the CIA took him quite seriously for seven months or more, actively responsive to the thrust of his myth (if not perhaps to its details). If this contact had even an indirect influence on later CIA psychic research, then Alexander's myth is indeed an integral factor in the true biography of the 'psychic arms race', and its historical substance may deserve more examination.

⁸⁶ NSPD, ch. 24, is this paragraph's source

⁸⁷ These claims appear in more detail in John Wilhelm's article in the 7 August 1977 *Washington Post* (*Outlook* section) than in this NSPD summary. When I asked Dr Putoff about these alleged details of experiment, he answered only that he thought, in general, that published accounts of their work (Wilhelm's in particular) had been greatly exaggerated. He said also that he and Targ had never worked for the CIA. This may well be true, at least in the formal and 'witting' senses. Wilhelm, more cautious than NSPD, is noncommittal about this, and takes care to observe that the psychics involved may indeed not have been 'witting'. Yet he is quite specific in writing that the foreign coordinates of interest originated with the National Security Agency and were transmitted through a CIA scientist to Putoff and then to the psychics; that CIA specialists were later brought in to test the psychics outside SRI; and that he has two sources for this information. When I asked about Putoff's response in late 1978, Wilhelm reaffirmed the validity of his published account. CIA Director Turner's public remarks seem to support it. As for the foreign details alleged, Putoff may well, as he implied, be innocent of knowledge; yet they are perhaps beyond his power to verify or refute, since (as he agreed) he could not know what further, classified analysis might have been made of the research data from 'remote observing' hundreds of sites around the globe (chosen, he told me, 'at random' from an atlas). As for the domestic details, Wilhelm himself casts doubt on them at his article's end (he journeys to check out the alleged secret military site in Virginia and finds only a cow pasture, yet the strange response of the project officer to this news leaves the matter still unresolved for him), but the somewhat different version recorded in section 6 (p.131) came to me two years earlier and from a closer source.

The categorical issue here of CIA employment seems to me less vital than the deeper issue of scientific researchers' subscription to a system of military secrecy. The question of whether participation in such makes one morally complicit in the system's full operation, however limited one's own employment, is outside the scope of this essay. But I must observe in any case that for a researcher to bear some secrets he cannot share, as Putoff does with related material here, must leave a reasonable questioner uncertain about what more is not being told and whom to believe.

⁸⁸ I rely on John Wilhelm's and Brendan O'Regan's accounts of the news stories

⁸⁹ My inquiries addressed to the officials of the groups in question received no response.

⁹⁰ *Research in Parapsychology*, 1978, Roll, W. (ed), Scarecrow Press, New Jersey, 1979, and personal communication.

10. Soviet Psychotronic Weapons: A Condensed Background

Thomas E. Bearden

In the late 1920s T. Henry Moray, an engineer in Salt Lake City, Utah, actually succeeded in building a 'free energy' device that successfully tapped the infinite zero-point energy of pure vacuum. (This engineer produced a transistor material almost 30 years prior to its so-called 'invention'). Dr Harvey Fletcher, Sr, father of James Fletcher, former Chief Administrator of NASA, examined the device and can verify that he saw it work. Dr Fletcher is still alive. Experiments continued through the 1930s.

An engineer named Frazer — a Soviet agent and perhaps even a 'double agent' — was planted in the lab and succeeded in learning how to build the basic detector device. Moray was offered unlimited funds and facilities if he would come to Russia. At one point an attempt to kidnap him and take him bodily to Russia was apparently made in New York. Moray's lab in Salt Lake City was also visited by a Soviet scientist (Ph.D), who was also a Soviet Army officer of unknown rank.

Prior to leaving the lab, Frazer smashed the detector to bits with a hammer.

After his refusal to go to Russia, repeated attempts were made on Moray's life. Once shot in his own lab, he recognized one of his assailants to be Frazer.

The Soviets thus clandestinely obtained the major secret of psychotronic detection and amplification by 1940. In modern physics terminology, in one sense they obtained the secret of how to amplify directly virtual state into observable state. In another sense they learned the secret of how to directly tap zero-point energy of pure vacuum.

Validation of zero-point energy has, of course, long since been accomplished. Quantum physics theory predicts it, and the Soviets have reported its direct measurement. The well-known Lamb shift, for example, is a physical effect due to zero-point energy, and it demonstrates that

vacuum energy *can* physically be tapped to yield observable results. Quarks (fractional charges) were found theoretically necessary in the 1960s, and were finally detected in 1977. Actually, a German physicist named Ehrenheft had detected fractional charges almost 40 years ago and published papers in physics journals about this just prior to World War II. His work was ignored until Dirac presented it in his keynote address at the International Centre for Theoretical Physics in Trieste in 1972 at a major convention of physicists on 'The Physicists' Conception of Nature' Fundamental e/m ratio, and hence prediction of the charge on an electron, had been made by Milliken in his oil-drop experiment in the early 1900s. Actually, it was originally made by one of his graduate students, Harvey Fletcher — the same Harvey Fletcher previously mentioned. Fletcher received none of the credit, and Milliken received the Nobel prize in physics. Dr Fletcher later directed Bell Labs and became an eminent managerial scientist in his own right.

Ehrenheft had used solid red selenium oxide spheres instead of oil drops. He found that by varying the diameter of the spheres he could vary the charge — i.e. he could control the size of the quarks obtained.

Dirac's presentation of Ehrenheft's work in 1972 apparently started physicists thinking of experimentally detecting quarks again, and SRI succeeded in detecting one in 1977 on solid niobium.

The point to be made here is that there exist more fundamental component fields than the electromagnetic field, and these virtual 'hyperfields' produce the electromagnetic field itself. These hyperfields can also just as easily extinguish electromagnetic fields. They can also produce or extinguish virtual photons — hence *charge itself*.

They can be photographed by taping a bar magnet to a colour television tube and photographing the pattern. The electron beam differentiates the magnetic field with respect to length and time. Differentiating Maxwell's equations twice should thus yield the fourth order equations of the hyperfields.

In quantum mechanics, electric charge is conceived as being created by the subquantum emission and absorption of virtual photons, e.g. by extinguishing the virtual photons on an electron, the electron loses its charge, being converted to a neutrino and moving away through matter or anything else at the speed of light with essential zero probability of interaction. For an electron locked in orbit by integral DeBroglie waves (Bohr theory, which is sufficient here), its charge cannot normally be extinguished, but an electron in a current flowing along a wire is not so protected and it can therefore be extinguished, i.e. currents in electromagnetic circuits — car electrical systems, radars, radios, lasers, satellites, human nervous systems, etc. — can be interfered with

or even extinguished by this means.

This effect can be modulated upon electromagnetic carriers, but in an unusual sense, i.e. this type of modulation is *virtual state*, so it does not simply gate photons as does normal electromagnetic modulation (AM) or change frequency of the photons produced (FM) — rather, it is modulated onto each individual photon itself, in its unseparated ΔT portion (a photon is comprised of *action*, $\Delta E \Delta T$ without any separation).

The virtual state may be thought of as nested shells of physical reality¹ contained or enfolded inside the element of time contained in each quantum of action. It is thus contained in, and carried by, the photon.

'Mind' is also such a virtual reality, i.e. an 'observer's mind form' is equally as real as any observable, but it is merely in the virtual state and is thus carried by photons. 'Psychotronics' (Czechoslovakian term) or 'psychoenergetics' (Soviet term) simply refers to this relationship between 'mind' of the observer and 'physical change' observed by the observer; i.e. the Soviets have for some time been aware that there is no difference between mental state and virtual state, and that a thought or thought form is a virtual object.²

While the fact that mind can directly affect matter is demonstrated by psychokinesis, the most direct evidence is provided by the Kervran effect. Louis Kervran found that living systems can accomplish direct transmutation of one element (potassium) into another (calcium) on a limited basis; his work has since been duplicated and is repeatable without the difficulties one normally meets in psychokinetic experiments in parapsychology.

The psychotronic patterns/effects can be modulated onto electromagnetic signals, even of very low intensity, and still affect living systems because of the *kindling effect*; i.e. the psychotronic virtual state modulations are stripped off by a living system (in the acupuncture points near the surface of the skin) and introduced onto the human nervous system where they begin to superpose coherently as time passes. Such collection eventually reaches the quantum threshold and observable physical change results. This effect is an example of what actually changes the Kirlian photography field pattern — human hyperfield activity is collected and kindled into a weak electromagnetic field on the spark discharge, resulting in an electrical change (usually quite weak). The actual photographic film only records ordinary photochemical interaction.

However, visible light is normally a squelcher of the psychotronic kindling effect. Infra-red and ultraviolet are much less effective in squelching. The squelching effect prevents the psychotronic effect from normally surfacing more readily.

However, by modulating psychotronic (PT) signals onto electromagnetic

(EM) carriers, visible light squelching can be overcome. The PT modulations are then delivered to the biological (or material) targets through the light — photons go right through other photons without interaction except in the most extreme cases — and activate the acupuncture points.³

Soviet physicist, Adamenko, discovered that acupuncture points form plexuses or groupings that are frequently sensitive. Further, these plexuses are co-ordinated with and to specific body locations. By choice of frequency, one can therefore determine which part of the target's body is affected.

In 1973 the Czech engineer Robert Pavlita demonstrated psychotronic devices to Dr Stanley Krippner, who was staying with him at the time. In 1974 he demonstrated killing insects at a distance, and stated he had found 64 'points' (I believe he actually referred to Adamenko's plexuses) on the body which gave specific reactions. He also stated he had built a specific PT generator for each point; i.e. the implication is that 64 different reactions — everything from powerful and uncontrollable emotion, to seizure, paralysis or death — can be induced at a distance psychotronically. Pavlita has stated that his own daughter once was inadvertently injured (a portion of her body paralyzed) by a psychotronic generator and he had to race against time to build another type of generator to revive the benumbed body and save her.

The net of which I am a member has uncovered evidence that Pavlita, now directs a highly classified project, and has developed two weapons — one effective for 320 kilometres and one effective at any distance. Pavlita has been building psychotronic generators for about 30 years.⁴

After the Second World War, Soviet scientists were ordered by Stalin to seek actively another area of great breakthrough — such as the US atomic bomb had been — and leave no stone unturned in their search. Apparently the Moray detector was resurrected and intense experiment and development began on it. I believe that in 1958 the Soviet nuclear catastrophe near the Urals was the result of an attempt to transmit a nuclear explosion through hyperspace. The peculiarity of a transmitter tuning failure would have resulted in an explosion emerging from the nearest large nuclear waste storage, and that apparently happened.

In 1957 a major new interpretation of quantum mechanics was originated by Hugh Everett at Princeton University under the world-renowned John Wheeler. This is the theory of the universal wave function — the Many-Worlds Interpretation (MWI) of quantum mechanics. Practically the entire Western output on the subject is available in a book by that title from Princeton University Press.

This physics is so exceedingly strange that it has been ignored by almost

all Western physicists. Indeed, it is so strange that even its originators, Everett and Wheeler, are said not to be able to believe it. Wheeler once stated that he could believe it on Monday, Wednesday and Friday, but not at any other time. Using the MWI, however, one can produce a theoretical model of psychotronics which is totally consistent with the entire experimental basis of modern physics.

The Soviets apparently seized on this new theoretical work and applied it to the Moray device, solving their theoretical and technical difficulties.

In 1960, speaking to the Presidium, Khrushchev stated that the USSR had a new weapon in development ('just within the portfolio of our scientists, so to speak') that was so powerful it could wipe out all life on earth. I believe he referred to the nuclear hyperspace howitzer and to the 'death ray' PT weapons under development at that time.

About 1959 or 1960, the radiation of the US Embassy in Moscow with weak microwave radiation apparently began. The purpose of the radiation is a brilliant intelligence probe: The Soviets were vitally interested in positively ascertaining whether or not their US adversary knew about psychotronics (i.e. whether the US has built PT weapons of its own and might have built defence counterweapons as well). Accordingly, they began weak PT-modulated microwave radiation of a high level US target — the US Ambassador to the Soviet Union — which would guarantee the personal attention of the State Department, NSA, CIA, DIA, the President, etc. The PT modulation apparently consisted of various disease patterns of gradually increasing seriousness — flu, blood changes, heart irregularities, cancer, etc. By the US's reaction, whether or not it knew anything of PT could be positively assessed. If the US reacted only to ordinary electromagnetics, then with 100 percent certainty it knew nothing of PT, hence had no secret PT weapons of its own or counters to the Soviet PT weapons. So since about 1959 or 1960, by our slow reaction to the radiation of the US Embassy — and then by our reaction only to the electromagnetic aspects — we have been assuring the Soviets that we know nothing of PT. Even though several presidents have protested the radiation, the Soviets have persisted because it is an intelligence tool of the utmost importance to them.⁵

Kaznacheyev is the head of the Siberian Branch of the Soviet Academy of Medicine, and has at his disposal every disease germ/virus/toxin, etc. known to man. The reported experiments were performed in the dark to prevent the quenching effect of the visible light spectrum; the effect is only obtained through the quartz (which has infra-red and ultraviolet windows). There is a closely related experiment which is fundamental to quantum physics: In the two-slit experiment, which contains all the mystery of quantum mechanics (according to Nobel prizewinner Richard

Feynman, co-founder of quantum electrodynamics), one does not get the quantum effect with an electron, e.g. if the electron is first hit by a photon of light before reaching the two-slit region. If the electron is not hit by a photon, one gets the quantum effect. According to Feynman, the quantum effect in the two-slit experiment is not explainable by any classical means.⁶

Khrushchev, the ebullient peasant, jumped the gun and attempted to reverse the strategic balance of power in 1962 by rushing longer range SSMs to Cuba. His ICBMs were in woeful shape and his PT superweapons not yet deployed. When Kennedy called his bluff, he had to back down in the Cuban Missile Crisis. This was a dangerous and critical loss of face among Party leaders. Khrushchev desperately needed to recover lost stature and 'face'. Accordingly, when his new PT weapons were deployed in April 1963, I am convinced that he staged an immediate and spectacular display to recoup; i.e. he killed the US nuclear submarine *Thresher* psychotronically from the Soviet Union — simply from its photograph, which can easily be done if one has hyperspatial amplifiers.⁷

The sub could be killed if running deep (shielded against visible light), but probably not on the surface. The characteristics of such a kill would be: (1) The sub would have suddenly ceased responding to its controls, although the controls were working normally; (2) The sub's hull would suddenly have split and crushed. That appears to be exactly the way the *Thresher* died, in that sequence.

One day after the kill of the *Thresher*, a test of the newly deployed hyperspace howitzer was apparently conducted successfully. A nuclear explosion set off in the Soviet Union was apparently transmitted through hyperspace directly into a receiver preplanted in the ocean about 100 miles north of Puerto Rico. This gigantic mushroom explosion of the surface of the ocean was seen by the crew of a passing jet airline, who reported what they saw to an investigator from the Society for the Investigation of the Unexplained. The report is in their files.

PT weapons, however, have a very serious shortcoming: They depend for their operation on a great many coherent stages — say 100 — which must be operating in a very stable (isotropic) hyperspatial flux. Every so often this flux becomes turbulent (novas exploding, unknown astronomical effects) and all PT weapons suddenly cease working. The inability to operate lasts as long as the flux turbulence lasts — typically from 15 minutes up to several days. Therefore, in addition to system failure of a single system via normal component failure, PT weapons have a totally different failure mode — all or nothing — totally different from any other present weapon system.

Accordingly, the Soviets plan to first launch a conventional attack, then

choose the time to use the PT weapons in a blinding display of power that will totally paralyse the West; i.e. they plan to use the same scenario the Americans used on Japan with their atomic bombs in World War II. That is after all where they got the idea in the first place.

Third generation Soviet PT weapons are, I believe, already on site. A 100 per cent effective ABM system is simply a PT modulation on their long range ABM radars (even the 'early warning' radars, as opposed to the 'tracking' radars). If the PT fails (i.e. in the 'all off' PT mode), they still have the *normal* ABM interceptor missile and normal radar detection and tracking as a backup. *The normal ABM system is the backup system; the PT modulation on the radar beam(s) is the primary system.* The same is true for their SAM systems. Many of the primary PT anti-aircraft weapons are simply radar sites, even those not connected to systems having interceptor missiles.

In addition, the Soviets plan to be so overwhelmingly superior in nuclear weapons that great pause occurs before the US President would agonizingly consider using nuclear weapons against even a totally successful Warsaw Pact blitzkrieg attack against NATO. Accordingly, they have brilliantly out-maneuvred the West — eg. the SALT agreements limited *launchers*, not missiles. An additional 3,000 or so extra ICBMs may already have been built for refire, according to Major General Keegan, former head of the US Air Force Intelligence. In addition, their new SS-20 IRBM can, with the addition of a third stage, be quickly converted to an ICBM (the SS-16). How many SS-20 third stages will be readied by the Soviets? No one knows, and it is not prohibited by SALT agreement.

An operation satellite killer exists in the Soviet inventory — and we did not understand its unconventional mode of having an 80 nautical mile 'miss distance' which was within lethal range of its psychotronics.

Nor did we fully understand the testing of a SAM radar in an ABM mode. With PT modulation, such a radar is formidable in the field army, since merely radiating incoming missiles with the proper PT-modulated pattern can kill the missiles with 100 per cent kill probability. This effect has possibly been tested against US reconnaissance satellites in the so-called 'laser blinding' incidents.

Soviet satellites are probably already equipped with PT modulators; if so, they can unleash any death/disease pattern desired on an unsuspecting target populace by simple weak RF radiation from space.

Clandestine testing of PT weapons also appears to have been accomplished directly in the US; eg. Legionnaires' disease appears to have been one such test. The suspect agent was actually seen, according to sworn testimony before a Congressional committee — i.e. a person with a book-sized object in his hand (tape recorder with PT pattern),

a tobacco-pouch sized object in his coat breast pocket (transmitter) and a wire running to his tie clip (antenna) was present and mingled with the Legionnaires for several hours. He was heard to exclaim several times to various Legionnaires that it was too late and they were all doomed. (The eventual appearance of the weird 'biological agent' that is different from any other germ known can also be explained, but that is another story).

Other such tests have also apparently been conducted.

The facility at Semipalatinsk, for example, in my opinion is a third-generation hyperspace nuclear howitzer. It can transmit a full nuclear explosion through hyperspace into a tuner planted anywhere in the universe, without travelling through or in normal space at all. Further, it has a unique characteristic: Any number of receiver-tuners may be tuned to the transmission channel and each will have the full nuclear explosion emerge from it, undiminished.

Therefore, one channel might be for US Minuteman sites, and a tuner on that frequency (say one containing 100 transistors, sealed in plastic and buried in the earth), could be preplanted near each Minuteman site. Another channel might be for all the SAC bases, another for large US cities, another for nuclear weapon storage sites, etc.

Any or all of these could be connected to a single blast transmission, simply by controlling the channel width over which the hyperspace transmission occurs.

Here one must not confuse ordinary single-channel conservation of energy with hyperspace operation. For example, the transmitter corresponds to the grid of a gigantic triode, the preplanted receivers constitute the plate area, and zero-point vacuum energy constitutes the cathode energy source. So just as in a triode, energy is conserved from cathode to plate, but *not* exclusively from grid to plate. Since zero-point vacuum energy is being gated by the triode grid (the howitzer) signal (the explosion), the energy that can be outputted at the plate (from the tuner/receivers) is essentially unlimited. Any number of receiver/tuners can be connected to a channel, merely increasing the plate area. And from each tuner there can emerge a full-scale, undiluted replica of the explosion in the howitzer at Semipalatinsk.

Thus a single nuclear blast at Semipalatinsk can in one instant wipe out all land-based strategic nuclear retaliation capability in the Free World, if the preplanted tuners are on site.

An additional modification — something like additional orthorotator rings surrounding the primary hyperspace orthorotator ring — may have been made to the nuclear hyperspace howitzer within the last two or three years. If so, this would have the characteristic of materially reducing

the 'spillage' fraction of the nuclear explosion that is set off in the firing chamber, and it would materially reduce the mechanical shock and vibration associated with a firing. There is a possible indicator of this: Quoting from *Science*, 'on five occasions during the first half of 1976 traces of neptunium-239 and molybdenum-99 were detected in southern Sweden. These activities were accompanied by small amounts of fission products such as iodine-131 and barium-140. One of the events was coincident in time with large peaks in the atmospheric tritium gas concentration.'⁸

These events were concentrated during the time the Semipalatinsk experiments are reported to have started, yet no seismic activity was associated, as would have been the case if ordinary nuclear explosions had occurred in normal space inside a containment sphere for a large particle beam experiment. On the other hand, if a very high percentage of the explosion were transmitted/rotated into hyperspace, then residual traces of a nuclear explosion would have been present in the atmosphere because of the very slight 'spillage' venting into normal space, but almost all mechanical shock and vibration would have been eliminated. It is at least a striking correlation that exactly such indicators are present as reported by DeGeer.

Additional rings may have been added for a very good reason: A clever adversary who becomes aware of the necessity for preplanted tuners could use a very simple but completely effective countermeasure: simply locate the tuners and dig them up, then clandestinely put them back into Soviet territory — or build tuners of one's own and plant them in Soviet territory. Thus it would seem imperative to develop a mode of operation which did not require preplanted tuners at the target area.

This capability can be provided by using the howitzer in an interferometer mode — i.e. by constructing additional orthorotation rings around the firing chamber so that a 'hyperspace interferometer' now exists. With this scheme, any point on earth can be precisely focused onto by the howitzer, and no preplanted tuner is necessary. The advantage of this mode is the elimination of the need for clandestinely preplanted receivers, and the avoidance of any receivers preplanted by the adversary on Soviet soil. The disadvantage of the interferometer mode is that the former 'triode' operation has now been converted to 'diode' operation — i.e. when one explosion is put into hyperspace, now a single explosion at a single target area emerges, since a single selected spatial location is now exclusively determined by the interferometer settings.

For the more complicated interferometer mode orientation and alignment of the interferometer's indicators and controls and amplifiers would be necessary. This could be done, e.g. using fractional kiloton

yield weapons — or even ordinary HE explosions — and focusing the howitzer at a displaced aiming point, at some distance from the target area. This is simply the standard artillery technique of registering a gun on an offset registration point, then performing an x-y shift to the intended target when the gun is fired.⁹

Thus in the triode mode, the nuclear hyperspatial howitzer at Semipalatinsk can denude the strategic capability (land-based) of the Free World with a single shot, if preplanted tuners are on site at the appropriate targets and if no clandestinely preplanted tuners are on or at Soviet targets. In mode two — the diode mode — the howitzer can wreak havoc on a single target at a time, destroying additional targets only as rapidly as it can fire and recover. To the intended victim, the first mode is like barrage fire, while the second mode is like deliberate fire of single rounds.

The nuclear submarines on station can rapidly be killed (in seconds) from their *photographs*. Since publicity photographs of our major naval vessels are easily obtained, all of our submarines are vulnerable.

The few missiles or bombers that the West might still get off in the face of such a devastating strategic excision could easily be handled even by the conventional Soviet SAMs/ABMs/interceptors. With psychotronic weapons, they could be swept from the sky with 100 per cent kill assurance.

So the US triad concept has long since been negated, as indeed has the concept of mutual assured destruction, on which our entire strategic outlook is based. The teeth of the US dragon can be extracted by the Soviet psychotronic weapons almost at will.

The Soviets have done to America what it did to Japan in the Second World War — and we have failed to detect it.

Notes and References

¹ There is a connecting geometry between virtual and objective status, so that one can be transferred into the other.

² My paper dealing with the basic physics effect of some of this — and with the change in classical logic required to comprehend it — is *Solution of the Fundamental Problem of Quantum Mechanics*, DDC, 3 January 1977. This paper was delivered in absentia at the Third International Psychotronics Congress in Tokyo in June/July 1977.

³ Material objects apparently have nodal points or locations which roughly correspond in their transducer/stripping action to biological acupuncture points. Inert non-biological objects can thus also be affected.

⁴ See DIA Report DST-1805-387-75, *Soviet and Czechoslovakian Parapsychology Research [U]* for pictures of some of Pavlita's simple devices, including one which kills flies. (This report has been released under the Freedom of Information Act.)

⁵ For confirmation of Soviet experimentation with PT induction of death and disease, see V. P. Kaznacheyev et al, 'Distant Intercellular Interactions in a System of Two Tissue Cultures', *Psychoenergetic Systems*, Vol. 1, No. 3, March 1976, pp. 141-2; and by the same authors, 'Apparent Information Transfer Between Two Groups of Cells', *Psychoenergetic Systems*, Vol. 1, No. 1, Dec. 1974, p. 37. These articles give one a glimpse of the results of over 5,000 Soviet experiments on the basic effect.

⁶ The reason is that the explanation is not possible by Aristotle's three laws of logic, upon which all Western logic, physics, and mathematics are based. However, a fourth law of logic can be written which, together with the present three laws, provides a closed metalogic which does contain the explanation of the two-slit experiment. The fact that there is no problem in explaining the experiment if one takes into account the nested structure of time was pointed out as long ago as 1957 by Dr Charles Muses.

⁷ For the basic theory of the hyperspatial amplifier, see Thomas E. Bearden, 'The One Human Problem, Its Solution, and Its Relation to UFO Phenomena', Appendix I, 'The Holographic Hyperchannel Effect', 3 January 1977, DDC.

⁸ Lars-Erik DeGeer, Swedish National Defence Research Institute, 'Airborne Short-Lived Radionuclides of Unknown Origin in Sweden in 1976', *Science*, Vol. 198, No. 4320, 2 Dec 1977: pp. 925-7.

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11. Tesla's Secret and the New Soviet Superweapons

Thomas E. Bearden

Before the turn of the century, Nikola Tesla had discovered and was utilizing a new type of electric wave. Tesla repeatedly stated his waves were non-Hertzian, and his wireless transmissions did not fall off as the square of the distance. His discovery was apparently so fundamental (and his intent to provide free energy to all humankind was so clear) that it was responsible for the withdrawal of his financial backing, his deliberate isolation, and the gradual removal of his name from the history books.

By 1914 or so, Tesla had been successfully isolated and was already nearly a 'nonperson'. Thereafter Tesla lived in nearly total seclusion, occasionally surfacing (at his annual birthday party for members of the press) to announce the discovery of an enormous new source of free energy, the perfection of wireless transmission of energy without losses, fireball weapons to destroy whole armies and thousands of aeroplanes at hundreds of miles distance, and a weapon (the 'Tesla Shield', I've dubbed it) that could provide an impenetrable defence and thus render war obsolete.

In my pursuit of Tesla's secret, it gradually became apparent to me that present orthodox electromagnetic theory is seriously flawed in some fundamental respects. One of these is in the definition and use of ϕ , the scalar electrostatic potential. It is this error which has hidden the long-sought unified field theory from the theorists.

In the theory of the scalar electrostatic potential (SEP), the idea is introduced of work accomplished on a charge brought in from a distance against the scalar field. The scalar electrostatic potential is not a vector field, but a scalar field. Indeed, scalar potential cannot of itself perform work on a charged mass; if it could do so, then tremendous force would exist on every mass due to the extremely high scalar electrostatic potential

of the vacuum itself. Only a differential of the potential between two spatial points can produce force or accomplish work. (Rigorously, a differential of scalar potential between two spatial points constitutes a vector. *Only a vector can produce force and do work.*)

Also, work can only be done on a mass. Further, it takes time to move an electron or other charged mass between two spatial points, and so the work performed by a spatial differential of the Φ -field requires time. Rigorously, the *change* in scalar electrostatic potential (Δ SEP) between two separated points in space is voltage, not SEP *per se*, and is directly related to an electrical (E) field. The entire voltage concept depends on the work performed in moving a mass, after that mass has moved. The idea of 'voltage' always implies the existence of a steady differential of Φ between two spatial points for a finite length of time, and it also involves the assumption of a flow of actual mass having occurred. Potential, on the one hand, is always a single-point function; on the other hand, difference in potential — i.e. voltage (V) — is always a two point function, as is any vector.

Yet many graduate level physics and electromagnetics papers and texts erroneously confuse Φ and V in the static case! Such an interpretation, is, of course, quite incorrect.

Another common assumption in present EM theory — that the electrostatic potential of the normal vacuum (Φ_0) is zero — has no legitimate basis. In fact, we know Φ_0 is nonzero because the vacuum is filled with enormous amounts of fluctuating virtual state activity, including incredible charge fluctuations. By virtue of its point definition, Φ_0 must be the 'instantaneous intensity' of these fluctuations — but both in space and time. The scalar electrostatic potential is therefore 'instantaneous stress' on space-time itself, and a measure of the intensity of the virtual state flux through a four-dimensional space-time point. Potentials theory was largely developed in the 1800s, before the theory of relativity. Time flow-rate was then regarded as immutable. Accordingly, electrostatic 'intensity' was chosen as 'spatial intensity', with the connotation of 'spatial flux density'. This assumes a constant, immutable rate of flow of time, which need not be true at all if we believe relativity. Such a spatial 'point' intensity is actually a 'line' in 4-space, and not a four-dimensional 'point' at all. Thus the spatial potential — Φ_1 — is a very special case of the real space-time potential — Φ_4 , or charge — and electromagnetic theory today is accordingly a special case of the real 4-space electromagnetism that actually exists! Note also that charge is a four-dimensional concept.

Now, mass is a spatial, three-dimensional concept. Rigorously, mass does not exist in time — mass-time exists in time. Mass and charge are

thus of differing dimensionalities!

Also, according to quantum mechanics, the charge of a particle — eg. of an electron — is due to the continual flux of virtual particles given off and absorbed by the observable particle of mass. Thus charge also is conceptually a measure of the virtual flux density, and directly related to Φ . Further, since the charge exists in time, it is *the charge of a particle of spatial mass that gives it the property of mass-time, or existing in time.*

Here a great confusion and fundamental error has been thrown into the present EM theory by the equating of 'charge' and 'charged mass'. As we have seen, the two things are really very different indeed.

To speak of a spatial 'amount' of charge erroneously limits the basic EM theory to a fixed time flow-rate condition (which of course it was considered to be, prior to Einstein's development of relativity). Thus when the limited present theory encounters a 'relativistic' case (where the time flow-rate changes), all sorts of extraordinary corrections must be introduced. The real problem, of course, is with the fundamental definitions of electrostatic potential and charge. The spatial 'amount' of charge (i.e. the coulomb), as we presently erroneously use the term, is actually the spatial amount of observable 'charged mass'. To correct the theory, one must introduce the true 4-space SEP and separate the definitions of charge and charged mass.

Only when a mass is moved does one have work — and voltage or vector fields. (The reason one has voltage and E field connected to a normal electrostatically charged object in the laboratory is because an excess of charged-particle masses are assembled on the object, and these masses are in violent motion! A true static charge would have no E field at all.)

Φ -field need not involve observable mass accumulation, but only charge (virtual flow-rate intensity) accumulation. Accumulated masses are like so many gallons of water; accumulated charge is like so much pressure on both the water (space) and the time in which the water is existing.

Now, if one varies the SEP solely as a point function, one would have a purely scalar complex longitudinal wave, and not a vector wave at all. This is the fundamentally new electrical wave that Tesla discovered in 1899.

Rigorously, all vector fields are two-point functions and thus decomposable into two scalar fields, as Whittaker showed in 1903. It follows that any vector wave can be decomposed into two scalar waves. By implication, therefore, a normal transverse EM vector wave, for example, must simply be two coupled scalar (Tesla) waves — and these scalars independently would be longitudinal if uncoupled. *An ordinary transverse EM vector wave is thus two pair-coupled Tesla scalar longitudinal waves, and*

only a single special case of the much more fundamental electromagnetics discovered by Nikola Tesla.

A Tesla (scalar potential) wave — i.e., a mass-less wave in pure Φ_0 , the stress of the space-time medium — would have very strange characteristics indeed. For one thing, since it moves in a complex 4-space, it has many more modes of movement than does a simple wave in 3-space. And for another thing, it need not be bound at all by speed of (vector) light (or, in other words, the vector resulting from ordinary transverse photon movement). In current theory, one Φ_3 -field does not directly interact or couple with other existing Φ_3 -fields except by simple superposition. Therefore presently the Φ -field is considered to have no drag limitation at all, hence infinite velocity, in some theoretical constructs (stated in Jackson, *Classical Electrodynamics*, 2nd edition, p. 223).

Actually, a Φ_4 -wave can and will interact with some of the other existing Φ_4 -waves in the medium transversed, and this interaction can involve pair-coupling into EM vector fields and waves, an interaction not presently in the electrodynamics theory. The result of scalar pair-coupling creates a finite amount of vector 'drag' on the Φ_4 -wave, so it then has less than infinite velocity. However, if this drag is small due to limited pair-coupling, the scalar wave's velocity through the slightly dragging medium still may be far greater than the speed of vector EM waves (light) in vacuum. On the other hand, if the pair-coupling is made severe, the Φ -wave may move at a speed considerably below the speed of vector light waves in vacuum. The velocity of the Φ_4 -wave is thus both variable and controllable or adjustable (simply by varying its initial amplitude, for example, which through a given medium changes the percentage of pair-coupling and hence the degree of drag on the scalar wave). The Tesla scalar wave thus can have either subluminal or superluminal velocity, in contradiction to present theory.

Note that the scalar wave also violates one of Einstein's fundamental postulates — for the speed of our 'new kind of light' wave is not limited to c (the speed of light in the formula $E = mc^2$, with c being 186,000 miles per second) and need not be the same to every observer. Thus Tesla scalar waves lead to a new 'super-relativity' of which the present Einsteinian relativity is only a highly special case!

Let us now look for some subtle but real examples of scalar waves and scalar pair-coupling in nature. As is well known, a tectonic fault zone can provide anomalous lights, sounds, etc. from stresses, piezoelectrical activity, and telluric currents in the earth and through the fault zone. In examining the fault zone phenomena, I finally realized that a fault zone was literally a scalar interferometer. In other words, if one can have scalar Φ_4 -waves, they can interfere, either constructively

or destructively. Their interference, however, produces scalar pair-coupling into vector EM waves. This coupling may be at a distance from the interferometer itself, and thus the interferometer can produce energy directly at a distance, without vector transmission through the intervening space. Coupling of Φ waves with the paired scalars comprising ordinary EM vector waves can also occur. If this triplex coupling forms additional EM vector waves 180° out of phase, the ordinary EM wave is diminished or extinguished. If the scalar triplex coupling occurs so as to create vector EM waves in phase with the interacting vector EM wave, the amplitude of the ordinary vector wave is increased.

Scalar potential waves can thus augment or diminish (or create or destroy) ordinary EM waves at a distance by pair-coupling interference under appropriate conditions, and this is in consonance with the implications of Whittaker's fundamental 1903 work.

An earthquake fault zone is such a scalar interferometer. Stresses and charge pile-ups exist in the plates on each side adjacent to the fault, with stress relief existing in the middle in the fault fracture itself. Since the rock is locally non-linear, the mechanical stresses and electrical currents in it are also locally non-linear. This results in the generation of multiple frequencies of Φ_4 -waves from each side of the fault interferometer, yielding two complex Fourier expansion patterns of scalar potential waves. On occasion these two Fourier-transformed scalar wave patterns couple at a distance to produce stable ordinary electromagnetic field in a three-dimensional spatial pattern — e.g. a stress-light (such as the Vestigia light covered in Part I of my book *The Excalibur Briefing*). Driven by the erratic two scalar Fourier expansion patterns of the scalar interferometer (whose input stresses normally slowly change), an erratic, darting, hovering 'spook-light' of the variety studied by Vestigia is produced.

As the stresses change in each side of the interferometer, the distant scalar coupling zone is affected. Thus the stress-light moves and its form changes, but it may be relatively stable in form for seconds or minutes. Since the stresses in the rock may be intense, the stress-light may involve an intense pair of Φ -patterns coupling into the sphere or ball of vector EM energy. The atoms and molecules of the air in the region of the coupled stress-light ball thus become highly excited, giving off radiant energy as the excited states decay.

Since much of the piezoelectric material in the stressed rocks is quartz grains, the features of quartz are of particular interest. Each little quartz grain is itself highly stressed, and has stress cracks. It is therefore a little scalar interferometer. Further, quartz is transparent to infra-red and ultraviolet; and the random orientation of all the quartz scalar

interferometers may also form a Prigogine system far from thermodynamic equilibrium. If so, this system can tap into highly energetic microscopic electromagnetic fluctuations to produce large-scale, ordered, relatively stable patterns of electromagnetic energy at a distance.

In short, all of this lends support to the formation of relatively stable but somewhat erratic patterns of electromagnetic energy at a distance from the fault itself. In the atmosphere, such scalar interferometers could form in clouds or even in the air or between clouds and earth. If so, such rare but occasional 'weather' scalar interferometers could account for the rare phenomenon of ball lightning. The intense energy of the ball of lightning, as compared to the lesser energy of an earthstress-light, could well be due to the enormous electrical charges between clouds or between cloud and earth, available to fuel the scalar interferometer. Very probably it is this phenomenon which gave Tesla the clue to scalar wave interferometry.

Thus, such phenomena as earthstress-light, ball lightning and the Tesla system of wireless transmission of energy at a distance with negligible losses and at speeds exceeding the speed of light may be explained. They are complex, however, and involve fundamental changes in present electromagnetic theory. These changes include utilizing 4-space scalar electrostatic potentials, scalar waves, pair coupling, ordinary three-dimensional Fourier expansion, the Prigogine effect, and the properties of piezoelectric materials in rocks.

Since the scalar potential also stresses time, *it can change the rate of flow of time itself!* (See reference 81 for proof that it can do so.) Thus it affects anything which exists in time — including the mind, both of the individual and at various levels of unconsciousness. Therefore the same functions that result in earthstress-lights also affect mind and thought, and are in turn affected by mind and thought. This is the missing ingredient in Persinger's theory that UFOs are correlated with, and a result of, fault zones and earth stresses. While Persinger seems to feel this is a 'normal physics' explanation, it indeed already involves a paranormal explanation as well.

The time-stressing ability of the true ϕ scalar wave also explains the interaction of such earthstress-lights with humans and human intent, as noted by other researchers. (For example, the lights that repeatedly seemed to react to the observers, as detailed by Dr Harley Rudledge in his epoch-making *Project Identification*, Prentice-Hall, 1981.)

These ideas in condensed form comprise the concepts required to violate the speed of light and produce an ordinary electromagnetic field at a distance, using scalar interferometry, without losses — as Tesla had done in his wireless transmission system which he had tested prior to

1900 and had perfected by the 1930s. Scalar interferometry can give stable regions of EM or 'light energy' at a distance without losses, particularly as detailed in the beautiful Vestigia experiments, and it is within our grasp to utilize the new effects. Indeed, any stress crack in a material can result in the scalar potential interferometer effect. Exophoton and exoelectron emission — poorly understood but already known in fatiguing of materials — must be at least partly due to the scalar interferometer effect.

However, one additional caution should be advanced. Normal movement of electrons allows so much 'sideplay' movement of the electrons — and there is so much such sideplay electron motion in the surrounding vicinity — that pair coupling is almost instantaneous for small waves. Thus orbital electrons in atoms seem to absorb and emit vector EM photons. Actually, they also emit some percentage of scalar waves as well. Since a scalar wave is comprised exclusively of disturbance in the virtual state, it need not obey the conservation of energy law. Further, a scalar wave itself does not 'push electrons' or other charges; hence it is nearly undetectable by present detectors. Ionization detectors such as a Geiger counter tube, for example, are exceptions if the scalar wave encountered is fairly strong. In that case sufficient triplex coupling with the ionized gas occurs to produce additional ionization or charge, breaching the tube's cut-off threshold and producing a cascade discharge of electrons and voltage which is detected. But weak scalar waves are presently undetectable by ordinary instruments. However, these small scalar waves are detectable by sensitive interferometry techniques — e.g. such as an electron interferometer. Since the use of such instruments is quite rare, we have indeed been living immersed in a sea of scalar waves without knowing it.

Finally, the percentage of scalar waves produced by changes in charged mass pile-ups can be increased by utilizing charged mass streaming. Essentially the charged masses must be moved suddenly, as quickly as possible, at or near the complete breakdown of the medium. For this reason, Tesla utilized spark-gaps in his early transmission systems, but also found that he could induce ionized media to 'breakdown' in such fashion by a slow growth process. One of his early patented atmospheric wireless transmission systems is based on this fact. However, it was necessary to use a very high voltage, insuring extreme stress on the medium and hence some spillover stress onto time itself. In other words, ϕ_3 is always an approximation; at sufficiently high spatial stress, sufficient spillover ϕ_4 exists to give Tesla scalar waves. For this reason, Tesla used very high voltages and extremely sharp discharges to give 'streaming' of the charged masses and thus high percentages of ϕ_4 waves. This

suggests that the breakdown of dielectrics is a much richer phenomenon than is presently allowed for in the conventional theory.

To summarize, electrostatic potential — Φ -field — is stress on the space-time medium at a four-dimensional point. In other words, it is a sort of pressure on the medium, but pressure on all four dimensions, not just on the three spatial dimensions. Thus in the new standard theory, Φ_4 may have complex values. In addition, a Φ -wave is to be interpreted as a scalar longitudinal wave in complex space-time — directly in Φ_0 , the normal average 4-space stress itself. And charge and charged mass must be recognized as two separate concepts. This is the gist of what I finally recognized about Nikola Tesla's work and fundamental discovery.

This is exciting, for it means that Tesla stress waves can affect either space or time individually, or both space and time simultaneously, or even oscillate back and forth between primarily affecting time and primarily affecting space. Tesla's waves were actually these Φ -field scalar waves. As such, they were fundamentally different from ordinary electromagnetic waves, and had entirely different characteristics, just as Tesla often stated. For example, a Tesla wave can either move spatially, with time flowing linearly; move temporally only (sitting at a point and waxing and waning in magnitude — but changing the rate of flow of time itself in doing so, and affecting gravitational field, fundamental constants of nature, etc.); or move in a combination of the two modes. In the latter case, the Tesla wave moves in space with a very strange motion — it oscillates between (1) spatially standing still and flexing time, and (2) moving smoothly in space while time flows smoothly and evenly. In other words, it stands at one point (or at one columnar region), flexing for a moment; then slowly picks up spatial velocity until it is moving smoothly through space; then slows down again to a 'standing column', etc. This is Tesla's fabulous 'standing columnar wave'.

Another wild characteristic of the Tesla wave is that it can affect the rate of flow of time itself; hence it can affect or change every other field — including the gravitational field — that exists in time flow. It can also affect all universal constants, the mass of an object, the inertia of a body, and the mind and thoughts as well! All of these exist in the flow of time, and they are affected if the time stream in which they exist is affected. This was the awful secret that Tesla partially discovered by 1900, and which he came more and more to fully realize as he pursued its nature and its ramifications into the 1920s and 1930s.

Tesla also found he could set up standing Φ -field waves through the earth. He in fact intended to do so, for he had also discovered that all charges in the highly stressed earth regions in which such a standing wave existed produced Φ -fields which would feed (kindle) energy into

the standing Φ -field wave by pair coupling. In other words, normal vector field energy would 'assemble' onto the scalar matrix wave by means of pair-coupling. Thus by transmitting a scalar standing wave into the earth, he could easily tap the fiery scalar fields produced in the molten core of the planet itself, turning them into ordinary electromagnetic energy. In such case, a single generator would enable anyone to put up a simple antenna and extract all the free energy desired.

When Tesla's alarmed financial backers discovered this was his real intent, they considered him a dangerous madman and found it necessary to ruthlessly stop him at all costs. And so his financial support was withdrawn, he was harassed in his more subtle patent efforts (and the patents themselves were adulterated), and his name gradually was removed from all the electrical textbooks. By 1914 Tesla, who had been the greatest inventor and scientist in the world, had become essentially a nonperson.

A few other people in the early 1900s also were aware that potential and voltage are different. And some of them even learned to utilize Tesla's Φ -field, even though they only vaguely understood they were utilizing a fundamentally different kind of electromagnetic wave. For example, James Harris Rogers patented an undersea and underground communications system which Tesla later confirmed utilized Tesla waves. The US secretly used the Rogers communications system in World War I to communicate with US submarines underwater, and to communicate through the earth to the American Expeditionary Force Headquarters in Europe. The Rogers system was declassified after the War — and very shortly after that, it had mysteriously been scrubbed off the face of the earth. Again, potential stress waves — Tesla waves — were eliminated and 'buried'.

Probably the most brilliant inventor and researcher into Tesla's electromagnetics was T. Henry Moray of Salt Lake City, Utah. Dr Moray actually succeeded in tapping the limitless zero-point energy of vacuum (space-time) itself. By 1939, Dr Moray's amplifier contained 29 stages and its output stage produced 50 kilowatts of power from vacuum. Interestingly, another 50 kilowatts could be tapped off any other stage in the device — which consequently could have produced almost 1.5 megawatts of electrical power! Dr Moray's epoch-making work was suppressed also. His device — which represented over 20 years of heartbreaking accumulation of 29 working tubes from thousands made — was destroyed by a Soviet agent in 1939, but not before the agent had obtained the drawings for building the tubes and the device itself. Today the Moray amplifier is a standard component of many of the Soviet secret superweapons and Tesla weapons.

In the 1920s and 1930s, Tesla announced the final perfection of his wireless transmission of energy without losses — even to interplanetary distances. In several articles (eg. H. Winfield Secor, 'Tesla Maps Our Electrical Future' *Science and Invention*, Vol. XVII, No. 12; pp. 1077, 1124-6), Tesla even revealed he used longitudinal stress waves in his wireless power transmission. 'Tesla upholds the startling theory formulated by him long ago, that the radio transmitters as now used do not emit Hertz waves, as commonly believed, but waves of sound,' the article stated. 'He says that a Hertz wave would only be possible in a solid ether, but he has demonstrated already in 1897 that the ether is a gas, which can only transmit waves of sound; that is, such as are propagated by alternate compressions and rarefactions of the medium in which transverse waves are absolutely impossible.' The wily Tesla did not reveal, of course, that such scalar waves nearly always immediately pair-coupled into vector waves when produced by normal means. Tesla himself was working with longitudinal scalar waves.

In the 1930s Tesla announced other bizarre and terrible weapons: a death ray, a weapon to destroy hundreds or even thousands of aircraft at hundreds of miles range, and his ultimate weapon to end all war — the Tesla shield, which nothing could penetrate. However, by this time no one any longer paid any real attention to the forgotten great genius. Tesla died in 1943 without ever revealing the secret of these great weapons and inventions.

Unfortunately, today the Soviet Union has long since discovered and weaponized the Tesla scalar wave effects. Here we only have time to detail the most powerful of these frightening Tesla weapons — which Brezhnev undoubtedly was referring to in 1975 when the Soviet side at the SALT talks suddenly suggested limiting the development of new weapons 'more frightening than the mind of man had imagined'. One of these weapons is the Tesla howitzer recently completed at the Saryshagan missile range and presently considered to be either a high energy laser or a particle beam weapon (see *Aviation Week & Space Technology*, 28 July 1980, p. 48 for an artist's conception).

The Saryshagan howitzer actually is a huge Tesla scalar interferometer with four modes of operation. One continuous mode is the Tesla shield, which places a thin, impenetrable hemispherical shell of energy over a large area, thus defending it. The three-dimensional shell is created by interfering two Fourier-expansion, three-dimensional scalar hemispherical patterns in space so they pair-couple into a dome-like shell of intense, ordinary electromagnetic energy. The air molecules and atoms in the shell are totally ionized and thus highly excited, giving off intense, glowing light. Anything physical which hits the shell receives

an enormous discharge of electrical energy and is instantly vaporized — it goes *pfft!* like an insect hitting one of the electrical bug killers now so much in vogue.

If several of these hemispherical shells are concentrically stacked, even the gamma radiation and EMP from a high altitude nuclear explosion above the stack cannot penetrate all the shells due to repetitive absorption and re-radiation, and scattering in the layered plasmas.

In the continuous shield mode, the Tesla interferometer is fed by a bank of Moray free energy generators, so that enormous energy is available in the shield.

In the pulse mode, a single intense three-dimensional scalar ϕ -field pulse form is fired, using two truncated Fourier transforms, each involving several frequencies, to provide the proper three-dimensional shape. This is why two scalar antennas separated by a baseline are required. After a time delay calculated for the particular target, a second and faster pulse form of the same shape is fired from the interferometer antennas. The second pulse overtakes the first, catching it over the target zone and pair-coupling with it to instantly form a violent EMP of ordinary vector (Hertzian) electromagnetic energy. There is thus no vector transmission loss between the howitzer and the burst. Further, the coupling time is extremely short, and the energy will appear sharply in an 'electromagnetic pulse (EMP)' strikingly similar to the two-pulsed EMP of a nuclear weapon.

This type weapon is what actually caused the mysterious flashes off the south-west coast of Africa, picked up in 1979 and 1980 by Vela satellites. The second flash was in the infra-red only, with no visible spectrum. Nuclear flashes do not do that, and neither do superlightning, meteorite strikes, meteors, etc. In addition, one of the scientists at the Arecibo Ionospheric Observatory observed a gravitational wave disturbance — signature of the truncated Fourier pattern and the time-squeezing effect of the Tesla potential wave — travelling toward the vicinity of the explosion.

The pulse mode may be fed from either Moray generators or — if the Moray generators have suffered their anomalous 'all fail' malfunction — ordinary explosive generators. Thus the Tesla howitzer can always function in the pulse mode, but it will be limited in power if the Moray generators fail.

In the continuous mode, two continuous scalar waves are emitted — one faster than the other — and they pair-couple into vector energy at the region where they approach an in-phase condition. In this mode, the energy in the distant 'ball' or geometric region would appear continuously and be sustained — and this is Tesla's secret of wireless

transmission of energy at a distance without any losses. It is also the secret of a 'continuous fireball' weapon capable of destroying hundreds of aircraft or missiles at a distance.

The volume of the Tesla fireball can be vastly expanded to yield a globe which will not vaporize physical vehicles but will deliver an EMP to them to dud their electronics. (See Gwynne Roberts's article 'Witness to a Super Weapon?' in the *Sunday Times*, 17 August 1980, for several other tests of this mode at Saryshagan, as it was seen from Afghanistan by British TV cameraman and former war correspondent Nick Downie.)

If the Moray generators fail anomalously, then a continuous mode limited in power and range could conceivably be sustained by powering the interferometer from more conventional power sources such as advanced magnetohydrodynamic generators.

With Moray generators as power sources and multiply-deployed re-entry vehicles with scalar antennas and transmitters, ICBM re-entry systems now can become long range 'blasters' of the target areas, from thousands of kilometres distance. Literally, *Star Wars* is possible through the Tesla technology. And in air attack, jammers and ECM aircraft now become 'Tesla blasters'. With the Tesla technology, emitters become primary fighting components of stunning power.

The potential peaceful implications of Tesla waves are also enormous. By utilizing the 'time squeeze' effect, one can get anti-gravity, materialization and dematerialization, transmutation, and mindboggling medical benefits. One can also obtain subluminal and superluminal communication, see through the earth and through the ocean, etc. The new view of \emptyset -field also provides a unified field theory, higher orders of reality, and a new super-relativity. Detailing these possibilities, however, must wait for another book.

With two cerebral brain halves, the human being also has a Tesla scalar interferometer between his ears. And since the brain and nervous system processes avalanche discharges, it can produce (and detect) scalar Tesla waves to at least a limited degree. Thus a human can sometimes produce anomalous spatio-temporal effects at a distance and through time. This provides an exact mechanism for psychokinesis, levitation, psychic healing, telepathy, precognition, retrocognition, remote viewing, etc. It also provides a reason why an individual can detect a 'sticky' feeling on the plate of a radionics or Hieronymus machine (which processes scalar waves), when ordinary detectors detect nothing. Unfortunately there is not room to develop the implications of this human Tesla interferometry in detail here.

At the July 1981 US Psychotronics Association's Annual Conference in Dayton, Ohio, I presented the first paper on the Tesla secret and scalar

interferometry. Wide distribution of the material through the international underground physics and technology network has already been made, so this time Tesla's secret may not be suppressed for another 80 years!

And perhaps it is not yet too late. This research has cost me over 20 years of agonizing labour and \$100,000 of my personal funds. No orthodox university, scientific group, foundation, or governmental agency would support such an effort, either financially or otherwise (although some limited support by the American Association of Meta-Science and the Association of Distinguished American Scientists is gratefully acknowledged). Indeed, most ordinary journals will not even accept material on such matters. None the less, the subject is of overwhelming importance — and I truly believe Tesla's lost secret will shortly affect the lives of every human being on Earth.

Perhaps with the free and open release of Tesla's secret, the scientific and governmental bureaucracies will be shocked awake from their slumber, and we can develop defences before Armageddon occurs. Perhaps there is hope after all — for even Brezhnev, in his strange July, 1975 proposal to the SALT talks, seemed to reveal a perception that a turning point in war and weaponry may have been reached and that human imagination is incapable of dealing with the ability to totally engineer reality itself. Having tested the weapons, the Soviets must be aware that the ill-provoked oscillation of time-flow affects the minds and thoughts — and the very lifestreams and even the collective species unconsciousness — of all lifeforms on earth. They must know that these weapons are two-edged swords, and that the backlash from their use can be far more terrible to the user than was the original effect to his victim.

If we can avoid the Apocalypse, the fantastic secret of Nikola Tesla can be employed constructively to help man, not destroy him. Tesla's discovery can eventually remove every conceivable external human limitation. If we humans ourselves can elevate our consciousness to properly utilize the Tesla electromagnetics, then Nikola Tesla — who gave us the electrical twentieth century in the first place — may yet give us a fantastic new future more shining and glorious than all the great scientists and sages have imagined.

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²⁵ 'Tesla, at 78, Bares New "Death Beam"', *New York Times*, 11 July 1934; p. 18, col. 1. (Invention powerful enough to destroy 10,000 airplanes at 250 miles away. Defence weapon only.)

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²⁹ 'No High-Speed Limit, Says Tesla', *Literary Digest*, 7 November 1931; p. 28. (Speeds greater than light, deemed impossible by the Einstein theory, have been accomplished. As early as 1900 Tesla showed that power from his transmitter passed over the earth at a speed of 292,830 miles per second. **Note:** As is well known, velocity represents the rotation of an object out of the normal 3-dimensional space toward a 4th dimensional direction. The speed of light, c , represents a full orthogonal turn. A normal electromagnetic wave, being transverse oscillatory, is *a priori* limited to a single orthogonal turn, for that is all it possesses. It thus moves at the speed c . A longitudinal scalar wave, on the other hand, need not be so limited at all.)

³⁰ O'Neill, J. J., 'Sun Emits Super Ray, Nikola Tesla Asserts', *Brooklyn Eagle*, 8 February 1932, p. 4, col. 1. (**Note:** Logically, the sun should also emit scalar waves as well as transverse vector waves.)

³¹ O'Neill, J. J., 'Tesla Cosmic Ray Motor May Transmit Power "Round Earth"', *Brooklyn Eagle*, 10 July 1932; A, 1:4, pp. 1, 17. (Efforts by Tesla to harness cosmic

rays started 25 years ago, and he now announces success in operating a motive device by means of these rays. Hopes to build a motor on a large scale. **Note:** possibly implies that all these Tesla devices for the last 25 years have been dealing with the same basic principle.)

³² 'Tesla, 76, Reports His Talents at Peak', *New York Times*, 10 July 1932, p. 19, col. 1. (New invention in tapping tremendous and unused source of energy. One invention to permit generation of all kinds of rays of almost unlimited intensity. **Note:** By scalar interferometry, electromagnetic waves of any frequency — and hence of any 'type' — can be assembled by coupling the appropriate scalars together. A Hertzian wave is just two coupled Tesla scalar waves.)

³³ Tesla, Nikola, 'Man's Greatest Achievement', *New York American*, 6 July 1930; p. 10; Editorial Section. 'To create and annihilate material substance, cause it to aggregate in forms according to his desire . . . would place him beside his Creator and fulfill his ultimate destiny.' **Note:** Here Tesla seems to be referring to controlled materialization and dematerialization of matter.)

³⁴ Tesla, Nikola, 'World System of Wireless Transmission of Energy', *Telegraph & Telephone Age* — New York, 16 October 1927; pp. 457-60. (Transmission of power without wires is not a theory, but a fact demonstrated by Tesla. Mode of propagation of currents from transmitter has mean speed 57% greater than Hertz waves. **Note:** a faster than light, non-Hertzian type of wave is involved. The Tesla wave is not a normal Hertzian wave.)

³⁵ Secor, H. Winfield, 'The Rogers Underground Wireless', *Electrical Experimenter*, March 1919; pp. 787-9, 832-5, 839. (Rogers system does away with aerial wires.)

³⁶ Gernsback, Hugo, 'Underground Wireless', *Electrical Experimenter*, March 1919; p. 762. (Development of James H. Rogers. Receives messages from Europe during thunderstorm. Tesla agrees that messages are not Hertzian waves.)

³⁷ Tesla, Nikola, 'The True Wireless', *Electrical Experimenter*, May 1919; pp. 28-30, 61-3, 87. (Tesla says Hertz wave theory is a delusion. Signals must be from earth currents. **Note** again that Tesla does not like Hertzian waves, but himself has something more fundamental.)

³⁸ Tesla, Nikola, 'The Effects of Statics on Electrical Transmission', *Electrical Experimenter*, January 1919; pp. 627, 658. (Tells of defects in Hertz waves. System devised by Tesla releases energy at infinite velocity. **Note:** electrostatic potential is already known to be able to travel at infinite velocity. See Jackson, *Classical Electrodynamics*, 2nd Edition, 1975; p. 223. This is strong evidence that Tesla used scalar potential waves of ϕ -fields.)

³⁹ Bottone, A., 'Nikola Tesla's New Wireless', *Electrical Engineer*, London, 24 December 1909; p. 893. (Experiments conducted on Long Island have resulted in principles of transmission which are direct opposite of Hertzian wave transmission. **Note:** In other words, using uncoupled scalar waves — Tesla waves — instead of pair-coupled scalar waves — Hertzian waves?)

- ⁴⁰ Tesla, Nikola, 'Electrical Control of the Weather Will Soon Be An Accomplished Fact', *St Louis Republic*, 15 November 1908; V, p. 3. (Tesla concurs in concept of electrical control of weather.)
- ⁴¹ Swezy, Kenneth M., 'Nikola Tesla', *Science*, 16 May 1958; pp. 1147-58. (Electricity today is generated, transmitted, and converted to mechanical power by means of his inventions.)
- ⁴² Ramsay, Jack, 'Cableless Power', *Electronics (Digest)*, 22 July 1960, pp. 6, 8. (Soviet attempt at development of wireless power transmission, but a failure according to Swedish observers, and the idea having been bandied about in the US since Tesla. **Note:** Establishes that the Soviets were at least trying to work with the Tesla techniques.)
- ⁴³ Anderson, Leland, I., 'Correspondence: Sub-Surface Communications Systems', *Proceedings of the I.R.E.*, March 1961; p. 645. (Reference to subsurface or 'earth current' communication systems. Pioneering work by Nikola Tesla and James H. Rogers.)
- ⁴⁴ Rebert, Edwina, 'Fireballs For Defence?', *Christian Science Monitor*, 7 February 1962; p. 9c. (Feature article on possibility of using ball lightning as defence weapon — may be inspired by early experiments of Tesla at Colorado Springs.)
- ⁴⁵ Matsch, Lee and Rice, Warren, 'Potential Flow Between Two Parallel Circular Disks with Partial Transmission', *Journal of Applied Mechanics*, Trans. ASME, March 1967; Vol. 34, Series E., No. 1, pp. 239-40. (Reference article — bladeless turbines.)
- ⁴⁶ Lagus, George W., 'The Use of Ground in High-Frequency Circuits', *Radio-TV Experimenter and Science and Electronics*, June-July 1969, pp. 71, 72. (Tesla gave several demonstrations of feasibility of electrifying large areas of land by ground propagation of high frequency currents.)
- ⁴⁷ Jamison, S. L., 'Life Energy', *Probe. The Unknown*, June 1973; pp. 3,4. (Letter to editor — report that vitamins and minerals could be impressed on the body using a Tesla coil.)
- ⁴⁸ Juefeman, F. B. J., 'The First Law of Thermodynamics', *Industrial Research*, February 1974; pp. 17-18. (Nikola Tesla, at Colorado Springs in 1899, found that the earth was a large electron sink, and electrical storms generated standing wave potentials.)
- ⁴⁹ Puharich, Andrija, 'The Work of Nikola Tesla Ca. 1900 and its Relationship to Physics, Bioenergy and Healing' (Paper read at the International Interdisciplinary Conference on Consciousness and Healing, 13 October 1976, University of Toronto.)
- ⁵⁰ Golka, Robert, K. and Bass, Robert W., 'Tesla's Ball Lightning Theory, a BKG-Wave, the Ransworth Effect, and the "Hydrotron" Electrostatic-Inertial Self-Confined Plasmoid Concept' (Paper presented at the Annual Controlled Fusion Theory Conference, San Diego, California, 4-6 May 1977.)
- ⁵¹ Popovic, Prof. Vojin, 'Research of Nikola Tesla in the Light of His Diary from

- Colorado Springs': 10 pp. (Diary contains details of investigations for determining nodal points in the earth as a conductor of waves. Comments on 'fire globes'.)
- ⁵² Curtis, George D., Ph.D., 'An Electromagnetic Radiation Pattern over the Ocean', *Undersea Technology*, Vol. 5, no. 8, August 1964. (Curtis reports the presence of a previously unknown weak electromagnetic radiation pattern over the ocean. When all known effects are accounted for, the anomalous pattern still remains.)
- ⁵³ Santilli, R. M., 'Partons and Gravitation: Some Puzzling Questions', *Annals of Physics*, Vol. 83, No. 1, March 1974; pp. 108-57. (In this paper Santilli proved that one of the cornerstone assumptions of physics — that electric field and gravitation are separate things — is false. One is therefore left with only two alternatives: either they are totally the same thing, or they are partially the same thing. **Note:** The Φ_4 Tesla potential provides the unifying connection.)
- ⁵⁴ *Science News*, Vol. 113, No. 1: 7 January 1978; p. 3. (A photograph by T. Kuribayashi of the earthquake lights involved in the Matsushiro earthquake swarm (1965-1967). This is the only known photo of earthquake lights.)
- ⁵⁵ Wiedemann, C. Louis, 'Results of the N. J. "Spook Light" Study', *Vestigia Newsletter*, Vestigia, RD 2, Brookwood Rd., Stanhope, NJ 07874, May 1977; pp. 1-3. (This article describes an ongoing Vestigia experiment in which a nocturnal light or 'mystery light' was scientifically photographed in conjunction with visual sightings and instrumental recordings of data. Various later issues of the *Vestigia Newsletter* contain other update articles on the phenomenon.)
- ⁵⁶ Moray T. Henry, *The Sea of Energy*, 5th edition, History and Biography by John E. Moray, Foreword by Tom Bearden; Cosray Research Institute, 2505 South 4th East, Salt Lake City, Utah 84115, 1978. (In addition to his free-energy device, Moray also built a special radio which he used to clearly listen to Admiral Byrd at the South Pole. No static was experienced on Moray's radio, showing he was not using ordinary electromagnetics. In addition, he built a device which he could tune to listen to persons several miles distant, so that their voices sounded as if they were immediately nearby. Both these devices were demonstrated to a visiting Russian Colonel/Ph.D.)
- ⁵⁷ I. Procaccia, J. Ross, *Science*, 198, 716, 18 November 1977. (Describes Prigogine's Nobel Prize-winning work on thermodynamics of nonlinear systems far from thermodynamic equilibrium. Prigogine's work shows that such a system can indeed demonstrate negentropy. Out of unrestrained disorder can and does arise order, contrary to the old thermodynamics.)
- ⁵⁸ 'Persinger's "Earthquake Lights" . . . Ho-Hum', *Frontiers of Science*, Vol. III, No. 3, March-April 1981; pp. 15-16. (Gives cogent and 'fatal' objections to Persinger's 'earthquake light' scheme for explaining UFOs. Mentions Dr Brian Brady's experiments obtaining fast, short electrical lights or sparks from crushing quartz-bearing granite cylinders. **Note:** Brady's experiments are certainly repeatable, so it is true that 'earthstress' lights can be produced at a distance, although the piezoelectric effect alone in no way explains the production of the phenomena outside the piezoelectric crystal. The fact that UFOs occurring

near a fault zone are not necessarily repeatable simply means that at least one other major factor must be involved in the production of UFOs than is involved in the production of earthstress lights. UFOs may sometimes involve scalar interferometry from a fault zone, but other causative factors must also be involved. Earthstress-lights, on the other hand, need have no additional causative factors than what lies in the earth itself.)

⁵⁹ Jackson, John David, *Classical Electrodynamics*, 2nd Edition, John Wiley & Sons, New York, 1975; p. 223.

⁶⁰ Roberts, Gwynne, 'Witness to a Super Weapon?', *The Sunday Times*, London, 17 August 1980. (Article deals with a strange semicircular phenomenon seen inside the Soviet Union from Afghanistan in September, 1979 by Nick Downie, a former member of the SAS who has established a considerable reputation as a war cameraman. Downie saw the phenomenon twice, and later met an Afghan who had seen it several months before. A possibly related phenomenon is reported in Brackenbridge, M., 'Unidentified Phenomenon', *Marine Observer*, 48, 1978; pp. 21-2. Note: The first 'nuclear flash' was detected by Vela satellite on 22 September 1979 — close in time to Downie's sightings.)

⁶¹ Bearden, Tom and Crawford, Hal, 'Possible Soviet Test of a Tesla Weapon', *Specula*, Journal of the A.A.M.S., Vol. 3, No. 2, April-June 1980; p. 29. (See also *Specula* 3, 2; pp. 30-32 by Bearden and Crawford. These reports are from CIA reports released under the Freedom of Information Act.)

⁶² Bearden, Thomas E., *The Excalibur Briefing*, Strawberry Hill Press, San Francisco, 1980.

⁶³ Muldrew, D. B., 'Generation of Long-Delay Echoes', *Journal of Geophysical Research*, 84, 1979; pp. 5199-5215. (For anomalous long delays of electromagnetic signals in the atmosphere, Muldrew favours a rather complex interaction between signals from separate transmitters that (theoretically at least) can create a long-lived electrostatic wave that travels in the ionosphere — a sort of natural memory device. The coded signals could then be read out much later when the proper natural conditions developed. Delays of up to 40 seconds might be possible with this 'ionospheric memory'.)

⁶⁴ Zhugzhda, Yu. D., Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation, 'Magnetogravitational Waves in a Conducting Isothermic Atmosphere', *Moscow Astronomicheskii Zhugzhda*, Vol. 56, No. 1, 1979; pp. 74-83. (Among other things, the paper indicates the possibility of transforming longitudinal waves into transverse waves in the region of a strong magnetic field.)

⁶⁵ Ranada, Antonio and Vazquez, Luis, 'Kinks and the Heisenberg Uncertainty Principle', *Physical Review D*, Vol. 19, No. 2, 15 January 1979; pp. 493-5. (Shows that the velocity and position of the centre of a kink, soliton, or solitary wave can be known with arbitrary precision, in violation of the Heisenberg uncertainty

principle Note: A Fourier-transformed scalar Tesla wave pattern is either a soliton or closely related to it.)

⁶⁶ Don Moser, Photographs by Blair Pittman, 'Big Thicket of Texas', *National Geographic*, Vol. 146, No. 4, October 1974; pp. 504-29. (The author photographed a 'ghost light' or nocturnal spooklight — i.e., an earthstress-light. The photo is shown in the article.)

⁶⁷ Gehring, Gillian, 'Actinide magnetism: an extraordinary tale', *Nature*, Vol. 279, 3 May 1979; pp. 16-18. (Anomalous magnetic properties — including spin orbit coupling as a large effect — are exhibited by actinide intermetallics containing uranium. Present theory cannot explain these effects.)

⁶⁸ Gintsburg, M. A., Institute of Terrestrial Magnetism, 'The Ionosphere, and Radio-Wave Propagation', Academy of Sciences of the USSR, *Astron. Zh.* 51, January-February 1974; pp. 218-21. English translation in *Sov. Astron.*, Vol. 18, No. 1, July-August 1974; pp. 128-130. (Among other things, the article points out that thus far a Fourier analysis in mass electrodynamics has not been made. One property characteristic of mass electrodynamics is the existence of longitudinal electromagnetic waves in vacuo, i.e. longitudinal photons. They have not yet been discovered but theoretically they are entirely possible.)

⁶⁹ Burman, R., 'A Photon rest mass and the propagation of longitudinal electric waves in interstellar and intergalactic space', *J. Phys. A: Math. Nucl. Gen.*, Vol. 6, March 1973; pp. 434-44. (This paper on longitudinal electric waves in plasma may be very important. Weber may be detecting longitudinal electric waves. Proca waves can go faster or slower than c.)

⁷⁰ Klass, Philip J., 'Anti-Satellite Laser Use Suspected', *Aviation Week & Space Technology*, 8 December 1975; pp. 12-13. (Some details on the 'laser blinding' of US satellites by the Soviets. On one occasion, the satellite was blinded for 4 hours. Note: Difficult to explain with current laser technology, but simple to explain with Tesla scalar interferometry.)

⁷¹ 'Soviets Build Directed-Energy Weapon', *Aviation Week & Space Technology*, 28 July 1980; pp. 57-60. (Presents a background summary in Soviet particle beam weapon work, particularly the device being constructed at Saryshagan.)

⁷² 'Scientists Fail to Solve Vela Mystery', *Science*, Vol. 207, 1 February 1980; pp. 504-506. (See also article in *Science*, 30 November 1979.)

⁷³ 'Satellite Evidence Shows "Possibility" of Nuclear Test, DOD Says', *Aerospace Daily*, 29 October 1979; p. 286.

⁷⁴ 'A Flash of Light', *Newsweek*, 5 November 1979; pp. 64-5.

⁷⁵ 'Was It a Nuclear Device?', *Newsweek*, 21 July 1980; p. 19.

⁷⁶ 'A Nuclear Blast — or "Zoo Animals"?', *Newsweek*, 7 April 1980; p. 21.

⁷⁷ 'Diverging Views', Washington Roundup, *Aviation Week & Space Technology*, 21 July 1980; p. 15.

⁷⁸ Klass, Philip, J., 'Clandestine Nuclear Test Doubtful', *Aviation Week & Space Technology*, 11 August 1980; pp. 67, 69, 71-2.

⁷⁹ 'Debate Continues on the Bomb That Wasn't', *Science*, Vol. 209, 1 August 1980; pp. 572-3.

⁸⁰ 'Navy Lab Concludes the Vela Saw a Bomb', *Science*, Vol. 209, 29 August 1980; pp. 996-7.

⁸¹ Bloch, Ingram and Crater, Horace, 'Lorentz-invariant potentials and the nonrelativistic limit', *Am. J. Phys.* 49(1), January 1981; pp. 67-75. (Among other things, this interesting paper points out some decidedly unusual and unfamiliar influences of the size of the scalar potential upon what is considered nonrelativistic behaviour. For scalar potential energy of appreciable size relative to a particle's rest energy, ordinary Newtonian mechanics and the Schrodinger equation may be inadequate, even if v/c is small.)

⁸² Semon, Mark D. and Schmiegl, Glenn M., 'Note on the analogy between inertial and electromagnetic forces', *Am. J. Phys.* 49(7), July 1981; pp. 689-90. (Compares physical forces in a rotating frame with electromagnetic forces in a Newtonian frame. The transverse mechanical force in a rotating frame is directly analogous to, and behaves exactly like, the force associated with an induced EMF in a Newtonian frame.)

⁸³ Harlacher, Von Wolfgang M., 'Bomben aus dem Hyperraum', *Esotera*, 4 April 1979; pp. 359-65.

Part Three

And What About The Future?

The Psychic Warriors

D. Scott Rogo

'Rock superstar Dan Merriweather has discovered his own astonishing psychic powers. His "out-of-body mind voyages" have revealed rival Russian and American installations for developing deadly psychic weaponry. Now Russia wants him. America has sent a psychic general to track him down. The war merchants covet him as the ultimate weapon of terror. But the weapon has found himself a strange and terrifying "hiding place" to wait and plan the future of the world.'

These dramatic words appear as part of the publicity blurb for *Star Fire*, a shocking novel by Ingo Swann, which chronicles the world's first psychic war. Although only his first novel, Swann is no newcomer to the literary supermarket. A superpsychic of no mean accomplishment himself, Swann has already written an autobiography and there are probably in excess of two dozen books on the current psychic/occult market either about or which discuss Swann and his remarkable talents. In this respect, then, *Star Fire* is certainly a unique novel. It is *about* a superpsychic *by* a superpsychic and, according to Swann himself, the book is just as much a warning as it is an enthralling yarn of suspense.

Swann is himself every bit as fascinating a subject as the story of his novel. He was born high in the mountains near Telluride, Colorado in 1933, but his family eventually moved to Utah where young Swann took degrees in art and biology at Westminster College in 1955. After a three year stint in the army, Swann packed off to New York in 1958 to pursue his dual career as a psychic and professional artist while earning a liveable income by working for the United Nations Secretariat. A Scientologist by philosophy, Swann credits Ron Hubbard and his teachings with helping him to unlock and develop his psychic potentials. It was, in fact, shortly after converting to Scientology that Swann first came to the attention of the parapsychological community and rapidly became one

of the best-known and widely tested psychics within contemporary decades. To date, he has been tested at the American Society for Psychical Research, the Stanford Research Institute, and at the City College of the City University of New York. An 'all purpose' psychic, under controlled conditions, Swann has been able to demonstrate his ability to alter the temperature of thermisters several feet away from him by merely willing it to happen, employ his mind-over-matter abilities to disrupt magnetic fields and delicate mechanical equipment, and 'send' his mind away from his body and correctly describe distant locations in great detail.

Ingo Swann is a rare breed of psychic in more ways than one. Not only is he gifted with both ESP and PK, but — owing to his scientific background — he can write and comment objectively about his abilities and his astute insight. It is, in fact, Swann's masterful introspection which makes *Star Fire* so enthralling. His novel is not 'merely' fiction since it is based on his own experiences as both a psychic and psychic investigator.

'Psychic espionage' is the basic theme behind *Star Fire*. Can a psychic, once properly trained, project his mind hundreds of miles away from his body to view and describe secret military installations, probe into the minds of enemy strategists, or even louse up their computers by PK? These are all distinct possibilities, according to Swann. For years, he points out, parapsychologists have been wondering just what practical applications ESP and PK might have to offer us, and the idea that psychics might eventually be employed for covert spy operations is not really all that absurd. In fact, the basic themes so vividly enacted in *Star Fire* are actually based on research in which Swann has himself been involved at the Stanford Research Institute over the last four or five years.

The SRI is not, as is so often mistakenly believed, associated with Stanford University, but is a private research and think-tank operation in Menlo Park, California. Although certainly not primarily a parapsychology laboratory, for the past five years two SRI physicists have been involved in a major ESP and PK research programme. It was in conjunction with these scientists, Russell Targ and Harold Puthoff, that Swann first proved that 'psychic spying' might well be within the powers of a gifted psychic.

It all began in December 1972, when Swann was first hired as a psychic-in-residence at SRI, where both his ESP and PK abilities were being examined. To say the least, Swann wasn't too enthusiastic about the type of psychic tasks he was asked to perform which included trying to levitate small masses of material and psychically bending laser beams.

'I don't know how I survived,' he told *Times* reporter John Wilhelm during his SRI stint. 'They just read too many science fiction books. They just take science fiction and superimpose it over science and say, "All

right, now, let's try to do all the things that science fiction authors write about". It's never going to happen that way, as far as I'm concerned . . .

It was during one of these confrontations with Targ and Puthoff that Swann proposed the idea of what he calls 'remote viewing'. He bet the physicists that, if given only the latitude and longitude co-ordinates of any location in the world, he could send his mind there and describe the area. The two scientists took him at his word, began a series of informal tests, and were amazed at the results. Swann's performances were incredible. Even if the experimenters chose the co-ordinates for tiny islands in the middle of oceans, Swann would correctly perceive the geography of the area and describe the terrain with uncanny accuracy. He rarely fouled up by describing the surrounding water instead.

As Targ and Puthoff subsequently reported during a presentation on their research which they made before the Parapsychology Foundation's 1974 international conference on 'Parapsychology and Quantum Physics', held on 27-28 August in Geneva, Switzerland:

'In our estimation, Swann's ability to describe correctly details of buildings, roads, bridges and the like indicated that he could perceive remote locations, sometimes in great detail, given only their geographic latitude and longitude. Thus we considered the descriptions were sufficiently accurate to warrant our setting up a research programme in remote viewing'

These 'new tests' procured data equally as convincing as the earlier pilot studies. For each series of tests, a group of different locales around Menlo Park were chosen as possible 'target' locations. A different location was chosen for each specific trial, and one of the experimenters (who was designated 'experimenter two') would drive there. Swann, or any other subject being tested, would remain at SRI with either Targ or Puthoff. After the second experimenter had reached the target site, Swann would be asked to 'focus' in on the experimenter, project his mind to him, and describe his physical location.

Swann was remarkable at this procedure and could describe — and diagram or sketch out — the remote locales in astonishing detail based solely on his psychic visions. Later, Targ and Puthoff discovered that many people, not only gifted psychics, could successfully do remote viewing and it is this research which serves as the psychic prototype from which *Star Fire* and the facts of its young hero are modelled.

And how does Swann view his book and its message?

In May 1978 I had the opportunity to discuss *Star Fire* with Swann, who was visiting Los Angeles as part of a promotional tour. It certainly wasn't the first time we had met, but I was a bit startled when he greeted me at the door of his hotel room. I had forgotten just how imposing

a figure he could be. His almost pixie-like face and his somewhat gentle mannerisms strike a note of incongruity when set against his six-foot frame. I had also forgotten that besides being a psychic and artist of note, Swann can also be a fascinating and downright cynical conversationalist. His brash outspokenness also seems discordant against his mellow and far-West accented voice.

The first question I wanted to ask was a rather obvious one. 'How much of your novel is based on your own psychic experience?'

'Almost all of it,' Swann replied, almost anticipating my question. 'The only really fictional thing, of course, is the plot and the people in it, and the magnitude of the psychic's powers. But there's nothing in the book that doesn't already have in science a working hypothesis behind it. It's a very well-researched book, even though it's shocking. But all the science in it is backed up by research and documentation.'

Of course, the plot of *Star Fire*, as I pointed out earlier, concerns psychic warfare. It's not truly a unique basic story-line, since many futurologists believe that the next war may well be a psychic one and have even written out speculative scenarios about the battle plans for such a confrontation. Could ESP-instigated mind control be successfully used as a weapon? Would psychic espionage replace the Mata Hari-like cloak-and-dagger routines of the past World Wars? These are questions that many science-fiction writers of the past as well as futurologists of the present have been asking. But no one has developed these themes to the degree Swann has in his novel.

'Do you personally think the next war will be fought on a psychic as well as military level?' I asked Swann, who was eager to discuss these very possibilities.

'I think we're in the advanced stages of that war right now,' Swann explained. 'The developments within the last year and our discovery that the Soviet Union is probably engaged in this type of research — as well as the fact that neutron and atomic bombs are no longer feasible on Earth — leads us to think that the human mind becomes the appropriate target rather than buildings, bodies, armies, and their destruction. The control of populations [through mind control] is probably very much in research now and, of course, this is a stage of psychic warfare. Now the use of gifted individuals and extremely powerful psychics is probable.'

As Swann described these possibilities, I couldn't help but wonder whether his warning would strike the proverbial man-in-the-street as mere science fiction. But Swann is not alone in thinking that we might all soon find ourselves in the midst of a psychic war. A viewpoint almost identical to his was recently outlined by Duane S. Elgin, a futurologist

on the staff at SRI and himself a highly successful remote viewing subject. Elgin has predicted that, because we all seem to possess psychic abilities, by the 1990s a psychic civil war might break out between the military-industrial controllers of our country and a guerilla-like group of psychic radicals. These radicals would use ESP to cause selected enemy commanders to suffer mental breakdowns as well as psychokinetically sabotage computers, satellites, and weapons systems. Elgin, like Swann, has even suggested that the military might already be engaging in secret parapsychological research.

Of course, Elgin's scenario has not gone unchallenged by any means, and at least one parapsychologist of note who has read Elgin's report described it to me as 'utter hogwash'. He pointed out that psychic phenomena are too capricious, uncontrollable, and the effects too weak to ever be useful for military purposes.

But in any event, Elgin's predictions are pertinent to the general credibility of *Star Fire's* plot and the possible role the gifted psychic will play in the next major war. And it is a bit ominous that two independent speculative thinkers on the psychic scene have evolved so nearly identical forecasts about our psychic future. As Swann himself explained to me:

Another war simply can't be done on the nuclear level. The world powers are too poised, the defences too automatic. A nuclear attack launched by one country would obliterate everything as the retaliatory measures took place. So the military will have to figure out new ways of warfare. And one of these ways is mind control, which leads directly to ESP. It's that clear.

Of course, Swann's position immediately makes one wonder whether or not the US military, as Elgin suggests, is already involved in parapsychological research and especially in remote viewing. Rumours to that effect have been rife over the last few years and it's no great secret that some of Targ and Puthoff's original funding came from NASA and at least one military agency. Even during World War II the US military contacted Dr J. B. Rhine, the founder of modern parapsychology who was still researching ESP and PK at Duke University at the time, and secretly granted him funds to see if dogs could be trained to psychically locate mines.

'Do you think our own military is interested in remote viewing?,' I asked Swann. His reply was uncertain:

'We'd have to say yes and no at this moment. There are certainly individuals here and there who are extremely interested in it. The majority of people, though, just can't believe it. The thing we've got to do is to get more people replicating remote viewing, which is being done, until it becomes real that there exists in the individual this

hitherto undiscovered and unidentified level of awareness. There will be military interest in remote viewing once it becomes real that it exists. It's unthinkable that they wouldn't want to know about it. I mean, how can you say that scientists and parapsychologists should research para-psychology and the military shouldn't? Parapsychologists research it because it's *real* to them. If it becomes real to the military, they'll research it.

Despite Swann's assurances, I was far from sure that the military would become that involved in psychic research. We know that ESP is a very hard-to-control faculty. We also know that psychics often have a difficult time trying to distinguish when they are receiving genuine ESP messages from when their impressions are random sets of utter nonsense. What's more, ESP messages are often vague, fragmented, and symbolized, and this limits their value, as far as I am concerned, as a cogent espionage tactic. For instance, a person 'remote viewing' a barn may indeed 'see' and describe a barn, but may perceive it in the wrong colour and in wrong perspective of nearby buildings. In many respects, ESP impressions are like dream images. They are fleeting, vague, and hard to accurately observe. And unlike Swann's superhero, Dan Merriweather, few psychics are 100 per cent — or even 80 per cent — accurate all the time.

Such a faculty, I explained to Swann, didn't strike me as that useful for the purposes of 'spying' unless a psychic could actually and *physically* project some portion of his mind and intelligence to a distant location, astral projection-like, and view it with crystal clarity and accuracy. However, Swann was forced to disagree with me about some of the difficulties inherent in trying to harness ESP.

'Remote viewing is not much different from day-dreaming,' Swann went on to explain. 'At the time you're supposed to contact the outbound experimenter you just agree with yourself that you're going to do it. You sort of think about him and you'll start to get a flood of images starting to come in.'

'But' I butted in, 'do you actually feel as though some element of your mind is travelling to the distant location?'

'At times,' Swann replied. 'Generally, there are two forms of experience the subject reports. Sometimes you just see images which you can liken to day-dreaming or something like that. But subjects often report a sense of moving to the place. They report going over streams of water or desert. They get to the places and often comment on things they would comment on when getting off an aeroplane — the humidity, the wind, or the cold, and so on. So we have evidence which suggests that there's probably more than one way to acquire data during remote viewing.'

Swann also challenged my contention that the imprecision of ESP

communication prohibits its use as a viable communications system for military purposes. As he explained:

'The problem of distortion has occupied us now for four years. We've located the origin of a lot of the distortion and I've labelled one of them "analytical overlay". ESP data comes into the person at the unconscious level. Say a subject is processing psychically received information about a square building. The element of "squareness" becomes apparent to him, and analytically, he begins to compare the squareness with other "squarenesses" he's experienced in the past. And since these memory traces are stronger than sometimes weak incoming ESP signals, he takes the image from his memory and renders it as the target.'

But, Swann explains, through practice a remote viewer can actually learn how to turn off his analytical reasoning inclinations.

'We've discovered,' Swann told me with a hint of pride in his voice, 'that a subject can train himself to distinguish between the two simply by trying to.'

Swann should know, since he's undoubtedly the most successful remote viewer around . . . so successful, in fact, that at least a few followers of the psychic scene have suggested that Swann has himself tried his hand at psychic espionage in true *Star Fire* fashion. John Wilhelm, a former *Times* writer who gives an in-depth report on the SRI remote viewing work in his book, *The Search for Superman*, even reported in 1976 that Swann had done some remote viewing experiments in collaboration with the CIA. This rumour was revived by Henry Gris and William Dick, two *National Enquirer* reporters, in their *The New Soviet Psychic Discoveries*.

These rumours are a constant annoyance to Swann, who seemed a bit irritated when I raised them during our talk. But just for the record, I asked him whether or not he actually had done any experiments with the CIA.

'I have not,' answered Swann almost indignantly. 'Everybody thinks that the CIA has been interested in parapsychology, but as a matter of fact it isn't true. It scares the CIA to death. They don't want to get involved with ESP because it's too controversial.'

Despite Swann's claims, though, it is true that independent CIA agents have, on isolated occasions, visited some of this country's leading parapsychology laboratories. So I still wondered if perhaps Swann had at least been *approached* to do a bit of psychic espionage by some federal agency.

'No' came the invariable reply to my question. 'They aren't smart enough to ask.' Swann made his remark through a sardonic chuckle, which soon infected both me and one of his friends sitting in on the interview.

Since by this time it was getting late and Swann had a plane to catch, I asked my final, and more than obvious, question.

'Would you say your book is a work of fiction, or more of a warning or prognostication?'

Swann had obviously given a lot of thought to this question, and his reply was carefully reasoned:

'It's certainly a work of fiction. But it's a book based on personal experience and has a high probability factor. I'm not saying a psychic war will occur like it's done in the book. It probably won't. For instance, Dan Merriweather, who's a superpsychic, has huge powers as an individual. This is unlikely to happen. There's evidence that the "superpsychic" of the future would be a *group* of psychics working together. We have evidence to support the hypothesis that, when psychics work together, their sum result is more than the components. An individual with a lot of training, if we ever found out how to train ESP, could probably do great things. But the *real* superpsychic, I would expect to find, would be a group of people working together.'

All this talk about superpsychics, psychic spying, remote viewing, psychic warfare, and ESP mind control is certainly befuddling. Certainly the speculations Swann raises, both in conversation and in his book, are within the range of frightening possibility . . . but they none the less walk that thin and opaque border between science and science fiction. As a rationalist of sorts, it is hard for me to believe that ESP and PK, which most assuredly do exist, could ever be harnessed so efficiently that the military would want to rely upon them in some future war. As a parapsychologist, I have certainly never seen any empirical evidence that psychic abilities can be used for practical gain except on rare occasions and under only certain very favourable conditions. But as a speculator, I can in no way dismiss the possibility that someday a superpsychic might evolve with powers surpassing anything we have ever seen before or that some researcher of the future will find a way to effectively harness ESP and PK.

All we can do is wait and see. So, like the books of Jules Verne and H. G. Wells, *Star Fire* might turn out to be a curious and inseparable mixture of science, science fiction and prophecy.

13 Scenario One

Stanley Krippner and Arthur Hastings

After a century of laboratory and field studies of psi, some major findings have emerged:

1. ESP and PK do exist and can be produced under laboratory conditions, though not at all times;
2. Believers in ESP generally have higher scores than non-believers on standard tests of psi;
3. Motivation and emotional interest are important for ESP ability — high motivation usually produces higher scores;
4. Personality traits affect ESP — extroverted people tend to be better at ESP than introverts.
5. People do better at ESP in relaxed states, when their minds are quiet and their attention turned inward.

However, there still exist controversies about parapsychology, and issues that need to be addressed. For many scientists, the issue of cross-validation is more important than any other issue in parapsychology. Since Richet first applied statistics to psychical research in the 1880s, no experimental procedure has emerged that would invariably produce the same results no matter who followed it. Furthermore, no mechanism underlying psi operation has been discovered. Finally, no practical use of psi has been developed by laboratory research. If any one of these three possibilities should develop — a repeatable experiment, a mechanism of operation, a practical use — parapsychology could leave the fringes of science and sweep into the mainstream of scientific inquiry.

These three possibilities are visions in need of actualization. During a century of scientific inquiry, parapsychology has been handicapped by a lack of adequate financing, resulting in the inability of the field to engage in long-term planning of experimental approaches. In addition,

the field cannot offer job security for most of its research workers. The direction that parapsychology will follow over the next several decades depends largely upon the funding issue.

In the pages that follow, a dramatization is offered which may be confirmed by the events of the future. Possibly an altogether different picture will emerge. The scenario, dramatizing the abuses of psychic ability, is presented in the form of a report submitted to an international organization. It is fiction, though yesterday's fiction very often becomes tomorrow's fact.

Secret Report to the League of Uncommitted Nations, Prepared by the Director, Office of Strategic Technology:

Almost twenty years ago, the League of Uncommitted Nations was formed by those countries that hoped to preserve their autonomy in the face of the strength exhibited by the superpowers. That we have reached the year 2000 with so few defections from the league's ranks is a tribute to our organization's success. It is also a tribute to the Office of Strategic Technology, which I have been privileged to direct for the past decade. This office was founded in the first few years of the league's existence; its mission was to devise new technological systems for the purpose of protecting our independence.

From the beginning, it was obvious that the league could not match the arsenals of the superpowers in conventional weaponry. We league leaders also knew that we could not depend upon them to sell us arms that could be used, in an emergency, against their attempts at hegemony. Most of all, we were aware of our limited budgets. However, our first director had the remarkable insight that in the folk traditions of undeveloped countries rested untapped reserves of strategic value. The early warning systems, the protection fields surrounding our key leaders, the trance-inducing rituals, and the deadly poisons we have developed in the last several years bear witness to her insight. Although officially retired, she continues to search the deserts, jungles, tundras and rain forests for devices and practices that will assist our cause. In fact, she has identified many of the witch-doctors, shamans, and wizards who have since become our most dependable psychic operators.

It is also a testament to the insight of our league's founders that six per cent of our military budgets are earmarked for research and development. Although this is a small amount by the standards of developed nations, it exceeds the total amount of money spent in the last century by all the scientists conducting parapsychological research in the universities and institutes of the superpowers. The purpose of this report is to summarize our progress.

The psi-based operational processes and procedures now available for use can be classified into three categories: ESP weaponry, PK weaponry, and spirit weaponry. Extra-sensory perception is the acquisition of knowledge without recourse to the conventional senses; clairvoyance, telepathy, and precognition are examples of ESP. Our 'Consensus Clairvoyance' project has been rewarding. We station four or more clairvoyants in different parts of the world and ask them to concentrate upon a site selected by our intelligence agents as a high probability location for a missile base, a mass troop deployment, or an air attack locale. If our clairvoyants reach consensus, we consider the site's function identified and send the results to all member nations of the league. If the clairvoyants do not reach consensus, we send another team of four to the locations. If they do not agree, we simply tell member nations about our efforts and give them a majority impression. Having used this procedure for many years, we have had the opportunity to see our clairvoyants' statements confirmed or refuted whenever a secret base is revealed. In this way, we have been able to identify our most accurate clairvoyants and bring considerable sophistication to a procedure that is far less costly than the spy satellites used by the superpowers.

Our 'Team Telepathy' project operates in a similar fashion. Each of our specially trained telepathic teams is assigned a superpower leader. There are usually four telepaths on each team operating from different parts of the world. They concentrate upon the world leaders and record their impressions, especially in the weeks before a leader is due to make an important decision that might affect league members. Those items on which there is consensus are related to member nations. Once again, feedback is provided by the positions those leaders finally take on an issue; our telepathic teams' consensus is then confirmed or disproved. Over the years, some teams have proven to be virtually infallible in their judgment. Unfortunately, telepathy is subject to personality changes, emotional cycles, and the ageing process. We are, therefore, constantly attempting to identify new telepaths.

The 'Precognition Poll' is another of our ESP projects. Trained prognosticators enter altered states of consciousness by taking drugs, receiving electrical stimulation, or simply through meditation and dreams. Hypnosis has prepared them to direct their fantasies toward future world events. We have nearly one hundred prognosticators involved in this project; they send us hunches every week that are recorded in computer banks. A control group of political analysts also sends in hunches based on their experience and judgement. As one might expect, there is a great deal of overlap, and the events agreed upon by both groups have proven to be the most likely to occur. Through this project, we were prepared

for such developments as the oil depletion crisis, the moon base, and the outbreak of plague, which took several of the superpowers by surprise.

Psychokinesis is the movement of objects or the influence of matter without recourse to the conventional abilities of one's motor system. 'Project Trojan Horse' is the most successful of our PK enterprises. A talent search was launched for the most effective voodoo priests, hex casters, sorcerers, witches and warlocks in the league. If they were able to demonstrate PK one or more times under controlled conditions — either in their villages or our laboratories — we offered them a position with our office.

Our craftspeople worked with these practitioners to design a mask, statuette, or other art object that was an appropriate gift to a head of state, a foreign affairs officer, or a prominent diplomat. Our analysts then identified the world leaders whose policies were most detrimental to world peace. These individuals were given a gift from one of our countries, usually in a dignified ceremony. Each gift was imbued with an average of five hundred hex hours supplied by a number of practitioners. The success of 'Operation Trojan Horse' has been striking; recipients of these gifts often became confused and muddled to such an extent that they were demoted or removed from office.

One example of spirit weaponry — our third category — involved the foreign minister of a superpower who proposed to establish televiewing monitoring centres in all Third World countries, ostensibly to promote massive cultural exchange programmes. But our intelligence agents warned us that the monitors to be used contained all the equipment needed to create a massive global spy network. The person in question worked privately, neither attending social functions nor leaving his country. Therefore, we could not give him one of our Trojan Horses. Instead, we directed our most talented mediums to direct malevolent spirits in his direction. They did this by posting his photograph in their seance quarters; each time they exorcised an evil spirit from a patient, they would direct the spirit toward its next host, the man in the picture. Many of them used doll-like representations of the diplomat into which they would stick pins, creating openings that the spirits could enter more easily. The TV monitor notion faded into obscurity once this foreign minister suffered a breakdown.

There have been some positive by-products of our research. We now have a registry of unorthodox healers available to our citizens and — at slightly extra costs — to foreign tourists. In addition, we are test marketing stone pendants that have been held for a minimum of one hundred hours by six different healers. In their spare time, our clairvoyants have been responsible for locating lost children, solving crimes and

identifying geological sites containing natural resources, archaeological treasures, or precious stones and metals. We look forward to the day when the world's superpowers allow the smaller nations to live in peace and the function of this office can turn from politics to the betterment of life for everyone on the planet.

Afterword When Pandora's Box Was Opened

According to Greek mythology, Pandora was created by the gods, who bestowed their choicest gifts upon her and fashioned her to counteract the blessing of fire stolen by Prometheus from heaven. When Pandora opened her jar — the legendary 'Pandora's box' — all manner of evils flew out over the earth. Hope alone remained inside, the lid having been shut before she could escape.

Psychotronic weaponry appears to be one of the worst evils ever released upon humanity. If the reality of it is only a small part of the terrible potential envisioned by some of the preceding authors, it will still be bad enough to rank as a major threat to human welfare.

Yet, as a poet wrote, hope springs eternal in the human breast. PT technology is, after all, only technology. As such, it has potential for good. Its beneficial application is prevented only by the minds, the ethics (or lack of them), the consciousness of those who control it. As I noted about true magic in the Introduction, the mind-machine interface called psychotronics can be used to bless or to curse, to help or to hurt.

And there is reason to hope. For psychotronics can be seen as a case of the glass being half-full rather than half-empty. Time after time history has shown an awakening of human conscience to the misapplication of technology and its inherent threat to planetary well-being. Dire predictions and Cassandra-like prophecies serve their purpose, which is to awaken people to impending disaster so that action is taken to divert the course of society in time to avoid the disaster, or at least moderate its severity.

The same may occur in contemporary world affairs. Although the level of danger and destruction is likely to increase in the immediate future, there are clear signs of countervailing influences at work on a host of global problems, from food production and population growth to depletion of natural resources, pollution of the environment and

proliferation of nuclear arms. The voices of reason, intuition and prophecy are being heard.

Perhaps psychotronic technology will ultimately be used for peaceful, creative purposes rather than the warring, destructive ones. That is the hope of some who are deeply involved in psychotronic research. They see beyond the ego and its self-aggrandizing extensions into culture. They recognize genuine human needs and are pondering the benevolent possibilities inherent in the new technology to relieve human suffering, enlarge human comfort, provide basic necessities in a democratic fashion, and elevate — even inspire — human awareness to new heights of vision and caring.

In that vein, let's consider briefly some hopeful possibilities for psychotronics.

Medicine may be the first area in which psychotronic technology is applied on a large scale. Reports from experimenters and holistic health practitioners state that radionic devices can cure disease or alleviate organic disorders, regardless of distance between the patient and the device. The Priore machine, invented in France, is the centre of controversy there because advocates claim to have cured 'incurable' cancers, and the national government has some degree of evidence supporting the device's efficacy.

Apply the same technology to *agriculture* and the result is pest control and enhanced soil condition. Exactly that has been claimed by some agricultural experimenters, who report improved yields of higher quality because of radionic crop treatment. The importance of such a possibility for alleviating world hunger is obvious.

And since hunger is worst in underdeveloped Third World nations, the first need there is a plentiful supply of inexpensive electricity for technology. Psychotronics offers a benign source of *power production*. The controversial electric motor of Joseph Newman, highly publicized in the press when he challenged the US Patent Office, is an example of what is to come. There are probably more inventors in this field working on 'free energy' devices than any other application — and being strongly opposed by the status quo, whose commercial interests would be at stake. Imagine, for example an inexpensive home unit that allows people to energize circuitry with electricity derived from 'zero-point' energy. The electricity industry's investment in huge fossil and nuclear generating plants, transmission and distribution lines, and supporting facilities would all become unnecessary.

Free energy devices might also reduce *international tensions*. As 'have' and 'have not' nations find wealth more equitably distributed and as the comfort level of underprivileged societies improves, the explosive conditions that breed political discontent and instability would be

defused. The threat of military actions to secure, for example, Middle East oil for the West would be eased.

At the same time, eliminating nuclear power plants would end the accumulation of *radioactive waste* that might pollute underground water sources. A more immediate threat from nuclear power is the possibility of meltdowns or accidents of lesser degree resulting from operator error or failure of safety systems. This would be eliminated by free energy devices.

Air and space travel would likewise be revolutionized by psychotronics. The UFO phenomenon, insofar as it represents an advanced propulsion technology, is probably psychotronic in nature. The qualities of UFO propulsion include the ability to cross millions of miles of space at superluminal velocity, travel through Earth's atmosphere at speeds in excess of 10,000 miles per hour (some UFOs have been clocked on radar), perform right-angle and complete-reverse turns as if pivoting on a point, ascend directly for thousands of feet with near-instant acceleration to maximum atmospheric speed, and so forth — all apparently without a conventional fuel source. Electrogravitation seems to be the medium used by UFOs, which have been observed to dematerialize and rematerialize. This being so, imagine what the effect of such technology would be upon commercial airlines and airports.

Think also what the effect of the foregoing would be on the global problem of *atmospheric pollution*. If coal- and oil-fired electric generating stations became obsolete, if the petroleum industry were replaced as the fuel supplier for air and ground transportation, one consequence would be massive reduction of polluting emissions. A clean-up of atmospheric pollution — no more acid rain, for example — would occur naturally through the elimination of major pollution sources.

In addition to purifying the atmosphere, psychotronic technology offers means for *weather control and engineering*. Since the pioneering days of Dr Wilhelm Reich's 'cloudbusting' efforts in the 1950s, his technology has been extended and refined, primarily by Trevor James Constable, to the point where regional meteorological conditions can be engineered. Rain and other forms of precipitation, clouds, wind and lightning have been created and abated through unusual PT devices. In one instance a large-scale heat wave was broken through PT weather engineering. The ramifications of such operations for agriculture, aviation, recreation and public safety are enormous.

Remote viewing for *location of natural resources* is still another possibility envisioned by psychotronics inventors and technicians. A forked stick, angle rod or pendulum in the hands of an expert dowser is a simple but effective form of psychotronics usually applied only on site, although

some dowsers claim to locate water or missing objects through dowsing a map first. More sophisticated devices which amplify the power or sensitivity of the operator could be used with correspondingly amplified results.

These are some of the applications of psychotronic technology that hold the promise of promoting a peaceful world providing abundantly for its human inhabitants, who in turn would be treating it with respect and understanding of its deeper dimensions — dimensions where humanity transcends its traditional divisions and false identities in the growing awareness of unity-in-diversity and the sacredness of all life. In the words of the 1981 *Survey of Science and Technology Issues Present and Future*, noted in the Introduction, 'Attempts in history to obtain insights into the ability of the human mind to function in as-yet misunderstood ways goes back thousands of years. Only recently, serious and scientifically-based attempts have been made to understand and measure the functional nature of mind-mind and mind-matter interconnectiveness. Experiments on mind-mind interconnectiveness have yielded some encouraging results. Experiments in mind-matter interconnectiveness (psychokinesis) have yielded less compelling and more enigmatic results. The implications of these experiments is that the human mind may be able to obtain information independent of geography and time A general recognition of interconnectiveness of minds could have far-reaching social and political implications for this Nation and the world.'

Appendix I

What Is Psychic Energy?

A century and a half of investigation into psychic and paranormal phenomena has established a wide range of events that clearly are *real* events. But what is the energy involved in these events? How can it be controlled and directed? What can we say with certainty and precision about the physics of these events?

The word 'energy' comes from the Greek *energeia*, meaning 'active'. It is generally understood as the capacity to do work or to be active. But in its original sense it meant *vital* activity, that which can move or quicken matter. Thus, in earlier times, there was a distinct and publicly-acknowledged sense of a fundamental life force. This life force was self-evident to the ancients, even though its nature was not readily understood. It was apprehended, if not comprehended — recognized but not well explained.

In marked contrast, modern science tends to be mechanistic and materialistic in its philosophy — that is, in its attempt to give *meaning* to its data. This is properly called physicalism. The term denotes a widespread assumption in science, which has been present from its beginning, that the secret of life is inherent in the properties of matter. If only we can get a fine enough analysis (this line of thinking goes), if only we can combine chemicals in the right way with the right amount of electricity or electromagnetism, we can create life.

From this point of view, all phenomena, including psychic and paranormal phenomena, will ultimately be explainable in terms of physico-chemical mechanisms and the four recognized forms of energy (electromagnetism, gravity, and the weak and strong nuclear forces).

Mind and Neuroscience

Mind is the hallmark of life, and it should therefore, from the physicalist's position, be inherent in the properties of matter. This does not seem to be the case, however. At least, that was the position of the eminent

neurosurgeon Wilder Penfield, who summarized his four decades of research into the nature of the brain-mind relation in his 1975 book, *The Mystery of the Mind*, published shortly before he died. Dr Penfield made this striking statement about the nature of the human psyche. He concluded that the mind will always be 'quite impossible to explain on the basis of neuronal action within the brain . . .'. He stated, ' . . . the mind is peculiar. It has energy. The form of that energy is different from that of neuronal potentials that travel the axone pathways. I am forced to choose the proposition that our being is to be explained on the basis of two fundamental elements' — that is, mind and matter.¹

Dr Penfield's view is supported by another eminent brain scientist, Dr Roger W. Sperry, who said in a *Science of Mind* interview: ' . . . current mind-brain theory . . . is more mentalistic and now allows in principle a scientific treatment of subjective mental phenomena . . . Today's modified concept of brain function . . . necessitates a causal working influence of mental events in brain activity. That is, the conscious effects must work *into* brain activity as well as being derived *from* it.'²

The Fifth Force

This position is not very far from the ancient concept of a fundamental life force — a fifth force in nature which must be recognized as a real phenomenon, even if its characteristics and operation appear to be only vaguely understood at present.

In recent years some scientists, in seeking to comprehend psychic and paranormal phenomena, have come to feel that science must recognize a new principle in nature — the same principle of vitality or living that ancient traditions considered primary. And thus there has been a reawakening of interest in those ancient traditions which claim to have knowledge of the creative life forces.

One researcher, Laurence Beynam, an electrical engineer, summarized his investigations on the subject by saying this: there is an energy in living organisms that is weak and unpredictable, but it can be refracted, polarized, focused and combined with other energies. It sometimes has effects similar to magnetism, electricity, heat and luminous radiation, but it is none of these. Attempts to control and employ the energy have met with little success; investigators have not yet defined the laws governing its operation.

One of the pioneer investigators of paranormal phenomena was Ivan Sanderson, a naturalist well-known from his television appearances, who founded the Society to Investigate The Unexplained.³ Shortly before he died in 1972 he wrote an editorial for the Society's journal *Pursuit*, saying this about the nature of the 'new' force:

'This fifth force is certainly involved in various aspects of [super-sensory abilities] and it would now seem to be the major force operative in the true psychic field and possibly the only one acting therein. Its manifestations are in no way affected by any of the other known forces; and, while doubtless universal in nature, it can be observed, measured and investigated only in the biological field. The presence of a living thing is necessary to bring it to light. Although we have not yet defined it or its parameters, it has now been demonstrated that it, and it alone, can explain a whole raft of what were previously thought to be mysteries or pure imagination, such as mental telepathy [psychokinesis] . . . and possibly the whole group of things clustering around clairvoyance. It would explain all that has puzzled the psychologist about things like the so-called subconscious, hypnotism, and the like'⁴

Sanderson pointed out that psychics such as Peter Hurkos, who once demonstrated telepathy while inside a Faraday cage, show that these abilities do not function along electromagnetic lines. Uri Geller's performance of the same feat, reported by Stanford Research Institute scientists Dr Harold Puthoff and Russell Targ in *Nature* (October 1974), reconfirms this phenomenon. Experiments in the Soviet Union by Leonid L. Vasiliev in the 1930s also showed this. Likewise, the plant perception work of Cleve Backster and Marcel Vogel, although unreplicated and therefore disputed, would, if definitely proven, indicate that nothing known can shield or contain this hypothesized fifth force.

'It is not time,' Sanderson asked in his editorial, 'that we stopped ignoring all these things, or blithely relegating them to that vague field of the psychic, and got the technicians to work, trying to define the nature of this force and, by both theory and experimentation, give us a set of laws for it such as govern the other four forces?' He pointed out that there is ample published material to begin with, so that a 'basic pattern' might be assembled almost immediately. 'There is then,' he concluded, 'the matter of seeking its parameters and fitting new observations into this pattern, rejecting them, or altering the pattern.'

X-Energy — Ancient and Modern

This X-energy seems to have been recognized many times in history by various prescientific traditions. As Appendix 1 of my book *Future Science* shows, accounts of a mysterious energy run through ancient occult and spiritual documents. More than 100 different names from various sources are listed. For example, the French magus Eliphas Levi, in his book *Transcendental Magic*, described the properties of the magician's 'astral light' this way: 'There exists an agent which is natural and divine, material and spiritual, a universal plastic mediator, a common receptacle

of the vibrations of motion and the images of form, a fluid and a force, which may be called in some way the Imagination of Nature . . . The existence of this force is the great Arcanum of practical Magic.'

In the orient, the Chinese conception of *Chi* (Ki in Japanese) was thought to be the intrinsic vital force throughout all creation. It is this life energy which acupuncture manipulates to maintain health and which can be concentrated through disciplines such as *tai chi* and *aikido* to perform paranormal feats. According to Confucianism and Taoism, without *Chi*, nothing can exist, and from it spring the *yin* and *yang* forces that in turn give rise to all living things.

Paralleling this in the yogic tradition of India and Tibet is the notion of *prana*. The same concept can be found in practically every culture. The Polynesians and Hawaiian *kahunas* call it *mana*. To the Sufis it is *baraka*. It is *yesod* in the Jewish Cabalistic tradition. The Iroquois call it *orenda*; the Iuri pygmies, *mgebe*. In the Christian tradition, it is called the *Holy Spirit* — that all-pervading medium through which God accomplishes miracles or paranormal phenomena. These traditions and many others claim to recognize and, in some cases, control a vital cosmic energy underlying paranormal phenomena. It seems likely to some investigators of the paranormal and psychic that important clues for understanding the physics of paranormal phenomena can be found through scholarly examination of the documents and oral traditions of these ancient esoteric and occult paths.

Within modern times there have also been people who claim to have identified *through science* a fifth and fundamental force in nature. Dr Wilhelm Reich is perhaps the most notable figure. His discovery of what he called *orgone energy* is considered by his followers to be at the heart of science. In the Reichian view, orgone is the all-pervasive ocean of life energy — primordial, massless, pre-atomic — from which all other forms of energy are derived. Some investigators see parallels between it and both Franz Anton Mesmer's *animal magnetism* and Baron Karl von Reichenbach's *odic force*.

There is a parallel, too, between orgone and the Soviet concept of *bioplasma*. This is not entirely coincidental. According to Sheila Ostrander and Lynn Schroeder, authors of *Psychic Discoveries Behind the Iron Curtain*, all of Reich's works were purchased by Soviet scientists and governmental agents before an American federal court ordered Reich's writings on orgone energy to be destroyed. 'The Russians know all about Reich's work,' Ostrander and Schroeder have told lecture audiences.

There seem to be many traditions, both ancient and contemporary, that profess to have identified the energy behind paranormal phenomena. This area needs serious study and reconsideration. *Prana*, for example,

is said by yogic tradition to have a number of gradations. Likewise, Rudolf Steiner's presentation of the etheric formative forces lists four — the life ether, the chemical ether, the light ether and the warmth ether. The chemical ether seems to equate with *orgone*. In general, however, the various names for the X-energy point toward the idea of a new principle in nature for science to recognize in the form of a spiritual, but none the less real, creative life force.

Laurence Beynam has usefully stated the characteristics of the X-energy as follows:

1. It is observed in the operation of heat, light, electricity, magnetism, and chemical reactions, yet is different from all of them.
2. It fills all space, penetrating and permeating everything, yet denser materials conduct it better and faster, and metal refracts it while organic material absorbs it.
3. It is basically synergetic, moving toward greater wholeness. It has a basic negentropic, formative and organizing effect, even as heat increases, and therefore is the opposite of entropy (that is, the universal tendency toward disorganization and disintegration) set forth by the Second Law of Thermodynamics, which it thereby violates.
4. Changes in the energy precede physical (observable) changes, and it is supposed to create matter, energy and life. This is also observed in certain Geller-type phenomena where metals continue bending long after the initiating agency/psychic has touched them.
5. It has its opposite number. Seen clairvoyantly by psychics as red and yellow, this is opposed to the life-giving energy outlined above. This occurs when the life-giving energy is leaving, instead of entering (emerging into) a region. (For example, in Kirlian colour photography of a psychic healer's finger, the finger is blue to begin and then turns reddish-yellow when the healer transfers energy to a patient.) While the blue, synergic energy gives a cool, pleasant feeling to the sensitives, the yellow-red entropic energy creates a feeling of heat and unpleasantness.
6. In any structure that is highly organized (eg. crystals, plants, humans), there is a series of geometric points at which the energy is highly concentrated (eg. chakras in the yogic tradition, acupuncture points).
7. The energies will flow from one object to another. According to the Huna tradition, it is 'sticky' so that an invisible stream of energy will always connect any two objects that have in any way been connected in the past (the basis of sympathetic magic). The energy is subject to exponential decay, radiating outward in the course of

time from an inert material, but always there is a residue (since decay goes on to infinity). The density of energy varies in inverse proportion to the distance, which sets it apart from electromagnetic and gravitational laws, but for which a theory of potentials may be applicable.

8. The energy is observable in several ways: as isolated pulsating points, as spirals, as a cloud surrounding the body (aura), as a flame, as a tenuous web of lines (Don Juan's 'lines of the world' and the occultist's 'etheric web').

Other Possibilities

Despite the foregoing, we should not ignore the possibility that some paranormal phenomena result from little-known or imperfectly understood effects of recognized forces. Research engineer James Beal, speaking at the American Anthropological Association's 1974 symposium on parapsychology and anthropology, surveyed the data dealing with electrostatic fields and brain/body/environment interrelationships. After describing bioelectric field effects in the context of extraordinary events such as paranormal healing, Beal noted that the effects should not be construed as the cause behind unexplained psychic events. Rather, he said, they may serve as 'weak indicators, precursors, or stimulators in regard to effects filtering down from a higher system.'

The late Dr Harold Saxton Burr of Yale University was the discoverer of such an indicator system. His electrodynamic theory of life, first announced in the 1930s but still largely unknown to orthodox science, offers a solid link between electromagnetics and the mind — a bridge between the physical and the pre-physical foundations of life.

Burr's work, much of it done in collaboration with his student-colleague Dr Leonard Ravitz, shows that there is a guiding field that performs a directive, organizing function on the physical structure of an organism. This guiding influence is generally termed the L-field, short for life field. Burr and Ravitz demonstrated that the state of health of an organism could be determined far in advance of the least observable physical sign by using a microvoltmeter to inspect its L-field. Ravitz later learned that the L-field as a whole disappears *before* physical death. Sensitivity to the L-field might explain in part how psychic healers function in diagnosis and cure.

It is clear, however, that L-fields are themselves affected by higher-level forces. Ravitz made the further discovery that the state of the *mind* (in the form of unspoken thoughts and images) affects the voltage gradients of the L-field. Edward W. Russell, in his book *Design for Destiny*, refers to this power of thought as a T-field, meaning thought field. He notes

that although L-fields are ordinary electromagnetic phenomena, not a new force in nature, they are nevertheless of immense importance for showing how mind or T-fields can measurably affect L-fields and thus the physical body. L-fields give science a clear opening into that mysterious area where physics and psychology come together: the mind.

Another possibility that some paranormal phenomena are caused by imperfectly understood recognized forces is the extremely low frequency (ELF) explanation of ESP offered by Dr Michael Persinger, a Canadian professor of psychology and physiology. He points out in his book *The Paranormal* that ELF phenomena occur in nature in at least two forms: as electromagnetic energy and as sound (sonic) energy. The properties of ELF phenomena are such that they could account for telepathy, he speculates, adding that there may also be other factors at work.

Investigators of the psychic and paranormal should, of course, consider all that conventional science has to offer in their search for an explanation. But it seems that conventional science is 'up against the wall' and that real progress is going to occur only when psychic and paranormal events are acknowledged and approached in a fresh, imaginative way. As Einstein once wrote: 'The mere formulation of a problem is far more essential than its solution, which may be merely a matter of mathematical or experimental skill. To raise new questions, new possibilities, to regard old problems from a new angle requires creative imagination and marks real advances in science'

Sheldrake's Morphogenetic Fields

Such an advance may be the concept of morphogenetic fields proposed by British scientist Rupert Sheldrake in his 1981 book, *A New Science of Life*. Sheldrake, a plant physiologist, presents a widely-discussed hypothesis of 'formative causation' that postulates an invisible matrix or organizing field that regulates the structure, growth and behaviour of all kinds of things. These fields are causative, serving as 'blueprints' or guiding patterns for form and behaviour of entities across time. This capacity is called morphic resonance. 'When any one thing (a crystal, say) forms a new behaviour, it will influence the subsequent learning of formation of all other crystals or animals of the same kind,' Sheldrake says. He denies that the morphogenetic fields have energy; their influence seems to operate *ex nihilo*. Nevertheless, he proposes that psychic and paranormal events may be explicable by his hypothesis.

Although Sheldrake dispenses with all conventional energies as the force behind forms, the data I've cited here could be the missing element that saves the morphogenetic hypothesis from *ex nihilo* operation. In a personal communication, Sheldrake agreed: 'When I say morphogenetic

fields are non-energetic, I do so to avoid confusion with the kinds of energy known to physicists. I hope that further research will indeed enable these problems to be resolved.'

Sheldrake seems to echo Princeton University physicist Eugene Wigner, who once wrote that 'the present laws of physics are at least incomplete without a translation into terms of mental phenomena. More likely, they are inaccurate, the inaccuracy increasing with the role life plays in the phenomena considered'.

A concerted investigation of this hypothetical 'new' force in nature seems a most promising avenue to pursue. For several decades a handful of pioneering scientists and researchers have been developing innovative approaches and instruments to demonstrate, measure and harness the reality of it. They have developed a variety of devices and technical procedures in a way that exemplifies Einstein's dictum. My *Future Science* presents some of them.

Bearden's Scalar Electromagnetics

The most important theoretical line of investigation, in my judgement, is the rigorous mathematical demonstration and supporting literature research of Thomas E. Bearden, whose writing is included here. Bearden's approach offers a unified-field theory that includes gravitation. He has recovered the long-ignored (in the West) electromagnetics work of Nikola Tesla and gone beyond it to present the fundamental concepts of scalar electromagnetics or electrogravitation. In the course of his research, Bearden has also identified a tremendous information gap for Western intelligence analysts, who have not known of Soviet military scalar weapon development, testing and overt use against the United States.⁵

Roughly speaking, the conventional picture of electromagnetism is shown by Bearden to be incomplete. Electromagnetism is 'nested' in dimensions deeper than the 3-D world. It arises from supersensible realms of existence or hyperspaces which Bearden refers to as 'nested levels of the virtual state'. The vacuum of space is actually a plenum, according to modern physics. Using the scalar electromagnetic wave, which is prior to the vector electromagnetic wave that produces electromagnetic fields, Bearden says, the vacuum of space itself can be engineered. He shows in quantum physical terms that energy may be produced directly at a distant site or extracted from it, without energy transmission through space. Essentially, beams of pure potential may be deliberately produced and intersected at a distance to cause effects. Thus, the entire range of extra-sensory and psychokinetic phenomena now appear to have an elegant explanation, albeit one which requires

a radical modification of classical physics.

When facts contradict theory, it is theory that must change. The facts of psychic and paranormal phenomena are well established. With the sort of breakthroughs now occurring, thanks to Bearden and others, we can expect to see in the not-too-distant future the full-scale emergence of a new and technologically-based aspect to our understanding of mind and the non-physical/metaphysical in a way that unites ancient spiritual concepts and modern scientific ones for the benefit of humanity.

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Appendix 2 A Note on Hitler and Psychic Warfare

The use of occult forces for espionage and military conquest is vividly illustrated in the case of Adolf Hitler and the Third Reich. Several recent books have given clear, strong documentation of Hitler's deep interest in — and misuse of — psychic phenomena and occultism. The most notable books are J. H. Brennan's *The Occult Reich*, Dusty Sklar's *Gods and Beasts*, Jean-Michel Angebert's *The Occult and the Third Reich* and Trevor Ravenscroft's *The Spear of Destiny*.

These books demonstrate Hitler's interest in magic, the occult foundations of the Nazi movement and the blood sacrifice of millions of Jews, gypsies, homosexuals and other groups on the altar of Nazism. Altogether, they give a radically revised portrait of 'der Fuhrer', far from the stereotyped, one-dimensional image that historians have thus far given us. And although Hitler and the Third Reich did not have the technological forms of mind-matter interface emerging today as psychotronics, they certainly did have a clear understanding of secondary principles of metaphysics, which they applied for black magical purposes.

Hitler surrounded himself with soothsayers of various kinds — astrologers, psychics, teachers of occultism and adept black magicians. To indicate the degree of seriousness he had about psychic warfare, consider the fact that the famed Russian psychic, Wolf Messing, predicted the death of Hitler and the catastrophic failure of any German attack on the Soviet Union. Messing said this to an audience of 1,000 people in a Warsaw theatre in 1937. As he reported in an unpublished manuscript in my possession, provided by his assistant, Tatiana Lungin, 'This prophesy cost me rather dearly: 200,000 marks was the price placed on my head by the fascist ringleaders'. Messing's description and picture quickly appeared on wanted posters. He was forced to flee for his life, and only by the narrowest of escapes, involving his famed telepathic ability to command people's minds, did he leave

Poland and enter the Soviet Union.

But the greatest enemy of the Nazi Party, according to Trevor Ravenscroft in *The Spear of Destiny*, was Dr Rudolf Steiner, an extraordinary mystic-metaphysician-spiritual teacher whose extra-sensory vision allowed him to see the true character of Hitler's activities. 'Adolf Hitler ranted against Dr Steiner at political meetings in the early days of the Nazi Party' Ravenscroft wrote, 'naming him as the war criminal directly responsible for the failure of the Schlieffen Plan and the consequent loss of the World War. Rudolf Steiner had been a personal friend of General Helmuth von Moltke, and Hitler accused him of using black magic powers to disturb the balance of mind of the Supreme Commander in the critical period of the German invasion of Belgium and France in 1914.

'Hitler's personal reasons for wanting to put Steiner out of the way were of a more sinister nature. Dietrich Eckart [one of Hitler's close advisors] had identified Rudolf Steiner as the leading figure of an extensive circle of Grail Initiates who had discovered the satanic nature [of Hitler's occultist group] and watched over all their meetings and initiation rituals from the astral plane. Eckart was convinced that nothing could be hidden from Steiner's penetrating occult faculties. And because Steiner was openly engaged in warning Germany of the secret aims of the Nazi Party, he had been put at the top of the list of victims for immediate liquidation by Thule assassins.

'It was planned to murder Steiner inside a railway carriage on Munich Station where both barrels of a sawn-off shotgun were to be emptied at short range into his face . . .

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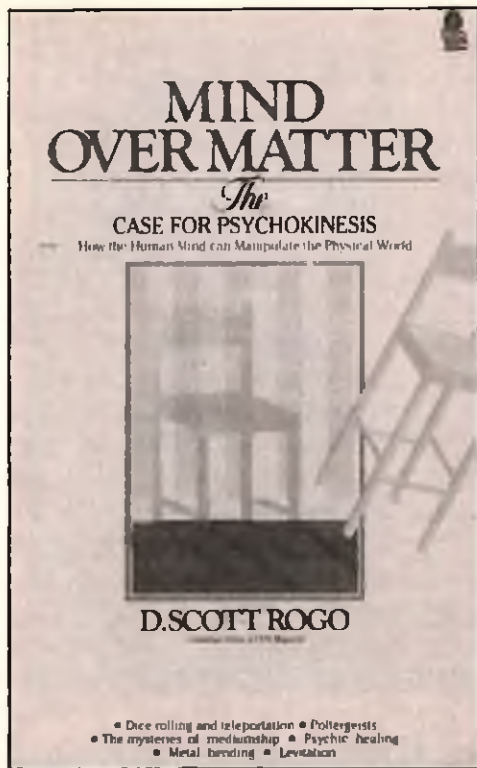


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