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NEXUS

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AUGUST – SEPTEMBER 2005

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NEXUS

NEW TIMES MAGAZINE

Volume 12, Number 5

AUGUST – SEPTEMBER 2005

UK/Europe edition

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Editorial

As I write this editorial, the news of the London bombings is now two days old and already speculation is rampant on the internet about just who is responsible for these heinous crimes. I note from my recent bout of net-surfing that there seems to be a growing willingness by many people to accept that most terrorists and terrorist incidents are *state sponsored*. It seems that more and more people are prepared to accept that such acts are designed to bring about more social control—in other words, used to manipulate the masses into compliance and fear. Indeed, managing your own enemy is acknowledged by many historians as the oldest trick in the book!

In my travels and research I have spoken to, and read the testimonies of, several former "spooks" and Special Forces members. In each case, the person involved was instructed to participate in acts of terrorism—often against innocent civilians, as it turned out. Former Israeli Intelligence officers have gone public with their concerns that Israeli-infiltrated/controlled terrorist cells have organised many attacks upon Israeli citizens, purely to justify retaliatory "incursions". (Whoever invented that word? Sounds like a cross between an excursion and an invasion!)

I have spoken to British Intelligence officers who know of bombings blamed on the IRA but which were conducted by UK Special Forces and killed British citizens. And according to some reports going around the internet, the Spanish secret police were responsible for the 2004 Madrid bombings.

Meanwhile, about 10 days ago, as many as 40 UFOs hovered over Mexico City, the world's largest metropolis, at around 10 am, in broad daylight. They were videotaped, photographed and witnessed by thousands who came to a standstill to watch the half-hour display—but there was not a word about this spectacular event from the media networks outside Mexico and South America. As you will read in *Twilight Zone* in this issue, the Brazilian Air Force, presumably with the blessing of the government, has come out and said that UFOs are real. Moreover, it has begun the process of disclosure, starting with allowing key civilian UFO researchers to have access to its files.

There are some great articles again in this issue. Wait till you read about Britain's secret war in Antarctica. Hidden Nazi bases in the Antarctic, strange tunnels, weird Polar Men and exotic technology—and it all seems to be genuine!

I'm also really excited about the article on the link between nanobacteria, calcification and heart disease. When you read this, you'll find a heap of your brain cells popping as they draw connections to many articles and reviews in NEXUS!

The report on the secret Bilderberg meeting in May is also pretty wild. Talk about being on the receiving end of some very interesting leaks from within the elite enclave! You can see that some decisions have already been implemented since the meeting.

I'm also pleased to present research material compiled by Freddy Silva about how crop circle formation may be related to sound. If you place sand or fine crystalline powder evenly on a circular drum-skin surface and connect that surface to a source of sound vibration, the results can be visually spectacular. Certain sounds will consistently produce specific patterns, some of which look exactly like Egyptian hieroglyphs and others that look just like some of the "unexplained" crop circles. (Aussie readers should note that Freddy is making a presentation at our Conference in Brisbane on 23–25 September.)

There have been some new developments regarding foreign-language editions of NEXUS. The good news is that there is now a Romanian edition and there will soon be an edition published in German. The bad news is that the publisher we'd lined up for our new Spanish edition has vanished after having received numerous death threats; he is believed to be dead. I don't consider his disappearance to be due to any NEXUS connection, as he was already a high-profile activist from the film and publishing sectors who used his resources to protest against the Spanish Government's support of the US-led invasion of Iraq. (When I asked who was threatening him, he replied that it was *Opus Dei*!)

I'm pleased to report that the NEXUS Conference in Amsterdam in May was a great success; also, that plans for our Conference in Brisbane in September are complete and details are up on our website. I hope to catch up with some of you there.

Duncan

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Letters to the Editor ...

Doctor Who, Whistleblower

Hello Duncan: Thanks for keeping up the good work on one of the few "honest" news publications.

Here is something that may interest you. Just recently on BBC1 in the UK, a new series of *Doctor Who* has been broadcast after many years' absence. There have only been several episodes so far, which have had terrific viewing figures. Two of these episodes (perhaps more) have almost whistleblower-like qualities.

In one episode, aliens have taken the place of the Prime Minister and other ministers (wearing a skin over their own form to pretend to be human) and are trying to get Earth involved in a war, using weapons of mass destruction as the excuse. They say the Earth can be attacked in 45 seconds! The aliens are only out for profit. War on Iraq being paralleled?

In another episode, a giant evil alien has been controlling humankind for the last hundred years by "chipping" them and feeding them lies and propaganda disguised as news from a satellite broadcasting station. The Doctor notes that the whole human race is enslaved yet has no idea!

These two episodes struck me like a sledgehammer. It is very unlike the BBC to broadcast such NEXUS-like material, albeit in disguised form. I do recommend watching this new *Doctor Who* series if it comes your way, as the brief descriptions I give don't do justice to the whistleblower feeling that so pervades.

Happy day,

Kevin D., UK

[Dear Kevin: I've been a Dr Who fan for decades, and the plot lines of this new series are just great. I have also been amazed at some of the plots used in the last series of Stargate. Ed.]

Concerned Americans

First, I want to thank you for one of the finest and most informative publications available today, much more so in that it doesn't require a professional degree to read and interpret.

I do feel resentment at your editorial in vol. 12, no. 3: "a population that largely seems to care only about what is on their propaganda-filled TVs".

There are many people here in the United States who feel highly uncomfortable, to say the least, with the current ruling administration. The average American I encounter today feels we no longer have "a government of the people, for the people and by the people", but a government of, for and by the rich. Many persons who were originally persuaded by the election campaigns and the candidates have changed their viewpoints, and rightfully so.

Yes, there are many who I suppose fit into the cliché you have applied, but please do not lump all US citizens into that category. Frankly, if American TV programming is indicative of the values of American society at large, our society is in deep trouble. Yet also there are many whose perspective comes from deep within their hearts, from the core of their spirituality, who know that to continue on the present course will lead to nothing but disaster.

So please present your editorials in a manner that reflects that here in America, as well as in all nations and societies, there are people who face the world with love, openness and honesty, just as there are those who face the world with deceit, dishonesty and a need to dominate and control.

In my travels to well over 40 countries, I have found by and large the majority of the population in any given country was by no means a reflection of a controlling and dominating government of the country. Election results can and often have been highly manipulated by those who stand to gain.

Again, thanks for your fine publication; it's become my favourite reading in the past two years. And thank you for taking the time to read this communication.

Gary L., Wabash, Indiana, USA

[Dear Gary: You should have seen the editorial BEFORE Ruth got to it! You're right, though; I should not generalise. Ed.]

Depleted Uranium Crimes

I read with great interest David Guyatt's wonderful article on Gulf War Syndrome on NEXUS Magazine's website [published in vol. 4, no. 5]. I am so glad when people point out the many things you have. It is dated 1997, so I realise new information has come

to light. Just in case: I know that American troops walk through a gauntlet of vaccinations, leaving them perhaps a quart heavier and throwing up by the time they get to the end of it. I have heard first-hand accounts of this. Such clustering of vaccinations flies in the face of standard medicine. The troops are indeed shot with a range of experimental vaccines, many of which contain mercury.

The so-called "American Patriot Act" contains a rider that absolves the medical establishment and the pharma companies of all liability stemming from harmful effects of vaccinations.

One thing I did not see was any reference to "depleted uranium" (DU) weapons. Many tons of the stuff has been dumped on Iraq by American missiles and mortars in both Gulf wars. The uranium dust has worked its way into the groundwater supply. DU dust spread by these weapons is so fine that the gas masks issued to the troops cannot screen it out.

The women in Iraq, Kuwait, Afghanistan and other surrounding regions are increasingly giving birth to babies that no longer resemble human beings, and the same is happening to American soldiers.

There are now over 500,000 permanently disabled American soldiers due to multiple cancers in each person created by DU weapons dust from the first Gulf War alone.

The US has already used over a million troops on the ground in Iraq and Afghanistan since the inception of their so-called "war on terrorism".

When a veteran checks into the Veterans Administration Hospital here in Houston, the first thing he or she is asked is what war they served in; if it is either one of the Gulf wars or Afghanistan, the veterans are immediately taken to a different part of the hospital. Again, I have been told first-hand accounts of this.

Both American and British soldiers are coming home from Bosnia and surrounding regions in the former Republic of Yugoslavia with all the same troubles, usually beginning with their kidneys shutting down. Neither of these military establishments is making any attempt to decontaminate the troops, who are simply sent home

to die slowly in ignorance.

There needs to be a class-action lawsuit on behalf of the families of these soldiers, as well as of all the unwitting employees of Halliburton/KBR in Iraq. The use of DU weapons constitutes a war crime that will last for many generations. FYI, I am not a doctor or scientist; I am just a citizen.

Yours sincerely,

Suzanne Powell, Houston, Texas, USA

[Dear Suzanne: Thanks for your comments; also see Dr Doug Rokke's article, "The Scourge of Depleted Uranium" in 10/04. Ed.]

The Coming Dimensional Shift

Dear Duncan: Thanks once again for another interesting and informative issue of NEXUS [vol. 12, no. 4].

After reading Will Hart's article on the base-13 theory of the Mayan calendar, it immediately struck me that this vital information has been suppressed and "demonised" (unlucky 13, etc.) by the elite rulers/religions of Western society to such an extent that the whole world calendar and, consequently, everyone's lives are governed by our dysfunctional and arbitrary "linear" calendar.

Our Western calendar does not record or predict important cyclic events in our solar system, like the Mayan cycles culminating in the alignment of our solar system with the galactic centre in 2012 and the subsequent dimensional change coming.

I feel that the suppression of the importance of the number 13 in our lives has been a deliberate and purposeful action by our "elite" governments/rulers, who are in turn "possessed" or "mind controlled" by negative reptilian entities, both here and from the lower fourth dimension. This subterfuge has been in place for so long that people do not even think to question our awkward and clumsy Western calendar.

More importantly, because the whole world is running on this dysfunctional calendar, our awareness and understanding of these immensely important cyclic events is "lost", and therefore people are unable to prepare themselves mentally, emotionally and spiritually for the upcoming dimensional shift.

... more Letters to the Editor

NB: Please keep letters to approx. 150 to 250 words in length. Ed.

They then have a lesser chance to survive the shift and transcend the third dimension, where the negative reptilian entities wish to keep us for their own selfish purposes, to feed off our emotions of anger and fear.

I hope there is still enough time before 2012 for thinking people to wake up to the importance of the number 13 in our creation and to the solar cycles which nurture and support all life.

Best wishes,

Max C., Darwin, Northern Territory, Australia

The Search for Eternal Life

Hi! I'm writing in response to the article by Andrew Sokar on the Gilgamesh Project [12/04].

I found it shocking—although not at all surprising—to hear a first-hand account of being ostracised by the medical community. And I congratulate Andrew on standing up for his beliefs and his rights and continuing in his efforts for the improvement of mankind through disease prevention.

I just have a comment on the "search for eternal life". What is the point? It's one thing to try and help people be healthy and happy right into their old age, but why try to cheat death (and life)?

It may be true that certain organisms can live eternally, but we are human for a reason and our lives on this planet have a much deeper meaning than the superficiality of the body. It is my belief that we are already immortal, being in possession of the immortal and incorruptible Soul.

The body is just a transitory object in our possession for a short time while we complete one stage of our journey on this three-dimensional Planet Earth.

There is no need to place so much importance on this one life and body—we are much "bigger" and "older" than that. The body was meant to die; we should not fear death as it allows us to transition further on our journey and into other realms.

And from a purely practical standpoint: what will we do after one generation has used the immortality pill, cheated death and learned to live forever?

The planet would be overpopulated almost instantly; and should the pill and its secrets get into the

wrong hands, would we end up with a world controlled by a few immortal politicians and heads of ugly multinationals (think George W. Bush, John Howard, Monsanto and McDonalds)?

Yolande Manson, AMD, ND, Radiance Ayurveda Health Centre, Hamilton, New Zealand, www.radianceayurveda.co.nz

Classifications of ET Species

Dear Duncan: Dr Valery Uvarov's excellent article, "An Alien Detour", in the last edition (June–July 2005, 12/04) was of great interest to me because the extraterrestrials, described as "bags" or as a "mass", sound very like a species that was last encountered and described 47 years ago, as far as I have records, on 20 December 1958 at Domesten, Kristianstad, Sweden, by Stig Rydberg and Hans Gustafsson.

In *A Biological Guide to Extraterrestrials: A Classification Based on Contact Accounts*, which I presented at the Third Australian UFO Conference, Brisbane, Queensland, on 15 June 2003 and published in the *Proceedings* of that conference (as well as on the Jeff Rense website on 13 September 2003 and in the research journals *Australian UFOlogist*, *UFO Research* and *UFO Quest*), I identified this species as *Blob Amoebagigas deformis* (shapeless giant amoeba); kingdom Animalides; phylum, class, order and family not yet classifiable.

This is a giant, one-metre-tall, intelligent, amoeba-like exotic species, blue-grey in colour with two black dot-like eyes and filled with what looks like blood corpuscles.

This species does not possess limbs, and it moves by bouncing. The outer surface has a powerful suction-like ability which it uses to grasp objects. A distinctive odour is noticeable and has been described as a combination of ether and burnt sausage meat. Technology includes a disc-shaped craft 3.5 metres across and one metre high, resting on a tripod.

From eyewitness reports, the descriptions of highly intelligent extraterrestrial species visiting our planet include 15 humanoid species, including three Greys, two additional exotic mammal-like

species, two reptile-like species, one bird-like species, one amphibian-like species, one insect-like species and one amoeba-like species.

Their existence, if the reports can be believed, may relate to the occurrence and position of different-sized gas planets in their solar systems.

If extraterrestrial species are chemically similar to those on this planet, and with a similar genetic code, the primary difference between ourselves and species from other Earth-like planets may simply be the size and position of giant gaseous Jupiter-like planets, over 150 of which have now been discovered around nearby stars, varying their evolutionary history.

Thank you for continuing to keep us informed on so many fascinating and vital matters.

Highest regards,

Gary Opit, Mullumbimby, NSW, Australia, garyopit@bigpond.com

The Buddha and Nonviolence

Dear Editor: I particularly welcome the article, "Unveiling Bloody Buddhism" [12/04], as we live in an age with heinous deeds of staggering dimensions that are often very effectively covered up.

However, I have just one reservation; that is, that the article would be better entitled "Unveiling Bloody 'Buddhism'". The reason I have this reservation is that there is not *one* reference that can be found within any of the Buddha's 5,000+ discourses which could be interpreted as justifying killing.

In fact, "not to kill" is the very first precept! Indeed, the Buddha absolutely ruled out returning evil for evil; revenge was vehemently rejected, no matter how justified it might seem.

Now, if one carefully searches the Bible, especially the Old Testament, one can find passages which approve of killing. Even in the New Testament, Saint Mark exhorts us not to allow a witch to live (and by this, I don't mean to suggest that Christians nowadays support murder, etc.).

The important point here, however, is that, in the case of the Buddha's many discourses, it is *not* possible to find even *one* passage condoning killing, period.

The reader, of course, will be fully justified in asking, "How

come hundreds if not thousands of Tibetan 'Buddhists' instigated and carried out such a bloodbath?" Well, the short answer is that they were not Buddhists in any real sense, any more than the Croatian Catholic priests who, crucifix in hand, led the massacre of thousands of Orthodox Serbs were Christians.

Dr D'Montford says, "I wanted to believe that Shakyamani Buddha, the year after his enlightenment... publicly debated the virtues of the Kalachakra Tantra with the King of Shambhalla", and later notes that "...a Brahmin boy, Tsi-lu-pa was teaching the Kalachakra as a Hindu instrument in India AD 996".

Dr D'Montford is rightly objecting to being misled. However, it is important to note that she was misled about Tibetan Buddhism. Her remarks do *not* apply to the major mainstream traditions of Theravada and Mahayana, but rather to the Kalachakra Tantra first taught by a Hindu boy more than 1,500 years after the Buddha's death.

That "Shakyamuni Buddha, the year after his enlightenment... publicly debated the Kalachakra Tantra with the King of Shambhalla" is an entirely mythical tradition and is recognised as such by scholars who have devoted their lives to the rigorous study/editing of Buddhist scriptures.

The Buddha never taught the Tantra and, in fact, it is widely believed that the adoption of mantric [*sic*] practices with their condoning of orgies and drug-taking were the main reason for Buddhism dying out in India.

Not only did the Buddha proscribe the use of mind-altering drugs but he also warned that sexual explorations as a means of spiritual growth were highly dangerous, saying "those who know stand in fear of such practices", which is surely confirmed by Dr D'Montford's timely article.

Readers may well wonder about what the Buddha himself taught, and in this regard I can be of assistance. Just contact TS at theravadasociety2000@yahoo.com or write to us for our information pack.

T. A. Burgess, Secretary, Theravada Society, RMB 213B, St Arnaud, Victoria 3478, Australia

PATENTS GAGGED FOR NATIONAL SECURITY

Secrecy orders can be slapped on private inventions in 13 of the 26 member countries of NATO, as well as in Australia and New Zealand. And the trend, from US figures at least, appears to be upwards. In the USA, 4,885 secrecy orders are now in place compared with 4,741 in 2001.

In the UK, of the 30,000 patent applications sent to the UK Patent Office (UKPO) in Cardiff every year, 600 to 1,500 are pulled aside for closer scrutiny by military experts. "We don't reveal how many of those we prohibit from dissemination," says Patent Office information officer Jeremy Philpott. However, on the orders of the Ministry of Defence, the UKPO declassifies about 100 patents each year—typically a decade or two after they were filed.

The US Invention Secrecy Act of 1951 says that whenever the "publication or disclosure of the invention by the granting of a patent would be detrimental to the national security, the Commissioner of Patents shall order that the invention be kept secret". The UK Patents Act of 2004 runs along similar lines.

In both cases, penalties for infringement include two years' imprisonment and/or heavy fines.

(Source: New Scientist, 9 July 2005)



AMERICAN DIABETES ASSOCIATION "BOUGHT OFF"?

After the American Diabetes Association received a large gift from a major manufacturer of sugar-sweetened beverages, its top medical official is claiming that sugar has nothing to do with diabetes.

In an interview published on 16 May in *Corporate Crime Reporter*, Richard Kahn, the chief scientific and medical officer with the American Diabetes Association, said: "What is the evidence that sugar itself has anything to do with diabetes? There is no evidence."

On 21 April, the ADA announced a

"three-year, multimillion-dollar alliance" with Cadbury Schweppes Americas Beverages, which produces sweetened soft drinks that are implicated in the epidemic of obesity and diabetes in the United States. Its parent company, Cadbury Schweppes, is the third-largest soft-drink manufacturer in the world, after Coca-Cola and PepsiCo.

"Saying that sugar has nothing to do with diabetes is like saying that tobacco has nothing to do with emphysema," said Gary Ruskin, executive director of Commercial Alert.

"The American Diabetes Association has been so corrupted that they have sunk to the mentality of tobacco scientists who denied the link between tobacco

and lung cancer."

(Source: *Corporate Crime Reporter* press release, 16 May 2005, <http://www.corporate-crimereporter.com/diabetes051605.htm>)

SHOCK WAVES STIMULATE BONE GROWTH

Blasting bones with shock waves sounds like a bad idea, but it turns out that it stimulates bone growth. The non-invasive technique might help treat fractures that refuse to heal and perhaps even reduce the need for hip replacements by encouraging ageing joints to regenerate.

Shock waves—single, high-pressure pulses—have long been used to break up kidney stones. They travel through soft tissue without causing damage but release their energy when they hit a hard substance such as bone.

Doctors noticed decades ago that people who had multiple treatments for kidney stones grew extra bone on the pelvis, even though later studies showed the waves do not damage these bones.

Now Joerg Hausdorf's team at Ludwig Maximilians University in Munich, Germany, has studied the effect of shock waves on bone cells.

The pulses stimulate production of an important bone growth factor, bFGH, Hausdorf told a meeting of the US and Canadian acoustical societies in Vancouver this week.

He thinks shock waves activate the same growth mechanisms as stretching and pressure.

(Source: New Scientist, 21 May 2005)



FIRST PICTURES FROM THE SURFACE OF THE MOON TITAN

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TIME TRAVELLERS COULD NEVER ALTER THE PAST

The laws of physics seem to permit time travel and, with it, paradoxical situations such as the possibility that people could go back in time to prevent their own birth. But it turns out that such paradoxes may be ruled out by the weirdness inherent in the laws of quantum physics.

Some solutions to the equations of Einstein's general theory of relativity lead to situations in which space-time curves back on itself, theoretically allowing travellers to loop back in time and meet younger versions of themselves.

Because such time travel sets up paradoxes, many researchers suspect that some physical constraints must make time travel impossible.

Now, physicists Daniel Greenberger of the City University of New York and Karl Svozil of the Vienna University of Technology in Austria have shown that the most basic features of quantum theory may ensure that time travellers could never alter the past, even if they were able to go back in time.

Quantum theory allows time travel because nothing prevents the waves from going back in time. When Greenberger and Svozil analysed what happens when these component waves flow into the past, they found that the paradoxes implied by Einstein's equations never arise. Waves that travel back in time interfere destructively, thus preventing anything from happening differently from that which has already taken place.

"If you travel into the past, quantum mechanically, you would only see those alternatives consistent with the world you left behind you," says Greenberger.

(Source: New Scientist, 18 June 2005)

UK MINISTERS TOLD OF NEED FOR IRAQ WAR "EXCUSE"

UK ministers were warned in July 2002 that Britain was committed to taking part in an American-led invasion of Iraq and they had no choice but to find a way of making it legal.

The so-called Downing Street memo (often shortened to "the DSM" on websites) is a leaked Cabinet Office briefing paper, which states that Prime Minister Tony Blair had already agreed to back military action to get rid of Saddam Hussein at a summit at the Texas ranch of US President George W. Bush three months earlier.

The briefing paper, for participants at a meeting of Blair's inner circle on 23 July 2002, said that since regime change was illegal it was "necessary to create the conditions" which would make it legal.

This was required because, even if ministers decided Britain should not take part in an invasion, the American military would be using British bases. This would automatically make Britain complicit in any illegal US action.

"US plans assume, as a minimum, the use of British bases in Cyprus and Diego Garcia," the briefing paper warned. This meant that issues of legality "would arise virtually whatever option ministers choose with regard to UK participation".

Those present at the meeting included: Tony Blair; Geoff Hoon, then defence secretary; Jack Straw, the foreign secretary; and Sir Richard Dearlove, then chief of MI6. The full minutes of the meeting were published in May in the *Sunday Times*.

The document said the only way the allies could justify military action was to place Saddam Hussein in a position where he ignored or rejected a United Nations ultimatum ordering him to cooperate with the weapons inspectors. But it warned this would be difficult.

"It is just possible that an ultimatum could be cast in terms which Saddam would reject," the document says. But if he accepted it and did not attack the allies, they would be "most unlikely" to obtain the legal justification they needed.

The attack on Iraq finally began in

March 2003.

The briefing paper is certain to add to the pressure, particularly on the American president, because of the damaging revelation that Bush and Blair agreed on regime change in April 2002 and then looked for a way to justify it.

(Source: The Sunday Times, UK, 12 June 2005, <http://www.timesonline.co.uk/article/0,,2087-1650822,00.html>)

AUSTRALIA'S "DUST AGE"

Australia is in the grip of a "dust age", a five-year-long spell in which the winds have swept tens of megatonnes of topsoil from the face of the continent.

"Dust is a measure of the care we are taking of Australia, just as the sediment in a river reveals how you are looking after its catchment," says Professor Grant McTainsh, who heads the dust research team in the Desert Knowledge Cooperative Research Centre (CRC).

"Up till 2001, we thought we were getting better at it, based on the previous 40 years' data. Then a major dust era erupted, from 2002 to 2004, which still persists in New South Wales and parts of northern South Australia and western Queensland."

A single giant dust storm took 4.85 million tonnes of soil, Prof. McTainsh and colleague Dr John Leys calculated. In the same year, 20 other events took over a million tonnes apiece. Accentuating the continent's violent contrasts, they recently observed a huge dust plume rising right alongside a flooding creek.



"This week I finish off a magazine campaign positioning Nuclear Power as the new green energy. Next week I start work on some TV spots raising awareness of Whaling as an oceanic decongestant."

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The DustWatch network was established in 2002 in NSW by Dr Leys from the NSW Department of Infrastructure, Planning and Natural Resources and Professor McTainsh from Griffith University in Queensland.

Since 2002, the team has charted 15 events which exceeded safe health limits for breathability. And all of the events speak of lost topsoil, lost nutrients, and the land being stripped away and sometimes gone for good.

In bad events, the plumes extend far across the ocean, stretching halfway to South America and Africa, besides dyeing the New Zealand snows pink. In such events, Prof. McTainsh says, cubic kilometres of Australia's soil is lost—far more than is exported by our rivers as sediment. (Source: CSIRO media release, 6 July 2005, <http://www.desertknowledge.com.au/crc>)

CODEX COMMISSION ADOPTS TOUGH VITAMIN GUIDELINES

In its 28th session in Rome on 4 July, the planet's supreme food regulator has given a nod to industry in approving guidelines for food supplements over the strenuous opposition of consumer representatives.

The full Commission of Codex Alimentarius adopted in final form the Codex Guidelines for Vitamin and Mineral Food Supplements. This is the Step 8 adoption, the final stage of adoption for the international Codex guidelines. The Codex Vitamin and Mineral Food Supplements guidelines are now official and no longer in draft form.

The Commission, with over 85 of the

171 Codex countries in attendance, adopted the guidelines by consensus method.

Although the guidelines are not in themselves restricting supplement sales, they do prohibit making information available about diseases and nutrition, and they call for future dosage restrictions to be set after scientific evaluation of the safety of nutrients contained in pills and capsules.

Consumer representatives who attended the meeting are concerned that the guidelines, in conjunction with the European Union's Directive on Food Supplements, may be a first step towards heavy controls on nutrition that would favour the pharmaceutical approach to disease over active, consumer-driven prevention.

(Sources: Press releases, 4 July 2005, http://www.newmediaexplorer.org/sepp/2005/07/04/codex_alimentarius_adopts_vitamin_guidelines.htm; <http://ahha.org/millerpressrelease705.htm>)

THE AGENDA BEHIND DEBT RELIEF FOR POOR NATIONS

The statement that was released on 10 June, following the G7 finance ministers' meeting, has been generally received by the Western media as heralding some kind of new dawn for poor countries.

Taking a closer look, however, reveals the statement to be very much about the breaking down of barriers to "free" trade and corporate control of countries' services and resources—or "the elimination of impediments to private investment, both domestic and foreign", as the ministerial statement put it.

The writing off of debt, which occupied so many front pages, is itself hedged around with similar conditions and requests before countries will be allowed to benefit. It is linked to the HIPC (highly indebted poor countries) initiative, a form of debt relief that has been tied to privatisation schemes controlled by the IMF and World Bank.

The G7 statement makes it clear that only those countries that are "on track with their programmes of repayment obligations and adjusting their gross assistance flows by the amount forgiven" will be covered by the write-off—in other words, only those countries that have adjusted their economies in favour of repayment.

What is more, any further grants of aid are conditional on those countries' movement towards "good governance, accountability and transparency". The World Bank, under Iraq war architect Paul Wolfowitz, will decide what amounts to "good governance".

This kind of sleight of hand—to control through the appearance of altruism—is only possible under a modern democracy, with a media so well trained in self-censorship that it can be trusted not to poke around in the more unpleasant corners of such statements.

Constant references were made to the "G8 debt deal" and even the "G8 finance ministers". In truth, there were only seven ministers at that meeting.

Russia, although allowed into aspects of the G8 summit in view of its large reserves of oil, gas and nuclear weapons, is not considered to be an important enough player, economically speaking, to come to G7 finance meetings.

The dressing up of World Trade Organization measures under the cloak of humanitarianism and international aid is perhaps the most successful aspect of the G8 summit's spin offensive.

(Source: Corporate Watch, 17 June 2005, available at <http://www.corporatewatch.org.uk/?lid=1807>; read the G7 statement at http://www.g8.utoronto.ca/finance/fm050611_dev.htm)

US DRIVER'S LICENCES TO BECOME NATIONAL ID CARDS

The "Real ID" bill that President Bush signed into law on 11 May will turn state-issued US driver's licences into national ID cards.

Real ID, which was slipped into an emergency appropriations bill, stipulates that by



... GLOBAL NEWS ...

2008 all driver's licences or equivalent ID must include a machine-readable name, a digitised photograph, address, social security number, a digitised birth certificate and signature. It was passed in the Senate on 10 May without a word of debate.

If you don't have an ID card you won't be allowed onto planes, trains or buses or into government buildings.

The Department of Homeland Security is to decide what reading technology will be used. One possibility is RFID tags that can be read from a few metres away without your ever realising.

(Source: New Scientist, 21 May 2005)

NORTH ATLANTIC FOOD CHAIN DRAMATICALLY ALTERED

Researchers who looked at data over a 40-year period have found that the food chain in the North Atlantic has been significantly altered with the disappearance of large species, such as cod, a finding never seen before.

Ken Frank, a scientist who co-authored a recent report in *Science* magazine, said the findings provide an unsettling picture of the marine environment on the Eastern Scotian Shelf.

He said the virtual disappearance of cod and other large species, such as haddock, flounder and hake, led to what he calls a cascade effect. That is, large predators declined dramatically, but the fish they preyed on were allowed to thrive and eventually underwent a population explosion.

Cod, which used to sit on the top of the food chain, has now been replaced by smaller fish. That also trickled down to the lowest members of the marine food chain—zooplankton and algae—which are being depleted at a faster rate because more and more fish are feeding on them. That has also raised the fear that the smaller fish species could diminish the nutrients they rely on.

"Their levels have now decreased because they're being eaten heavily by the exploding group," said Ken Frank, who works for the Department of Fisheries and Oceans at the Bedford Institute of Oceanography in Nova Scotia, Canada.

"It was always known that when you deplete a predator, its prey will increase. But it was never suspected that this would cascade or extend all the way down to the base of the food chain."

(Source: The Globe and Mail, Toronto, Canada, 9 June 2005)

US MILITARY SPENDING TO EXCEED REST OF WORLD COMBINED!

It is expected that next year the United States will spend more on its defence and security than the rest of the world combined will spend on theirs. In 2004, massive US spending on the war on terrorism pushed global military expenditure above US\$1 trillion—the sixth successive year in which the total has risen, according to the Stockholm International Peace Research Institute (SIPRI).

World military expenditure rose 5% to US\$1.04 trillion, still 6% below a Cold War peak in 1987–88 but up sharply since 1998, the Swedish Government-funded institute said in its latest yearbook.

US military spending accounted for nearly half the global figure for 2004, rising 12% last year to \$455 billion, the institute said. That was more than the combined total of the 32 next most powerful nations, SIPRI said. The figure was set to rise still further to \$502 billion in 2010.

The top five countries by military spending—the United States, Britain, France, Japan and China—spent nearly two-thirds of the world total last year according to the institute, which monitors officially reported military spending for 159 countries.

Meanwhile, in May, a US Senate committee approved the US\$441.6 billion defence bill for fiscal year 2006. This includes the Department of Defense budget and funding for nuclear weapons activity of the Department of Energy. It does *not* include other items such as money for the Afghanistan and Iraq wars (\$49.1 billion for fiscal year 2006) or Homeland Security funding (\$41.1 billion for fiscal year 2006).

Top military spenders for 2004

	\$US billions
1. United States	455.3
2. United Kingdom	47.4
3. France	46.2
4. Japan	42.4
5. China	35.4
6. Germany	33.9
7. Italy	27.8
8. Russia	19.4
9. Saudi Arabia	19.3
10. South Korea	15.5
11. India	15.1
12. Israel	10.7
13. Canada	10.6
14. Turkey	10.1
15. Australia	10.1

To put military spending in another perspective, it is worth having a look at a recent year (1998) of global expenditure priorities:

Global Expenditure

	\$US billions
Basic education for everyone in the world	6
Cosmetics in the United States	8
Water and sanitation for everyone in the world	9
United Nations and all its agencies	10
Ice cream in Europe	11
Reproductive health for all women in the world	12
Perfumes in Europe and the United States	12
Basic health and nutrition for everyone in the world	13
Pet foods in Europe and the United States	17
Business entertainment in Japan	35
Cigarettes in Europe	50
Alcoholic drinks in Europe	105
Narcotic drugs in the world	400
Military spending in the world	780

It would seem ironic that the world spends more on things to destroy each other (military) and to destroy ourselves (drugs, alcohol and cigarettes) than on anything else.

(Sources: <http://www.dawn.com/2005/06/08/int14.htm>; <http://www.armscontrolcenter.org/archives/001658.php>; http://www.janes.com/defence/news/jdi/jdi050504_1_n.shtml; <http://www.wjla.com/headlines/0505/228369.html>; <http://www.globalissues.org/Geopolitics/ArmsTrade/Spending.asp>)

BREAKING THE SILENCE *BILDERBERG EXPOSED*

***When presidents,
prime ministers,
bankers and
generals rub
shoulders with
European royalty at
the annual secret
Bilderberg meeting,
they discuss the
business of running
markets and wars
without being
accountable to the
public.***

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The full text of this article is at:
<http://www.onlinejournal.com>

Bilderberg's Plans for the World

The Bilderberg group's secret annual meeting determines many of the headlines and news developments that you will read about in the coming months. But the Establishment media completely black out any news of it and remain strangely reluctant to lift the curtain hiding this major event. A number of high-ranking members of the press who attend the annual meeting are sworn to secrecy, and news editors are held responsible if any of their journalists "inadvertently" report on what takes place. Yet few have ever heard of this exclusive and secretive group of the world's most powerful financiers, industrialists and political figures.

Although the Bilderberg group has lost some of its past lustre, on 5 to 8 May 2005 it met at Rottach-Egern (in Munich, Germany) under its usual secrecy that makes a freemasonry lodge look like a playgroup. Staff at the hotel were photographed and put through special clearance. From porters to senior managers, the employees were warned (under the threat of never working in their country again) about the consequences of revealing any details of the guests to the press.

The discussions that the Bilderbergers engaged in this year and the consensus they reached—deciding how the world should deal with European–American relations, the Middle East powder keg, the Iraq war, the global economy and how to stave off war in Iran—will influence the course of Western civilisation and the future of the entire planet. Ironically, they met behind closed doors, protected by a phalanx of armed guards.

After three straight years of open hostility and tension amongst the European, British and American Bilderbergers, caused by the war in Iraq, the aura of complete congeniality amongst them has returned. Bilderbergers have reaffirmed and remain united in their long-term goal to strengthen the role the United Nations plays in regulating global conflicts and relations.

However, it is important to understand that the Americans are no more the "Hawks" than the European Bilderbergers are the "Doves". Europeans joined in supporting the 1991 invasion of Iraq by US President George Bush Senior, celebrating (in the words of notable Bilderberg hunter Jim Tucker) the end of "America's Vietnam syndrome". Europeans also supported former US President Bill Clinton's invasion of Yugoslavia, bringing NATO into the operation.

UN Global Oil Tax and Peacebuilding Proposals

A much discussed subject in 2005 at Rottach-Egern was the concept of imposing a UN tax on people worldwide through a direct tax on oil at the well-head. This, in fact, sets a precedent. If enacted, it would be the first time that a non-governmental agency (read the United Nations) directly benefited from a tax on citizens of free and enslaved nations. The Bilderberg proposal calls for a tiny UN levy at the outset, which the consumer would hardly notice.

Jim Tucker, formerly of the court-killed *Spotlight* magazine, wrote in the *American Free Press* (14–21 June 2004) that: "...establishing the principle that the UN can directly tax citizens of the world is important to Bilderberg. It is another giant step toward world government. Bilderbergers know that publicly promoting a UN tax on all people on Earth would meet with outrage. But they are patient; it [Bilderberg] first proposed a direct world tax years ago and celebrates the fact that it is now in the public dialogue with little public attention or concern."

Bilderberg wants "tax harmonisation" so that high-tax countries can compete with more

tax-friendly nations—including the United States—for foreign investment. They would "harmonise" taxes by forcing the rate in the US and other countries to rise so that socialist Sweden's 58-per-cent level would be "competitive".

According to sources, an unidentified guest at the conference asked how global taxation can be sold to the American public. One European Union commissioner suggested using as the battering ram the rhetoric of helping countries build peaceful, stable societies once conflict subsides. Someone asked for the timing of the appeal. A former commissioner mentioned that the best time to ask for cash is once the conflict subsides and the world is subjected to brutal images of destruction. A Norwegian Bilderberger disagreed. What looked to be Björn T. Grydeland, Norway's ambassador to the European Union, said that, on the contrary, it's much easier to get world attention and money for a region when a conflict rages.

This was confirmed *a posteriori* when Denmark's foreign minister Per Stig Møller, during a debate in the United Nations on 26 May, stated on the record that "[i]f the international community is not able to act swiftly, the fragile peace is at risk, with loss of more lives as a consequence". Denmark holds the EU presidency until

1 July 2005, when it will be replaced by the UK. [The changeover took place just before we went to press. Ed.]

Bilderbergers are planning to use what they nominated as a UN Peacebuilding Commission, apparently to help win the peace in post-conflict countries, as one of the tools in secretly imposing the UN tax on an unsuspecting world population.

Jim Tucker said as much in his Bilderberg report in the *American Free Press* (23 May) when he wrote: "There was some

informal discussion of timing for a vote in the United Nations on establishing a direct global tax by imposing a 10-cents-a-barrel levy on oil at the well-head. This is important to the Bilderberg goal of establishing the UN as a formal world government. Such a direct tax on individuals is symbolically important. Bilderberg's global tax proposal has been pending before the UN for three years but the issue has been blacked out by the Bilderberg-controlled US media."

Mark R. Warner, governor of Virginia and a first-time Bilderberg invitee, expressed concern about how much additional financial responsibility the United States would take on as a

result. At this point, José M. Durão Barroso, president of the European Commission, expressed a view held by many within Bilderberg that the United States does not provide a fair share of economic aid to poor countries. My sources confirm Jim Tucker's report that "Kissinger and David Rockefeller, among other Americans, beamed and nodded approval".

Although the US pays more into the foreign-aid piggy bank than any country in the world, the Bilderbergers and the United Nations are poised to demand much more funding from it to meet the Peacebuilding proposal.

According to sources within Bilderberg, the status of NGOs would be elevated even further in the future.

NGOs and the Global Neighbourhood

The rise of the NGOs (non-governmental organisations) is a development that former US President Clinton suddenly (one day after it was discussed at Rottach-Egern) suggested to be among "the most remarkable things that have happened since the fall of the Berlin Wall". Ironically, Clinton's statement was picked up by the *Wall Street Journal*, a paper represented at the Bilderberg meetings by its vice-president, Robert L. Bartley, until his death in December 2003, and its editorial page editor, Paul Gigot.

The Bilderbergers have been vigorously debating, for the first time, whether to have unelected, self-appointed environmental activists given positions of governmental authority on the governing board of the United Nations Environment Program (UNEP)—the agency which controls the use of the atmosphere, outer space, the oceans and, for all practical purposes, biodiversity. This invitation for "civil society" to participate in global governance is described as "expanding democracy".

According to sources within Bilderberg, the status of NGOs would be elevated even further in the future. NGO activity would include agitating at the local level, lobbying at the national level and producing studies to justify global taxation through UN organisations such as Global Plan, one of Bilderberg's pet projects for over a decade.

The strategy to advance the global governance agenda specifically includes programs to discredit individuals and organisations that generate "internal political pressure" or "populist action" that fails to support the new global ethic. The ultimate objective, according to sources, is to suppress democracy.

If the plan proceeds, UNEP, along with all the environmental treaties under its jurisdiction, would ultimately be governed by a special body of environmental activists,



chosen only from accredited NGOs appointed by delegates to the General Assembly who are themselves appointed by the President of the United States, who himself is controlled by the Rockefeller–Council on Foreign Relations (CFR)–Bilderberg interlocking leadership.

This new mechanism would provide a direct route from the local, "on-the-ground", NGO affiliates of national and international NGOs to the highest levels of global governance. For example, the Greater Yellowstone Coalition, a group of affiliated NGOs, recently petitioned the World Heritage Committee of UNESCO asking for intervention in the plans of a private company to mine gold on private land near Yellowstone Park. The UNESCO committee did intervene, and immediately listed Yellowstone as a "World Heritage Site in Danger". Under the terms of the World Heritage Convention, the United States is required to protect the park, even beyond the borders of the park and onto private lands if necessary.

The ideas being discussed, if implemented, would bring all the people of the world into a global neighbourhood, managed by a worldwide bureaucracy under the direct authority of a minute handful of appointed individuals and policed by thousands of individuals, paid by accredited NGOs, and all certified to support a belief system that to many people is unbelievable and unacceptable.

A Lesson for Tony Blair

Bilderbergers are celebrating the result they wanted: the return of a much humbled Tony Blair to 10 Downing Street, with a much reduced parliamentary majority.

European Bilderbergers are still angry at him for supporting America's war in Iraq. While teaching Blair a useful lesson in international politics, Bilderbergers feel he is a far safer candidate to continue on the path of European integration than his conservative rival, Michael Howard.

The EU Referendum in France

The first day of secret meetings at Bilderberg 2005 was dominated by talk of the European Union referendum in France and whether President Chirac could persuade France to vote "Yes" on 29 May. A "Yes" vote, according to sources within Bilderberg, would put a lot of pressure on Tony Blair to finally deliver Britain into the waiting arms of the New World Order through its own referendum on the treaty, scheduled for 2006. Matthias Nass, Deputy Editor of *Die Zeit*, wondered out loud that a "No" vote in France could undoubtedly cause political turmoil in Europe and overshadow Britain's six-month EU presidency starting on 1 July.

Bilderbergers hope that Blair and Chirac, whose at times open animosity has spilled into the public arena on more than one occasion, can work together for mutual benefit and political survival. Another European Bilderberger added that both leaders must put behind them as quickly as possible all past disputes on such topics as Iraq, the liberalisation of Europe's economy and the future of the budget rebate that Britain receives from the EU, and work towards complete European integration—which could disintegrate if France's often "hard-headed and obstinate people", in the words

of a British Bilderberger, do not do the right thing, meaning give up voluntarily their independence for the "greater good" of a European federal super-state!

A German Bilderberger insider said that France's "Yes" vote is in trouble because of the "outsourcing of jobs". "Jobs in Germany and France are going to Asia and Latvia [to take advantage of cheap labour]." Latvia is one of the former Soviet republics that have been admitted to the European Union, bringing the total membership to 25 nations. A German politician wondered out loud how Tony Blair will go about convincing Britons to embrace the European Constitution when, due to the outsourcing of jobs, both Germany and France are suffering 10 per cent unemployment while Britain is doing well economically.

The Neo-conservative Lobby

In full force was that faction: the so-called "neo-conservatives", who have determined that Israel's security should come at the expense of the safety of the United States and be central to all US foreign policy decisions.

Most notable among them is Richard N. Perle, who was investigated by the FBI for conducting espionage on behalf of Israel. Perle played a critical role in pushing the United States into the war against Iraq. On 27 March 2003, he was forced to resign from the Pentagon's Defense Policy Board after it was learned he'd been advising Goldman Sachs International, an habitual Bilderberg attendee, on how it might profit from the war in Iraq.

Another neo-conservative figure on hand was Michael A. Ledeen, an "intellectual's intellectual". Ledeen serves for the American Enterprise Institute (AEI), a think-tank founded in 1943 and with which Richard Perle has long been associated. AEI and the Brookings Institution operate a Joint Center for Regulatory Studies (JCRS), the purpose being to hold lawmakers and regulators "accountable for their

decisions by providing thoughtful, objective analyses of existing regulatory programs and new regulatory proposals". The JCRS pushes for cost-benefit analysis of regulations, which fits with AEI's (and the Bilderbergers') ultimate goal of deregulation.

These neo-conservatives were also joined this year at Bilderberg by a handful of other former top Washington policymakers and publicists known for their sympathies for Israel, including: Richard N. Haass, former State Department official and president of the Council on Foreign Relations (CFR); Richard Holbrooke, former assistant secretary of state and "father" of the Dayton Accord; Dennis Ross, of the pro-Israel Washington Institute for Near East Policy, effectively an offshoot of the American Israel Public Affairs Committee (AIPAC) and the Jewish Institute for National Security Affairs (JINSA); and Paul Wolfowitz, the newly elected World Bank president.

American Criminals: Public Policy in Private

In the United States, the Logan Act states explicitly that it is against the law for federal officials to attend secret meetings with private citizens to develop public policies.

The ideas being discussed, if implemented, would bring all the people of the world into a global neighbourhood, managed by a worldwide bureaucracy under the direct authority of a minute handful of appointed individuals...

Although Bilderberg 2005 was missing one of its luminaries—US State Department official John Bolton, who was testifying before the Senate Committee on Foreign Relations—the US Government was well represented in Rottach-Egern by: Allan E. Hubbard, Assistant to the President for Economic Policy and director of the National Economic Council; William Luti, Deputy Under-Secretary of Defense; James Wolfensohn, outgoing president of the World Bank; and Paul Wolfowitz, Deputy Secretary of State, an ideologue of the Iraq war and incoming president of the World Bank. By attending the Bilderberg 2005 meeting, these people broke United States federal law.

Journalistic Whores

Bilderberg, at one time or another, has had representatives of all major US and European newspapers and network news outlets attend. High-ranking members of the inadequately named "international free press" attend on their solemn promise to report nothing. This is how Bilderberg keeps its news blackout virtually complete in the United States and Europe.

This year's invitees included: Nicolas Beytout, editor-in-chief of *Le Figaro*; Oscar Bronner, publisher and editor of *Der Standard*; Donald Graham, chairman of the *Washington Post*; Matthias Nass, deputy editor of *Die Zeit*; Norman Pearlstine, editor-in-chief of *Time*; J. Robert S. Prichard, president and CEO of Torstar Media Group (*Toronto Star*); Cüneyt Ulsevere, columnist for *Hürriyet*; John Vinocur, senior correspondent for the *International Herald Tribune*; Martin Wolf, associate editor of the *Financial Times*; Fareed Zakaria, editor of *Newsweek International*; Klaus Zumwinkel, chairman of *Deutsche Post*; and John Micklethwait, US editor of *The Economist* and Adrian Wooldridge, Washington correspondent for *The Economist*. Micklethwait and Wooldridge acted as the meeting's rapporteurs.

Declining Energy Reserves and Economic Downturn

Of course, discussion at Bilderberg 2005 turned to oil. An American Bilderberger expressed concern over the sky-rocketing oil price. One oil industry insider at the meeting remarked that growth is not possible without energy, and that according to all indicators the world's energy supply is coming to an end much faster than the world leaders have anticipated.

According to sources, Bilderbergers estimate the extractable world's oil supply will last a maximum of 35 years under current economic development and population. However, one of the representatives of an oil cartel remarked that they must factor into the equation the population explosion and economic growth as well as demand for oil in China and India. Under the revised conditions, there is apparently only enough oil to last for 20 years. No oil spells the end of the world's financial system—which has already been acknowledged by the *Wall Street Journal* and the *Financial Times*, two newspapers that are regularly represented at the annual Bilderberg conference. The conclusion: expect a severe downturn in the world's economy over the next two years as Bilderbergers try to safeguard the remaining oil supply by taking money out of people's hands. In a recession or, at worst, a depression, the population will be forced to dramatically cut down their spending habits, thus ensuring a longer supply of oil to the world's rich as they try to figure out what to do.

During cocktails one afternoon, a European Bilderberger noted that there is no plausible alternative to hydrocarbon energy. One American insider stated that currently the world uses between four and six barrels of oil for every new barrel it finds, and that the prospects for a short-term breakthrough are slim at best. This confirms a public statement made in 2003 by IHS Energy, the world's most respected consulting firm cataloguing oil reserves and discoveries, that for the first time since the 1920s there was not a single discovery of an oil field in excess of 500 million barrels.

One invitee asked for an estimate of the world's accessible conventional oil supply. The amount was quoted at approximately one trillion barrels. As a side note of interest, the planet consumes a billion (1,000,000,000) barrels of oil every 11.5 days. Another Bilderberger asked about the hydrogen alternative to oil. The US Government official agreed gloomily that hydrogen's sal-

vation of the world's imminent energy crisis is a fantasy.

At the 2005 Bilderberg conference, the oil industry was represented by: John Browne, chief executive officer of BP; Sir John Kerr, director of Royal Dutch/Shell; Peter D. Sutherland, chairman of BP; and Jeroen van der Veer, chairman of the committee of managing directors at Royal Dutch/Shell. (Queen Beatrix of The Netherlands, Royal Dutch/Shell's principal shareholder, is a fully fledged member of the Bilderbergers. Her father, Prince Bernhard, was one of the

founders of the group back in 1954.)

It should be noted that in late 2003, oil and gas giant Royal Dutch/Shell announced it had overstated its reserves by as much as 20 per cent; in early 2004 it reduced its estimated oil and gas reserves by about 4.5 billion barrels, but in October had to apply an additional cut of 1.15 billion barrels in reserve estimates. In fact, Shell's three cuts in reserve estimates prompted the resignation of its co-chairman. The *Los Angeles Times* (18 January 2005) reported: "For petroleum firms, reserves amount to nothing less than 'the value of the company'."

At Rottach-Egern in May 2005, the industry's top executives tried to figure out how to keep the truth about diminishing oil reserves from reaching the public. Public knowledge of the diminishing reserves directly translates into lower share prices which could destroy financial markets, leading to a collapse of the world economy.

An American Bilderberger wondered what it would take for the oil price to go back to US\$25 a barrel. Another American Bilderberger, believed to be Allan Hubbard, laconically stated that the general public does not realise that the price for cheap oil can be the bursting of the debt bubble. Cheap oil slows economic growth because it depresses commodity prices and reduces world liquidity.

There is a strong indication, based on the information reported from the Bilderberg 2005 meeting in Rottach-Egern, that the US Federal Reserve is extremely concerned about the debt bubble. One American Bilderberger reported that if the price of oil were to go down to its previous low of \$25 a barrel, the debt-driven asset bubble would explode. Martin S. Feldstein, president of the National Bureau of Economic Research, added that \$50 a barrel involves greater cash flow.

According to publicly available information, the United States

Bilderberg, at one time or another, has had representatives of all major US and European newspapers and network news outlets attend.

consumes daily approximately 20 million barrels of oil out of a total world consumption of 84 million barrels. At \$50 a barrel, the aggregate oil bill for the US comes to \$1 billion a day, \$365 billion a year, about 3 per cent of 2004 US gross domestic product (GDP). About 60 per cent of US consumption is imported at a cost of \$600 million a day, or \$219 billion a year.

A short, stout man asked if the surging oil price would influence economic growth. Someone sitting in the front row noted that higher energy prices do not take money out of the economy; they merely shift profit allocation from one business sector to another. After further discussion, a US General commented that war spending helps jump-start the economy, noting that the trick to keeping the opposition at bay is to limit collateral damage to foreign soil.

A British Bilderberger noted that oil at \$120 a barrel would greatly benefit Britain and the United States, but Russia and China would be the biggest winners. An expert in international relations and policy studies noted that for the Chinese this would be a real bonanza. The Chinese import energy not for domestic consumption but, instead, to fuel its growing cheap exports—a cost that would be duly passed on to foreign buyers. A European banker pointed out that Russia could effectively devalue the dollar by re-denominating its energy trade with Europe from dollars into euros, forcing Europe's central banks to rebalance their foreign exchange reserves in favour of the euro. Jean-Claude Trichet, Governor of the European Central Bank, was present during the debate.

Globalised Trading and the Rift with China

European and American Bilderbergers, realising the most urgent of needs to expand into developing markets in order to help sustain the illusion of endless growth, have agreed to name Pascal Lamy, a French socialist and fanatical supporter of a European super-state, as the next World Trade Organization (WTO) president. It should be remembered that Washington gave conditional support to Lamy's nomination in exchange for European support of Paul Wolfowitz as head of the World Bank.

According to insider sources within the Bilderbergers, Lamy was chosen to help steer the global trading system through a time of rising protectionist sentiment in rich countries such as France and Germany, both reeling from high unemployment and reticent to accept increasingly muscular demands for market access from emerging economies. Third World States, for example, are insisting on cuts to EU and US farm subsidies. The WTO liberalisation drive collapsed in acrimony in Seattle in 1999 and again in Cancún in 2003.

The Bilderbergers have secretly agreed on the need to force the poor countries into a globalised market for cheap goods while simultaneously forcing the poor into becoming customers. The current rift with China is a good example, as the Chinese have flooded Western countries with cheap goods, amongst them textiles, driving down prices. As a trade-off, the Bilderbergers have entered into an emerging market ripe and vulnerable to superior Western know-how. Similar developing countries are slowly

acquiring more purchasing power, and the industrialised world is gaining a foothold in their domestic economies by targeting them for cheap exports.

Further discussion on China was led off with a series of rhetorical questions from the speaker. Is China really abusing its competitive advantage, or is it being victimised by the US and the EU? Is a trade war imminent? Should China revalue the yuan (its currency), and, if so, how should it do this?

An American Bilderberger noted that China in 2005 is one of the leading world economic powers whose actions influence the world economy. Another American, believed to be but not positively identified as Michael Ledeen of the American Enterprise Institute, said that if China doesn't revalue the yuan it would cause the entire world trade system to go out of whack. Someone mentioned that the current situation could be dangerous for the Chinese economy due to the creation of excess liquidity.

Elena Nemirovskaya, founder of the Moscow School of Political Studies, asked what would happen if the yuan were allowed to float freely. An economist responded that this could bring about serious consequences to the world's financial markets. China's foreign exchange reserves are to a large extent made up of US Treasury bills. An appreciation of the yuan would cause its dollar reserves to depreciate.

A German Bilderberger pointed out that this could force the Federal Reserve to have to raise interest rates, thus causing the current housing boom in the US to come to a screeching halt. An oversized Dutchman pointed out that the International Monetary Fund needs to play an active role in helping the yuan.

"Is there a real danger, then," asked an Italian Bilderberger, "of this dispute deteriorating into an all-out trade war?" "Not likely," according to an unidentified blond man from Scandinavia, believed to be a Swede, "because China has totally integrated itself into the market economy."

An American Bilderberger and a member of the US Government noted that all the posturing is part of the act to keep the voters back home happy.

China's moves into the Mekong region did not go unnoticed at the conference. William J. Luti, US Deputy Under-Secretary of Defense for Near Eastern and South Asian Affairs, explained that China's rapid expansion into the Mekong region, comprising Cambodia, Laos, Myanmar, Thailand and Vietnam, could threaten US interests in the area. Such moves by China would give it an enhanced role in South-East Asia.

Over the last several years, China has invested heavily in transport infrastructure development linking China's southwestern Yunnan province and the Mekong region.

A European Bilderberger pointed out that China is heavily dependent on oil imports. Someone asked for a figure. A tall, lanky man with glasses, believed to be Jeroen van der Veer, Chairman of Royal Dutch Shell, responded that some 40 per cent of China's supply is imported. In fact, China's move into the Mekong region is the result of acute awareness that the country's energy supplies are vulnerable to interference. Overall, 32 per

A British Bilderberger noted that oil at \$120 a barrel would greatly benefit Britain and the USA, but Russia and China would be the biggest winners.

cent of energy supplies, China's lifeblood, passes through the narrow and easily blocked Strait of Malacca.

Indonesia–Malaysia Stand-off

A political and military confrontation between Indonesia and Malaysia in the oil-rich Sulawesi Sea (both claim territorial right to the area of Ambalat) was the topic of much animated discussion among several American and European Bilderbergers during Friday afternoon cocktails. An American Bilderberger waving his cigar suggested using the United Nations to "further a peace policy in the region".

In fact, Bilderbergers at the lounge table all agreed that such a conflict might well give them an excuse to garrison the disputed area with UN "Peacekeepers" and thus ensure their ultimate control over the exploitation of this treasure, meaning untapped oil reserves.

Nobel Peace Prize Pressure

The appearance at Bilderberg 2005 of Nobel Peace Prize Committee Secretary Geir Lundestad was considered likely to mean, according to sources familiar with the discussion, a full court press by the American, British and Israeli delegation to the Nobel committee to prevent the Israeli nuclear technician Mordechai Vanunu from winning the coveted award.

Vanunu spent 18 years in an Israeli prison—eleven and a half of them in solitary confinement—for providing evidence of Israel's nuclear arsenal to the London *Sunday Times* newspaper in October 1986. Should Vanunu win the Nobel for peace, it would bring uncomfortable attention to the Israeli nuclear arsenal, especially in the face of growing evidence that Israel and the United States are about to punish Iran for trying to develop its own nuclear weapons.

Strong pressure was applied on Lundestad not to choose Hans Blix, the UN weapons inspector in Iraq, nor Mohamed El Baradei, director-general of the International Atomic Energy Agency, whom President Bush had tried to remove for not being tough enough on Iran.

Some of this year's other nominees are US President George W. Bush and UK Prime Minister Tony Blair for supposedly protecting world peace; the European Union; French President Jacques Chirac, the main culprit for the "No" vote on the European Constitution; former Czech President Václav Havel; the now-deceased Pope John Paul II; Cuban dissident Oswaldo Payá; and US Senator Richard Lugar and former senator Sam Nunn for their Cooperative Threat Reduction Program, which is intended to dismantle nuclear weapons left over from the Soviet Union.

The Iran–Russia–China Alliance

According to reports, a French Bilderberger pointedly asked Henry Kissinger if the US Government's sabre-rattling against Iran means the beginning of new hostilities. Richard Haass, CFR President, after asking for his turn to speak, dismissed the notion of an Iran invasion as unrealistic due to the sheer physical size of the country and its population size, not to mention the billions of dollars involved in getting the operation off the ground. Up to the

eyeballs in the Iraq quagmire, the United States military is wary of any new adventures in hostile terrain against a much healthier enemy, both better prepared and organised.

A Swiss Bilderberger asked if a hypothetical attack on Iran would involve a pre-emptive strike against its nuclear sites. Richard Haass replied that such an attack would prove to be counterproductive because Tehran's counterattack options could range from "unleashing terrorism and promoting instability in Iraq, Afghanistan and Saudi Arabia, to triggering oil price increases that could trigger a global economic crisis". During dinner, according to several sources, Richard Perle criticised Haass's position and explained his opposition to his view.

A woman believed to be Heather Munroe-Blum, Vice-Chancellor of McGill University, Quebec, Canada, asked a rhetorical question about what would happen if Iran were to continue building its nuclear arsenal. Haass replied that in this

scenario, the United States would have no choice but to grant Iran the same status as it does to Pakistan and India.

A US General commented that the China–Iran–Russia alliance is changing the geopolitical situation in the area. *Rapprochement* between Russia and China is viewed by the Bilderbergers as a significant event not to be taken lightly, even though it has received little media attention in the West.

A secret US Government report was cited wherein, according to sources, the Chinese have spent upwards of several billion dollars in acquiring Russia's latest and most sophisticated weapons technology. Someone pointed out that the Sino–Russian alliance is not limited to military trade and that the non-military exchange of goods has grown 100 per cent since the beginning of the Bush presidency.

A delegate at the conference, believed but not positively identified by Secret Service sources to be Anatoly Sharansky, a former Israeli Minister for Jerusalem and Diaspora Affairs, stated categorically during Friday night cocktails that the

counterweight to the Moscow–Beijing–Tehran axis is the US–Israel–Turkey alliance. A financial expert from a European nation intervened by stating that Russia is much better off financially today than four years ago because tax revenue generated by fuel and arms production and exports as a result of heavy emphasis on military production has financed strong growth of wages and pension incomes, boosting private consumption.

A German Bilderberger pointedly asked Richard Perle if the "war on terrorism" will intensify over the second term of the Bush presidency. Perle reportedly gave no reply but screwed up his face and looked away.

The feeling of "enough is enough" wasn't limited to the European Bilderbergers, wary of Bush's delirious, Hitler-like proclamations of regime changes worldwide. Bilderberg luminary Richard Haass pointedly told Richard Perle during Saturday night cocktails that the Bush Administration has overestimated its ability to change the world. Haass, according to several sources at the conference, is reported to have stated that

A political and military confrontation between Indonesia and Malaysia in the oil-rich Sulawesi Sea was the topic of much animated discussion among several American and European Bilderbergers during Friday afternoon cocktails.

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DOWN ON THE FARM

NANOTECHNOLOGY IN THE FOOD CHAIN

Corporations worldwide are engaged in nanotechnology research to put nanoparticles into the food we eat, the cosmetics we use and the packaging that contains them.

Part 2 of 2

by ETC Group

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NANO-FOOD AND NUTRITION, OR "NANOTECH FOR TUMMIES"

A handful of food and nutrition products containing invisible nano-scale additives are already commercially available. Hundreds of companies are conducting research and development (R&D) on the use of nanotech to engineer, process, package and deliver food and nutrients to our shopping baskets and our plates. Among them are giant food and beverage corporations as well as tiny nanotech start-ups.

According to Jozef Kokini, the director of the Center for Advanced Food Technology at Rutgers University (New Jersey, USA), "every major food corporation has a program in nanotech or is looking to develop one".¹⁵³ A 2004 report produced by Helmut Kaiser Consultancy, "Nanotechnology in Food and Food Processing Industry Worldwide", predicts that the nano-food market will surge from US\$2.6 billion today to \$7 billion in 2006 and to \$20.4 billion in 2010.¹⁵⁴ In addition to a handful of "nano-food" products that are already on the market, over 135 applications of nanotechnology in food industries (primarily nutrition and cosmetics) are in various stages of development.¹⁵⁵

According to Helmut Kaiser, more than 200 companies worldwide are engaged in nanotech R&D related to food. Among the 20 most active companies are five that rank among the world's 10 largest food and beverage corporations, Australia's leading food corporation and Japan's largest seafood producer and processed food manufacturer. (See annex 1.)

Despite the obvious enthusiasm for nano-scale science and its applications to food engineering and processing, the food and beverage industry is generally conservative and cautious when talking about the future of nanotech and food. Most industry representatives interviewed by ETC Group declined to provide specific details about the level of funding and industry partners. We spoke to scientists at giant food and beverage corporations (Kraft and Nestlé) as well as university researchers and representatives from small nanotech start-ups (often one and the same).

After witnessing widespread rejection of genetically modified foods, the food industry may be especially skittish about owning up to R&D on "atomically modified" food products. "The food industry is more traditional than other sectors like IBM [where nanotechnology can be applied]," explains Gustavo Larsen, a professor of chemical engineering and a former consultant to Kraft.¹⁵⁶ "My take is that there are good opportunities and it's often more feasible to realise these opportunities [in the food sector]. You can make nanoparticles and use them in foods—you don't have to assemble them first."¹⁵⁷ When asked what he believes will be the first products of nanotech R&D related to food, Larsen said that consumers are likely to see packaging composed of nano-scale materials before novel food products. "I think the packaging is a safer bet," said Larsen.

Molecular Food Manufacturing

Some people claim that in the future, molecular engineering will enable us to "grow" unlimited quantities of food without soil, seed, farms or farmers—and that it will wipe out global hunger in the process. Consider the following views:

- "Nanomachines could create unlimited amounts of food by synthesis at the atomic level, which would eradicate hunger." – Carmen I. Moraru, professor of food science, Cornell University (USA), on nanotech's potential impact on food science¹⁵⁸

- "Molecular biosynthesis and robotic replenishment may allow quick replacement of production, so we wouldn't have to depend on centralized systems to grow and deliver our food. In the first, primitive stages of molecular assembly, we'd build packaged

greenhouses, radically different from those today, that would allow local or individualized production by millions who know nothing about farming... At the next stage of molecular manufacturing, food synthesis could occur directly, without growing crops or livestock." – Douglas Mulhall, *Our Molecular Future* (Prometheus Books, 2002)

- "Why can't human beings imitate nature's methodology? Instead of harvesting grain and cattle for carbohydrates and protein, nanomachines (nanobots) could assemble the desired steak or flour from carbon, hydrogen, and oxygen atoms present in the air as water and carbon dioxide. Nanobots present in foods could circulate through the blood system, cleaning out fat deposits and killing pathogens." – Dr Marvin J. Rudolph, director, DuPont Food Industry Solutions, in *Food Technology*, January 2004

Producing food by molecular manufacturing¹⁵⁹ is the most ambitious goal of nanotech—and the least likely to materialise any time soon. To those who have followed the biotech debate over the past two decades, enthusiastic claims that a new technology will feed hungry people is a tired and empty refrain. Nano-optimists see the future through the biotech industry's rose- (and green-) coloured glasses: now it's nanotech, they claim, that will eradicate hunger by increasing agricultural yields, enhancing the nutritional content of food and eliminating the risk of food allergens.¹⁶⁰

ETC Group concludes that present-day "nanotech for tummies" is following the same trajectory as other nano-scale R&D, with the earliest applications in the area of "smart" materials and sensors. More revolutionary applications, such as the atomic modification of food, are perhaps more distant. But it's worth noting that a few ambitious scientists are trying to create food in the lab.

Tissue engineers at Touro College (New York City) and at the Medical University of South Carolina (USA) are experimenting

with growing meat by "marinating" fish myoblast (muscle) cells in liquid nutrients to encourage the cells to divide and multiply on their own. The first goal is to keep astronauts in space from going hungry.¹⁶¹

Packaging

Today, food packaging and monitoring are a major focus of food industry related nanotech R&D. Packaging that incorporates nanomaterials can be "smart", which means that it can respond to environmental conditions or repair itself or alert a consumer to contamination and/or the presence of pathogens.

According to industry analysts, the current US market for "active, controlled and smart" packaging for foods and beverages is an estimated \$38 billion—and will surpass \$54 billion by 2008.¹⁶⁷

The following examples illustrate nano-scale applications for food and beverage packaging:

- Chemical giant Bayer produces a transparent plastic film (called Durethan) containing nanoparticles of clay. The nanoparticles are dispersed throughout the plastic and are able to block oxygen, carbon dioxide and moisture from reaching fresh meats or other foods.¹⁶⁸ The nanoclay also makes the plastic lighter, stronger and more heat-resistant.

- Until recently, industry's quest to package beer in plastic bottles (for cheaper transport) was unsuccessful because of spoilage and flavour problems. Today, Nanocor, a subsidiary of Amcol International Corp., is producing nanocomposites for use in plastic beer bottles that give the brew a six-month shelf life.¹⁶⁹ By embedding nanocrystals in plastic, researchers have created a molecular barrier that helps prevent the escape of oxygen. Nanocor and Southern Clay Products are now working on a plastic beer bottle that may increase shelf life to 18 months.¹⁷⁰

- Kodak, best known for producing camera film, is using nanotech to develop antimicrobial packaging for food products that will be commercially available in 2005. Kodak is also developing other "active packaging" which absorbs oxygen, thereby keeping food fresh.¹⁷¹

- Scientists at Kraft as well as at Rutgers University and the University of Connecticut are working on nanoparticle films and other packaging with embedded sensors that will detect food pathogens. Called "electronic tongue" technology, the sensors can detect substances in parts per trillion and would trigger a colour change in the packaging to alert the consumer if a food has become contaminated or if it has begun to spoil.¹⁷²

- Researchers in The Netherlands are going one step further to develop intelligent packaging that will release a preservative if the food within begins to spoil. This "release on command" preservative packaging is operated by means of a

At the next stage of molecular manufacturing, food synthesis could occur directly, without growing crops or livestock.



"Here, take one of our promotional DVDs."

bioswitch developed through nanotechnology.¹⁷³

• Developing small sensors to detect food-borne pathogens will not just extend the reach of industrial agriculture and large-scale food processing. In the view of the US military, it's a national security priority.¹⁷⁴ With present technologies, testing for microbial food contamination takes two to seven days and the sensors that have been developed to date are too big to be transported easily.¹⁷⁵

Several groups of researchers in the US are developing biosensors that can detect pathogens quickly and easily, reasoning that "super-sensors" would play a crucial role in the event of a terrorist attack on the food supply. With US Department of Agriculture (USDA) and National Science Foundation (NSF) funding, researchers at Purdue University are working to produce a hand-held sensor capable of detecting specific bacteria instantaneously from any sample. They've created a start-up company called BioVitesse.¹⁷⁶

While devices capable of detecting food-borne pathogens could be useful in monitoring the food supply, sensors and smart packaging will not address the root problems inherent in industrial food production that result in contaminated foods: faster meat (dis)assembly lines, increased mechanisation, a shrinking labour force of low-wage workers, fewer inspectors, the lack of corporate and government accountability and the great distances between food producers, processors and consumers.

Just as it has become the consumer's responsibility to make sure meat has been cooked long enough to ensure that pathogens have been killed, consumers will soon be expected to act as their own meat inspectors so that industry can continue to trim safety overhead costs and increase profits.

Tagging and Monitoring:

• Radio Frequency ID (RFID) Tags

An RFid tag is a small, wireless, integrated circuit (IC) chip with a radio circuit and an identification code embedded in it. The advantages of the RFid tag over other scannable tags—such as the UPC barcodes pasted on most consumer products today—are that the RFid tag is small enough to be embedded in the product itself, not just on its package, it can hold much more information, can be scanned at a distance (and through materials, such as boxes or other packaging) and many tags can be scanned at the same time.

RFid tags are already being used for livestock tracking, attached to the ear or injected into the animal. The entire chip can be about the size of a dust mote—closer to micro-scale than nano-scale, though incorporating nano-scale components. Developers of the technology envision a world where they can "identify any object anywhere automatically".¹⁷⁷

RFid tags could be used on food packaging to perform relatively straightforward tasks, such as allowing cashiers in supermarkets to tally all of a customer's purchases at once or alerting consumers if products have reached their expiration dates. RFid tags are controversial because they can transmit information

even after a product leaves the supermarket.

Privacy advocates are concerned that marketers will have even greater access to data on consumer behaviour. They want the tags to be disabled at the cash register (what is known as "tag killing") to ensure that personal data won't be obtained and stored. Wal-Mart in the US and Tesco in the UK have already tested RFid tagging on some products in some stores.¹⁷⁸

• Nanobarcodes

A "nanobarcode" is an alternative tagging or monitoring device that works more like the UPC code, but on the nano-scale. One type of nanobarcode—developed by Nanoplex Technologies—is a nanoparticle consisting of metallic stripes, where variations in the striping provide the method of encoding information.¹⁷⁹

Nanoplex changes the length and width of the particles and the number, width and composition of each stripe to make billions and billions of variations. So far they've put barcodes into ink, fabric, clothing, paper, explosives and on jewellery. The codes can be read using a hand-held optical reader or a microscope that measures the difference in reflectivity of the metallic stripes. Silver and gold reflect light in different ways, for example, and it is the patterns of reflection that give each particle its unique code. In addition to gold and silver, Nanoplex makes codes out of platinum, palladium, nickel and cobalt.

Nanoplex also produces "Senser" (Silicon Enhanced Nanoparticles for Surface Enhanced Raman Scattering) tags—50-nanometre metal nanoparticles that exhibit unique codes similar to nanobarcodes. Senser tags can also be incorporated into packaging and read by an automated reader up to a metre away, allowing items to be read at a checkout like RFID tags or covertly at ports.¹⁸⁰

The tagging of food packages will mean that food can be monitored from farm to fork—during processing, while in transit, in restaurants or on supermarket shelves and, eventually, even after the consumer buys it. Coupled with nanosensors, those same packages can be monitored for pathogens, temperature changes, leakages, etcetera.

Nano-food: What's Cooking?¹⁸¹

In 1999, Kraft Foods, the \$34 billion Altria (formerly known as Philip-Morris) subsidiary, established the industry's first nanotechnology food laboratory. The next year, Kraft launched the NanoteK consortium, enveloping 15 universities and public research labs from around the globe.¹⁸² None of the scientists involved in the consortium is a food scientist by training; rather, they're a mix of molecular chemists, material scientists, engineers and physicists.¹⁸³

Looking at food from an engineering perspective is nothing new. For the last three decades, scientists have introduced genes from one species of plant or animal into another using genetic modification (GM) technologies; but at least for a thousand years before that, people introduced specially formulated additives to food to impart new flavours, textures, colours or other qualities.

Nano-scale technologies will take food engineering "down" to a

A "nanobarcode" is an alternative tagging or monitoring device that works more like a barcode, but on the nano-scale.

new level, with the potential to change dramatically the way food is produced, grown, processed, packaged, transported and even eaten.

• Nano-scale food additives

In fact, the products of nanotechnology have already begun to "appear" in food (though they are too small to be seen—and consumers would have no way of knowing, since there is no requirement for labelling and no size-specific regulation).

BASF, for example, produces a nano-scale version of carotenoids, a class of food additives that imparts an orange colour and that occurs naturally in carrots and tomatoes. Some types of carotenoids are antioxidants and can be converted to vitamin A in the body. BASF sells its nano-scale synthetic carotenoids to major food and beverage companies worldwide for use in lemonades, fruit juices and margarines.¹⁸⁴ Nano-scale formulation makes them more easily absorbed by the body but also increases shelf life. BASF's carotenoid sales are US\$210 million annually. This figure includes both nano-scale and other carotenoids.¹⁸⁵

In 2002, BASF submitted a GRAS (Generally Recognized as Safe) notice to inform the FDA of its sale of a synthetic carotenoid called lycopene (which occurs naturally in tomatoes) as a food additive. BASF's synthetic lycopene is formulated at the nano-scale.¹⁸⁶ According to BASF, the question of specialised testing for nanoparticulated lycopene was not raised and was not required because "BASF demonstrated safety in a variety of...toxicological evaluations".¹⁸⁷ The FDA accepted BASF's notice without question.¹⁸⁸

In a telephone interview, Robert Martin of the FDA confirmed that size was not taken into account in the review of BASF's synthetic lycopene, and he explained further that "size *per se*" is "not a major consideration" in regulatory review but would be addressed "on a case-by-case basis" if there appeared to be implications for health and safety.¹⁸⁹

Is it safe to add nanoparticles to foods? The short answer to the question is, "No one knows for sure". The issue has yet to be confronted head on by either regulators or the scientific community.

ETC Group has identified only a handful of nano-scale food additives on the market today, but we can't be certain how widespread their use is since there are no requirements that they be labelled as such. Just as in other regulatory arenas such as cosmetics and chemicals, the question of safety has not been approached from the perspective of size. So far, manufacturers have been the only ones to consider size—primarily in terms of the market advantages that extremely small size offers (e.g., a decrease in size increases bioavailability in foods and increases transparency in cosmetics).

In the case of additives that also occur naturally in foods, it is not clear what the nano-specific safety issues are. Discussing nano-scale lycopene, for example, Dr Gerhard Gans of BASF explained that once the synthetic, nano-scale lycopene reaches the gut, it behaves in exactly the same way the lycopene in a tomato behaves: it is broken down by digestive enzymes and taken into

the bloodstream and further to the liver and other organs as individual molecules.¹⁹⁰ In other words, by the time it enters the bloodstream, all food is nano-scale—whether it started out as a slice of tomato or a glass of lemonade containing BASF's synthetic lycopene. (Perhaps because of health concerns related to nanoparticles, Dr Gans emphasised that the synthetic lycopene handled by BASF employees and supplied to their customers was not in the form of nanoparticles; at that stage, he said, the particles have clumped together in aggregates of micron-level size, which will partially dissolve in the final product. Ultimately, the consumer's digestive enzymes bring the particles back down to the nano-scale.)

While the explanation that all food is nano-scale by the time it reaches the bloodstream makes sense *a priori*, it is important to note that BASF conducted toxicological testing of its lycopene not because it was a nano-scale formulation but because it was

produced through chemical synthesis (rather than derived from lycopene-containing fruits and vegetables). Had synthetic lycopene already been vetted as a food ingredient, BASF would not have been compelled by regulators to test the safety of a nano-scale version.

This is what makes the prospect of adding nanoparticles to foods—in the absence of specific regulatory attention paid to size—alarming: what nano-scale substances are in the pipeline that have already been approved as food additives at larger scales but may now be formulated at the nano-scale with altered properties and unknown consequences? Of particular concern would be nano-scale formulations of substances that do not already occur naturally in food.

• Titanium Dioxide and Silicon Dioxide Coatings

Take titanium dioxide (TiO₂) as an example: TiO₂ was approved as a food colour additive by the US FDA in 1966, with the only stipulation being "not to exceed 1% by weight".¹⁹¹ (Micron-sized TiO₂ imparts a bright white colour and

is added to icings on cookies and cakes). The FDA has also approved TiO₂ as a "food contact substance"—meaning that if it comes into contact with food when it is incorporated into packaging, it won't cause harm. TiO₂ has been used as a colourant (white) in paper used for food packaging.¹⁹²

With advances in nanotech techniques, TiO₂ can now be formulated at the nano-scale. The quantum property changes that take place with the reduction in size offer advantages for certain applications. But some of nano-scale TiO₂'s property changes—such as increased chemical reactivity—have caused concern in applications where the nano-scale substance comes into intimate contact with the human body, (e.g., as an ingredient in cosmetics).¹⁹³ Nano-scale TiO₂ particles are no longer white (they are transparent), but they still block ultraviolet (UV) light in the way their larger siblings do. Transparent, nano-scale TiO₂ is now being used in clear plastic food wraps for UV protection.

Because TiO₂ has already been approved as a food colour additive and as a food contact substance, its nano-scale use in foods does not require additional toxicity testing. And the per-cent-by-

The products of nanotechnology have already begun to "appear" in food (though they are too small to be seen—and consumers would have no way of knowing, since there is no requirement for labelling...).

weight limits set back in the 1960s aren't necessarily relevant to today's nano-scale formulations, since tiny amounts can produce large effects.

Silicon dioxide (SiO₂), also known as silica, is another example of an FDA-approved food additive that doesn't occur naturally in foods. Silica is a common substance in nature—beach sand and quartz are almost-pure forms of crystalline silica.¹⁹⁴

In addition to a crystalline form, silica occurs naturally in an amorphous form, e.g., diatomaceous earth, and it is this form of silica that is produced synthetically and is an FDA-approved food ingredient as an anti-caking agent.¹⁹⁵ (Amorphous silica is also known as "fumed" silica.) The regulation states that the silica content must be less than two per cent of the weight of the food. Food-grade fumed silica with particle sizes in the nanometre range are commercially available.¹⁹⁶ Again, it is not clear what food products contain synthetic nano-scale silica as there are no labelling requirements.

Mars, Inc., one of the world's largest private food corporations, was issued US Patent No. 5,741,505 in 1998 on "edible products having inorganic coatings". The coatings create a barrier to prevent oxygen or moisture from reaching the product under the coating, thereby increasing shelf life.

The patent claims the invention will keep hard candy from getting sticky, cookies from getting stale, cereals from becoming soggy in milk, etc. The coatings can be made from various chemical compounds, of which SiO₂ and TiO₂ are specifically mentioned. According to the inventors, the coating should be extremely thin because of regulatory requirements and because of texture and "mouth feel" considerations.

The patent states that the ideal coating would be somewhere between 0.5 nm and 20 nm thick.

While the coating could be made of any inorganic material, the inventors state that it is preferable to use a substance that has already been GRAS-certified by the FDA, such as SiO₂ and TiO₂. The patent application describes an example of their invention, in which they coated M&Ms, Twix and Skittles brand candies with an inorganic nanofilm.

ETC Group is not in the position to assess the safety of nano-scale food additives. We want to highlight the regulatory vacuum, where size does not matter and nano-scale formulations do not trigger any special regulatory scrutiny. It's a kind of "particle nepotism" that could have dangerous consequences: if Big Brother passes the safety test, Little Brother doesn't even have to take the exam.

Special Delivery

The food industry aims to engineer food so that it is more "functional"—meaning more nutritious (or perceived to be) or serving some other purpose beyond its biological purpose of providing energy through calorie consumption.

Many companies believe that nano-scale technologies will help in this quest, and so they are focusing on "delivery". Most of us don't think very much about delivery when it comes to food (unless we're waiting for a pizza to arrive from across town): we bite, chew, swallow and our digestive tracts take care of the rest. But in order to benefit from delivery—whether it's the vitamin C from an apple we've just bitten into or the synthetic lycopene in

our lemonade—the nutrient must go to the right place in the body and it must be active when it gets there.¹⁹⁷

Controlling and engineering nutrient delivery is a challenge, and its mastery will be enormously profitable. According to industry analysts, in the US alone the market for functional foods containing medically beneficial nutrients—worth \$23 billion in 2003—will exceed \$40 billion in 2008.¹⁹⁸

In December 2000, ETC Group reported on the biotech industry's quest to develop a new generation of biotech products, genetically modified "nutraceuticals" and functional foods that seek to deliver clear (or at least perceived) consumer benefits.¹⁹⁹ Tainted by the wider controversy over GM crops, however, the GM nutraceutical products have been largely stuck in the pipeline. Will nanotech deliver where biotech has failed?

Like the pharmaceutical, agrochemical and cosmetics giants, food and beverage companies are also experimenting with the use of nanocapsules to deliver active ingredients. One way to preserve an active component is by putting it in a protective "envelope". The envelope can be engineered to dissolve, or the active ingredient can be made to diffuse through the envelope triggered by the right stimulus.

Like the pharmaceutical, agrochemical and cosmetics giants, food and beverage companies are also experimenting with the use of nanocapsules to deliver active ingredients.

There are already several hundred types of "microcapsules" being used as food additives in the US alone,²⁰⁰ some to achieve the controlled release of active ingredients. George Weston Foods of Australia, for example, sells a version of its popular Tip Top bread, known as "Tip Top-up", which contains microcapsules of tuna fish oil high in omega-3 fatty acids. Because the tuna oil is contained in a microcapsule, the consumer doesn't taste the fish oil, which is released in digestion once it has reached the stomach. The same technology is also being employed in

yoghurts and baby foods. Companies large (Unilever, Kraft) and small (see below) are now developing "nanocapsules":

- Researchers at Hebrew University in Jerusalem have created a start-up company called Nutralease. They've applied for a patent²⁰¹ on a nano-scale self-assembled structure that can carry active components into and through the human body. According to the company's patent application, their "nanovehicle" can be diluted in either oil or water without affecting its active ingredient. The company's nanovehicles are already on the market in a cholesterol-reducing canola oil.²⁰² Nutralease has just signed a deal with an Israeli meat company that wants to inject a little health into its hot dogs, and another deal with an ice cream manufacturer is in the works.²⁰³

- Royal BodyCare, a company based in Texas (USA), has created what it calls "nanocuticals" (and has applied for a trademark on the name) using a different kind of envelope to deliver "powerful, tiny mineral clusters that are believed to increase the absorption of nutrients into our cells".²⁰⁴ Royal BodyCare puts these nanocutical particles into its line of "SuperFoods" nutritional supplements.

- BioDelivery Sciences International (BDSI) has developed and patented "nanocochleates"—coiled nano-scale particles (as small as 50 nm in diameter) derived from soy (not genetically modified, they emphasise!) and calcium that can carry and deliver pharmaceutical compounds as well as nutrients such as vitamins, lycopenes and omega fatty acids directly to cells. The company

claims that its nanocochleates can deliver omega-3 fatty acids to cakes, muffins, pasta, soups and cookies without altering the product's taste or odour.²⁰⁵ No products containing the nanocochleate delivery system are currently on the market, but the company actively seeks to license its technology.

"We have some [food] companies that are clearly enthusiastic," said Raphael Mannino, chief scientific officer of BDSI.²⁰⁶ Mannino told ETC Group that it is not yet clear what regulatory hurdles his company's nano-scale nutrient delivery system would need to clear before commercialisation. "Nobody is really sure yet," said Mannino.²⁰⁷ Before it becomes a commercial reality, BDSI must achieve large-scale manufacture of the nanoen-cochleation technology. Under the most optimistic scenario, Mannino said that "we could be in food in one year".

- With funding from the USDA, LNK Chemsolutions is developing nano-scale capsules of edible polymers to prevent the flavour and aroma of food molecules from degrading. The goal is to increase the shelf life of sensitive food products, but the company declines to reveal which ones.²⁰⁸ LNK Chemsolutions was founded by Dr Gustavo Larsen, a professor of chemical engineering at the University of Nebraska.

- Other companies are working on using nano-scale technologies to create "interactive foods" that operate using "on-demand" delivery. The idea is that the consumer will be able to choose—based on her individual aesthetics, nutritional needs or flavour preferences of the moment—which components will be activated and then delivered and which won't be.

Kraft's NanoteK consortium scientists are developing nanocapsules whose walls burst at different microwave frequencies so the consumer can "switch on" new tastes or colours. Countless nanocapsules would remain dormant and only the desired ones would be called into action. Kraft is also working on sensors that will be able to detect an individual's nutritional deficiencies and then respond with smart foods that release molecules of the needed nutrients.²⁰⁹

Early next year, food scientists will meet to discuss nano-scale and micro-scale approaches for controlled release and nutrient absorption in foods—at the first International Symposium on the "Delivery of Functionality in Complex Food Systems: Physically Inspired Approaches from Nano-scale to Micro-scale", at the Nestlé Research Centre in Lausanne, Switzerland.²¹⁰

In addition to aiding nutrient delivery, nanoparticles may be used in foods to alter other properties. For example, margarine, ice cream, butter and mayonnaise all belong to a class of foods known as "colloids", where small particles are dispersed in some other medium—liquid, gas or solid. Unilever, Nestlé and others are conducting research and already hold patents on new ways to make colloids using nanoparticles that will extend shelf life, prolong flavour sensation in the mouth, alter texture and improve stability. (See annex 2.)

• Nutricosmetics

Eating is just one way to deliver active ingredients. Paris-based L'Oréal, the world's leading cosmetics firm, already markets skin care products containing nano-scale particles.²¹¹ (Nestlé holds a 49% stake in L'Oréal.²¹²) The company's "nanosomes" are tiny

intercellular delivery systems that penetrate the skin and then release vitamin E. According to L'Oréal: "Given that the interstices of the outer layer of skin measure about 100 nanometres, nanovectors offer the best solution to the problem of transporting and concentrating active ingredients in the skin."²¹³

Cosmetics containing invisible nanoparticles have not escaped notice in recent European reports on potential risks associated with manufactured nanoparticles. A Royal Society (UK) report released in July 2004 notes the dearth of toxicological data on manufactured nanoparticles.²¹⁴ Because these are used in some cosmetics and sunscreens, the report recommends that further studies be done into skin penetration by manufactured nanoparticles and that toxicological studies conducted by industry be placed in the public domain—no doubt causing some wrinkles for L'Oréal.

Food and cosmetics companies are now collaborating to develop "cosmetic nutritional supplements". L'Oréal and Nestlé recently formed Laboratoires Innéov, a 50/50 joint venture. Innéov's first product, called "Innéov Firmness", contains lycopene. The supplement is taken orally and is marketed to women over forty who are concerned about lost skin elasticity.⁶⁴

Shortly after Nestlé cemented its collaboration with L'Oréal, Procter & Gamble and Olay announced they would be creating

two lines of nutritional supplements together—one for "Beauty" and one for "Wellness".²¹⁶

While these particular supplements are not advertised as using nano-scale technologies, it is difficult to be sure since there are no labelling requirements. In any case, the food and cosmetic alliances illustrate the tendency to blur boundaries between food, medicine and cosmetics, a trend that nanotech will likely accelerate. ∞

Eating is just one way to deliver active ingredients. Paris-based L'Oréal, the world's leading cosmetics firm, already markets skin care products containing nano-scale particles.

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ETC Group (formerly RAFI) is an action group on erosion, technology and concentration. Publications, including the full text, recommendations and annexes of *Down on the Farm: The Impact of Nano-scale Technologies on Food and Agriculture*, can be downloaded free of charge from the website, <http://www.etcgroup.org>, and are available in hardcopy from: ETC Group, 431 Gilmour Street, Second Floor, Ottawa, ON, Canada K2P 0R5, telephone +1 (613) 241 2267, fax +1 (613) 241 2506, email etc@etcgroup.org.

Editor's Note:

Due to a lack of space, we have not published the relevant and extensive footnotes. Instead, we encourage readers to obtain a copy of the full report from <http://www.etcgroup.org> and use it to generate debate within the community.

THE NANOBACTERIA LINK TO HEART DISEASE AND CANCER

Nanoparticles are implicated in the harmful calcification that's common to many illnesses.

A simple treatment is now reversing the symptoms, especially in heart disease, so why aren't the health authorities telling patients and doctors about it?

by Douglas Mulhall

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Based on the book *The Calcium Bomb*
by Douglas Mulhall and Katja Hansen
(The Writers' Collective, 2005)

Millions of seriously ill patients are unaware that heart disease is being measurably reversed with an approach pioneered by researchers at the National Aeronautics and Space Administration (NASA) and in Finland, aided by Mayo Clinic and Washington Hospital Center findings. This approach is now prescribed by hundreds of doctors for thousands of patients. A similar approach has been developed with prostate disease at the renowned Cleveland Clinic in Florida. According to doctors, both approaches are practical options for those whose other medicines and surgery have failed. So why aren't other desperately ill patients whose treatments don't work being told about it?

In July 2004, the medical journal *Pathophysiology* published a peer-reviewed research paper with the innocuous title "Calcification in coronary artery disease can be reversed by EDTA–tetracycline long-term chemotherapy".¹ In plain terms, it meant that hardening of the arteries was being reversed. Not only were rock-hard calcium deposits being reduced, but chest pains were being resolved in most patients and bad cholesterol levels were being cut beyond what other medicines had achieved. The findings were important for patients whose other drugs and surgery weren't working, i.e., the "cardiac cripples", whose numbers are in the millions and whose doctors have told them there is nothing more to be done. They were the ones who responded most favourably to the new approach.

Then, in February 2005, a paper published in the prestigious *Journal of Urology* by researchers from the Cleveland Clinic, one of the leading urology hospitals in America, reported "significant improvement" in chronic prostatitis—a growing problem for millions of men—again, where other approaches had failed.²

The studies, although otherwise separate, had a compelling link. They used a cocktail of well-known, inexpensive medicines that have been around for half a century but were never before used in this combination. Both reports urged more studies to confirm their conclusions, and emphasised that not every patient experienced a reversal; only a majority did. Nonetheless, the results were encouraging. Chronic diseases that had befuddled modern medicine were being reversed.

To put a human face on this, take the case reported by Dr Manjit Bajwa of McLean, Virginia, who did not participate in the clinical studies but whose experience with one patient paralleled study results. Dr Bajwa reported in a testimonial of 5 May 2005:

"Two years ago I had a patient with severe coronary artery disease with a 75–85% blockage in left coronary and two other arteries. Open heart surgery was recommended as stents could not be put in. The patient was told he would probably die within two weeks if surgery was not performed.

"He declined surgery and instead chose chelation. [Author's note: chelation in this case is an intravenous form of heavy metal removal.] After twenty-five treatments of chelation, his angina worsened [author's emphasis]. With [his] heart calcium score of 2600, I started the nanobacteria protocol. Within two to three weeks his angina abated. He was able to return to all his normal activities and exercises in two months.

"Nanobacteria protocol helped this patient measurably, when other treatments had failed. I am quite impressed with his results. With heart calcium scores of 750 or more, nothing else seems to work."

Bajwa and her patient are far from alone. In Santa Monica, California, general practitioner Dr Douglas Hopper said he recorded impressive results with a diabetic patient when he used the treatment to help her recover from congestive heart failure. Hopper then put his patient on the same treatment used in the clinical study: a regimen of tetracycline,

EDTA and nutraceuticals,³ administered by the patient at home. Note that this was not intravenous chelation, which has been broadly analysed and critiqued, but, instead, a mix of oral and suppository treatments.

In Toledo, Ohio, cardiologist Dr James C. Roberts, who pioneered early patient treatment with this approach, has on his website case histories from dozens of patients who have shown remarkable improvement. In Tampa, Florida, cardiologist Dr Benedict Maniscalco, who supervised the clinical study [*Pathophysiology* study, referenced previous page], reports that patients who stayed on the treatment after the study was completed showed dramatic reductions in their heart disease symptoms. There are many more examples.

Normally results such as these, when reinforced by clinical studies, however preliminary, would be cause for loud celebration. If the findings had been reported by a major pharmaceuticals company, they could have easily made the front pages of medical news services because, until then, no one had reported reversing the symptoms of such diseases to such an extent. More encouraging still, because the medicines have been around for many years and their side effects are minimal and well known, the new approach is already available across the USA and used with thousands of patients. That leaves thousands more doctors with millions more patients who might benefit right now. On top of that, a blood test based on the new approach has been used to identify heart disease early in patients who show no outward symptoms.

Why, then, has the response from government authorities, medical associations and health experts been cavernous silence?

To understand this requires looking at a scourge that has been with us for millennia, and which science has been at a loss to explain until now. It is known as *calcification*.

CALCIFICATION

Calcification is a rock-hard mix of the most plentiful minerals in the body: calcium and phosphorus. Normally this calcium phosphate mix is essential for

building bones and teeth. But as we age, and sometimes when we are still young, some of it goes haywire, stiffening arteries, roughing up skin, destroying teeth, blocking kidneys and salting cancers.

The arithmetic is frighteningly easy. Calcification doubles in the body about every three or four years. We can have it as teenagers and not notice, although it mysteriously accelerates in some athletes. Then as we age and also live longer, it becomes so endemic that most people over seventy have it.

For decades, calcification has been growing imperceptibly in tens of millions of baby boomers. Politicians and pundits are among the high-profile victims of this slow-motion explosion that is ripping apart healthcare with skyrocketing treatment costs. In December 2004, doctors diagnosed US President George W. Bush with one of the more commonly known forms: coronary artery calcification. Former President Clinton required emergency surgery because doctors missed much of his calcification when they used older tests to track it. Vice President Dick Cheney and many of his Senate

colleagues are calcified. At least three sitting US women governors have had it in breast cancer as well. And they are not alone. Media types who cover politics or poke fun at it haven't escaped. Larry King and David Letterman are both calcified, as are many ageing news anchors. A much younger CBS *Early Show* co-host, Rene Syler, has it too.

As we learn more about it, calcification is competing to be the leading medical disorder. Although it is nowhere on the "Leading Causes of Death" list, it contributes to most diseases that kill us, including heart disease, diabetes and cancer. The numbers are staggering. For the 60 million Americans who have heart disease, most have calcification. Of the millions of women who develop breast or ovarian cancer or who have breast implants, calcification is a warning. Men with prostate disease often have it, as do kidney-stone sufferers. Athletes with stress injuries like bone spurs and tendonitis get it frequently.

Most of us don't know the pervasiveness of calcification because it has a different name in many diseases, and here are just a few: dental pulp stones, hardening of the arteries, kidney stones, pitcher's elbow, bone spurs, microcalcification in breast cancer and "brain sand".

Unsuspecting patients aren't the only ones in the dark. Many doctors are unaware of new studies that show calcification is toxic, causing acute inflammation, rapid cell division and joint destruction. Oddly, these nasty effects are well known to specialists who study calcification in arthritis, but awareness of them hasn't translated very well to the cardiovascular community, with the result that calcification is still misperceived by many as an innocent bystander instead of an inflammatory devil.

The double-think about calcification is illustrated by how it is treated in breast cancer. When microcalcification is detected in the breast with routine scans, it is a warning sign for cancer and the deposits are biopsied for malignancies. This was the case, for example, with Connecticut Governor Jody Rell in early 2005. Doctors found cancer in the calcium deposits in her breast before scans detected a tumour. This let them surgically remove it before it spread to

her lymph nodes.

That typifies one perverse advantage of calcification: it helps doctors pre-empt more serious disease. In some ways, it is a canary in the mine of the body. And yet, if cancer is not found in calcium deposits, these are often declared as "benign" and patients are told there is nothing to worry about.

The same thing goes for heart disease. Coronary artery calcification is seen as an excellent predictor of the illness. Tens of billions of dollars are spent every year on scanning technology to identify the telltale thin white lines that betray its presence. Yet most doctors see calcification in the arteries as something that comes along later once the disease takes hold, despite evidence that calcium phosphate crystals generate the same type of inflammation that, according to cardiologists, plays a big role in heart attacks.

Incredibly, with all the advanced detection techniques, there has been no way to find calcium deposits where they get started in the billions of capillaries in the human body—so, without being able to

As we learn more about it, calcification is competing to be the leading medical disorder.

For the 60 million Americans who have heart disease, most have calcification.

see the starting point, doctors often conclude that what they don't see isn't there. But make no mistake: calcification is there, and it is a medical disorder. It was registered in 1990 as a disorder under the International Classification of Diseases list of the World Health Organization and was adopted by WHO member states as of 1994 (see <http://www.who.int/classifications/icd/en/>).

When well established, calcification stares defiantly at radiologists every day from X-rays as it multiplies incessantly. There has been no proof of where it comes from, and there is no known way to prevent it or sustainably get rid of it without removing it surgically. Due to its gestation period of years before it triggers real trouble, it has just begun sucking the life out of baby boomers and their healthcare budgets.

Among its more exotic effects, it threatens space exploration when it disables astronauts with unexpected kidney calcification and it is a budget-breaker for pro-sport-team owners who lose athletes to its ravages. At the more mundane level, it complicates root canals and it disrupts the lives of otherwise healthy young people when it strikes as kidney stones. Worst of all, it infiltrates plaque in heart disease and stroke and it plugs bypasses and stents used to fix our internal plumbing.

The US National Library of Medicine holds thousands of research documents referencing calcification, and various medical journals cover it in depth. GE Healthcare, Toshiba, Philips and Siemens sell thousands of machines for detecting it.

TREATMENT A THREAT TO PHARMCO PROFITS

But with all this money being thrown at calcification, there has been virtually no success at finding the cause. So when researchers such as those at Mayo Clinic and NASA find something that seems to cause it, and clinical studies show that a new approach seems to get rid of it, you'd think that most of the medical establishment would be rapt with attention, right? Wrong.

Only a few small studies have been co-financed by the National Institutes of Health (NIH) to look into this, and neither has to do with the treatment. The only thing the Food and Drug Administration (FDA) seems to have done is to make rumblings about whether the treatment is legitimate, although the active ingredients—tetracycline and EDTA—have been FDA approved for other uses for decades. So far, no government agency has made public note of the peer-reviewed studies that many physicians say are so promising.

According to doctors familiar with the approach, here are a few reasons why the treatment has not been given the attention that it seems to merit...

- The most perturbing for patients: the treatment is relatively inexpensive and produces poor profits compared to other drugs. It is exponentially cheaper than open heart surgery. Because it does not have to be taken for life at full dose—as is the case with most other heart drugs—it does not provide the steady cash flow that other medicines do.

- Although the treatment is initially used alongside other medicines as a precaution to make sure patients don't switch prematurely and suffer problems, evidence suggests that the new approach might replace more profitable blood thinners and anti-inflammatories that are staples of the pharmaceuticals industry.

- And if the approach continues to reverse coronary artery disease, it will cut down on expensive surgical procedures that are the financial mainstay of hospitals.

That's not to say surgeons don't want to get rid of calcification. New stents that go into arteries are specially coated with time-release drugs that seem to ward off calcification. But that only happens where the stent is located, not in the other 99.999 per cent of the arteries.

Also, the EDTA–tetracycline–nutraceutical combo that has demonstrated such promise is not the only treatment shown to work. A group of drugs known as bisphosphonates, used for example to treat osteoporosis, has been shown to be effective in the lab against some calcification. But bisphosphonates can have nasty side effects, especially with the type of regular application that seems to be necessary to reverse heart disease in seriously ill patients. Due to these

risks, the only present approach that seems to be safe and effective in reversing heart disease is the one that uses the EDTA–tetracycline–nutraceutical mix.

Critics claim the reason why the treatment isn't adopted more broadly has nothing to do with money but instead with science. They say researchers can't show how the treatment works.

NANOBACTERIA DISCOVERED IN OUR BLOOD

It all comes down to a sub-microscopic blood particle known as a *nanobacterium*, discovered in 1988 by

Finnish researcher Dr Olavi Kajander at Scripps Research Institute in California.

The particle has a special habit no other blood particle has been known to possess: it forms a rock-hard calcium phosphate shell that is chemically identical to the stuff found in hardening of the arteries, prostate disease, kidney disease, periodontal disease and breast cancer. The problem is, the particle is so small that it apparently can't accommodate nucleic acid strings that, according to commonly accepted wisdom, would let it replicate on its own and be alive. So scientists are stumped over how it manages to self-replicate.

For 15 years, microbiologist Dr Neva Ciftcioglu (pronounced "shift-show-lew") has been peering with an electron microscope at this blood particle that critics say doesn't live. But according to NASA colleagues and Mayo Clinic researchers, the question of whether it lives is less important than what it does. Despite or perhaps due to its tiny size and genetic elusiveness, this speck may be the Rosetta stone for a calcified language found in most diseases on the Leading Causes of Death list.

Like her science, Ciftcioglu's life is full of unusual turns. Being a woman microbiologist from Turkey speaks volumes. Throw into that her once-fluent Finnish, a position at NASA and professorships on both sides of the Atlantic, and you've got a determined character struggling with a stubborn scientific cryptogram.

Ciftcioglu's work with nanobacteria began when her PhD scholarship took her to the University of Kuopio in Finland, where alongside her once mentor, biochemist Olavi Kajander, she developed the antibodies necessary to find the particle in the human body. A decade later, her work caught the eye of NASA chief scientist Dr David McKay and she ended up at the Johnson Space Center in Houston, gathering science awards that testify to her success.

It all comes down to a sub-microscopic blood particle known as a *nanobacterium*, discovered in 1988 by Finnish researcher Dr Olavi Kajander.

Now Ciftcioglu and long-time collaborator Kajander, who discovered the nanoscopic artifact, stand at the eye of a growing storm. They and their colleagues are garnering praise and scorn because they claim to have evidence for why most of us are literally petrified by the time we die. More profoundly, their work may influence how new life is found on Earth and other planets.

SELF-REPLICATING NANOPARTICLES

An intense dispute has raged for years that connects how we look for infection in the body with how we look for bio-kingdoms on Earth and throughout the universe. Researchers have long sought terrestrial extremophiles that tell them what might survive on Mars, while others doubt the wisdom of looking for life on Mars at all. The mystery remains: what is the most effective way to find novel organisms?

Until recently, every life-form was found to have a particular RNA sequence that can be amplified using a technique known as Polymerase Chain Reaction (PCR). Nucleic acid sub-sequences named 16S rRNA have been universally found in life-forms. By making primers against these sub-sequences, scientists amplify the DNA that codes for the 16S rRNAs. Resulting PCR products, when sequenced, can characterise a life-form.

One high-powered group persuaded NASA with a "Don't fix it if it ain't broke" line and lobbied successfully to use the same method employed for years: get a piece of RNA and amplify it. The group—led by scientists such as Dr Gary Ruvkun at the Department of Genetics in Massachusetts General Hospital, Boston, and advised by luminaries such as Dr Norman Pace at the University of Colorado—got money from NASA to build a "PCR machine" that would automatically seek such clues in harsh environments such as those found on Mars.

Other scientists known as astrobiologists say the PCR machine approach is a waste of money because such amplification shows only part of the picture—not what nature might have done on other planets or, for that matter, in extreme Earthly environments.

However, their argument always suffered from lack of evidence—that is, until 2003 when scientists associated with the San Diego-based Diversa Corporation and advised by Professor Karl Stetter, of the University of Regensburg, Germany, published the genome of an extremophile known as *Nanoarchaeum equitans*, which Stetter's team had discovered in Icelandic volcanic vents.

N. equitans was special because it had the smallest known genome found so far, but it also had another intriguing trait. With Nanoarchaeae, the particular 16S rRNA sequence found in other life-forms wasn't in the place that it was expected to be and did not respond to conventional PCR tests. The 16S rRNA sequence was different in areas addressed by the PCR primers and did not amplify. Stetter noted that the so-called universal probes that work with humans, animals, plants, eukaryotes, bacteria and archaeae did not work in this organism.

How, then, was the discovery made if the organism couldn't be sequenced in that way? Stetter had found that the organism's sequence where the traditional "universal" primers are located was abnormal. This finding let him use other means to sequence the gene. In reporting their discovery in the *Proceedings of the National Academy of Sciences*,⁴ the Stetter team observed that the

information-processing systems and simplicity of Nanoarchaeum's metabolism suggests "an unanticipated world of organisms to be discovered". In other words, it might be the tip of a nano-lifeberg.

Stetter's finding gave ammunition to scientists such as Neva Ciftcioglu who say they have found other extremophiles, including human nanobacteria, that cannot have their nucleic acids detected with standard PCR amplification.

One of the differences between Stetter's *N. equitans* and the nanobacteria found by Ciftcioglu and Kajander's team is that Nanoarchaeae need another organism to replicate, whereas at least some nanobacteria seem to replicate by themselves. Another difference is that Nanoarchaeae are slightly wider: 400 nanometres compared to 100–250 for nanobacteria. The greater size allows for what conventional wisdom says is the smallest allowable space for life-replicating ribosomes.

Which leads to the question: how do nanobacteria copy themselves? Evidence for self-replicating nanoparticles has been around for years in everything from oil wells to heart disease, but failure to sequence them using regular PCR led some to dismiss them as contamination or mistakes. However, researchers have found characteristics that make the particles hard to explain away.

They replicate on their own, so are not viruses. They resist high-level radiation, which suggests they are not bacteria. They respond well to light, where non-living crystals don't. So if they aren't viruses, regular bacteria or crystals, what are they?

Some supporters of standardised 16S rRNA tests are quick to discount nanobacteria. That's not surprising. If a novel nucleic sequence holds true with other extremophiles as with *N. equitans*, then a machine that searches for life using standard PCR tests might miss them and be obsolete. Conscious of this, the PCR machine team has said

that as part of their work, they plan to "search for the boundaries" of the 16S sequences, but what exactly that means and how they plan to overcome the problem hasn't been set out yet.

Reputations, money and perhaps the foundations of life ride on the 16S rRNA dispute. Resolving it may determine who gets money to find the next great biological kingdom.

NANOBACTERIAL INFECTION

How relevant is the outcome for human welfare? In 2004, researchers reported finding nanobacteria in everything from heart disease to cancer and kidney stones. Medical researchers reported to the American Heart Association's Scientific Sessions 2004 that a test for nanobacteria is an accurate predictor of heart disease risk. But the work that these researchers say may already have saved lives has been ridiculed by critics who claim that such nanobes don't exist, which in turn has made funding for basic research hard to get.

Who is right? One well-respected astrobiologist observer qualified the struggle this way: "Unless we declare [the nano-organism scientists] incompetent, then the info they have gathered is rather compelling that something interesting is going on."

That's why a few intrepid investors have plopped US\$7 million and counting into a Tampa biotech start-up devoted exclusively to Ciftcioglu and Kajander's discoveries about the calcifying particle. For the big pharmaceuticals companies that's pocket change, but for these entrepreneurs it's a pocketful of faith that's been keeping them

In 2004, researchers reported finding nanobacteria in everything from heart disease to cancer and kidney stones.

on edge for years. And it's starting to show some results, as published research from NASA, Mayo and various universities indicates. Moreover, despite its relative financial insignificance, this venture may end up wagging the dog due to a long-overdue paradigm shift in, of all things, the space program.

After decades of resistance, NASA—provoked by successful upstart private projects such as the X Prize, which led to the first private foray into space—is now collaborating with fledgling companies, instead of just corporate behemoths, on intractable problems: in this case, why perfectly healthy astronauts come down with kidney and other calcifying disorders. The result: in March 2005, NASA's Johnson Space Center put the finishing touches on a tightly secured lab aimed at decoding nanobacteria found at the core of kidney stones. After some serious growing pains, the lab is finally beginning to look into what Ciftcioglu and Kajander began examining so many years ago: the genetic content of nanobacteria. Meanwhile, Ciftcioglu and others have published results showing that nanobacteria multiply five times faster in weightlessness than in Earth gravity,⁵ which may explain why calcification shows up so suddenly in space.

But while researchers argue over what this nanobacterium is and how it multiplies, doctors are finding that, when they treat it with a medical cocktail, their patients improve.

Nor is it unusual that doctors are succeeding before science figures out why. Antibiotics were used successfully against bacteria long before scientists deciphered DNA. Doctors stopped infecting patients by washing their hands long before they were able to identify all the viruses and bacteria that they inadvertently transported from patient to patient.

Most recently, a vaccine that prevents cervical cancer has been put on the market. It apparently works by targeting the human papilloma virus. Problem is, researchers can't show exactly how the virus causes cancer; they can only show that when it is stopped, the cancer doesn't occur. But that hasn't prevented the drug from being patented and put on the market. The history of medicine is full of such examples where patients improve with treatments whose mechanisms aren't fully understood at the start.

The idea that infection could be at the heart of chronic illness is intriguing because it has been around for more than a century but only now is regaining favour due to discoveries of, for example, a vaccine that prevents cervical cancer (as mentioned above). The resulting debates over infection in chronic disease have a novel twist because they are driven by new diagnostic technologies that give researchers the molecular accuracy required to confirm older theories about infection. On one hand, clinical results suggest antibiotics alone do not prevent the rate of heart attacks among coronary patients. On the other, discoveries that infection is responsible for most stomach ulcers and some cancers support the long-held idea that the same might be true in heart disease, if only science could find the right infection and get rid of it.

Some say that nanobacteria may be one such infection. Yet scientists' inability to fully explain the genetics of nanobacteria is being used by high-ranking medical authorities as an excuse to

ignore the pathogen and its treatment. This is especially perplexing because scientists involved in the discoveries work at some of the highest level institutions in America, including NASA, Mayo Clinic, Cleveland Clinic, Washington Hospital Center and many others, and are not only respected in their field but are also award winners. Other centres of excellence internationally, such as University Hospital in Vienna, have also isolated the pathogen and observed it in diseases such as ovarian cancer.

For decades, scientists have shown that disease can be caused by contaminants that are not "alive" and cannot replicate on their own. Environmental toxins, many viruses and, most recently, particles known as *prions* have all been shown as players in disease processes, although they cannot self-replicate.

So it seems unusual that nanobacteria would be discounted just because no one has yet shown how they multiply. Which takes us to the question of where nanobacteria might come from.

When Dr Olavi Kajander discovered nanobacteria in 1988, he was not looking for disease at all. He was looking for what was killing the cells that are used to develop vaccines.

NANOBACTERIA-CONTAMINATED VACCINES

When Dr Olavi Kajander discovered nanobacteria in 1988, he was not looking for disease at all. He was looking for what was killing the cells that are used to develop vaccines. Labs everywhere have a vexing and expensive problem with these widely used cell cultures: they stop reproducing or die after a few generations and have to be thrown out.

Kajander surmised that something invisible was killing them; and when he incubated supposedly sterile samples for more than a month under special conditions, he got a milky biofilm. That biofilm contained particles that he later named *nanobacteria*, unaware at the time that some of their characteristics made them quite distinct from bacteria.

The serum that Kajander used to grow the nanobacteria came from the blood of cow fetuses. Serum from the UK especially was full of nanobacteria, but a much later study also concluded they were present in some cow herds in the eastern US. In other words, nanobacteria are in cows, and cow blood is used to develop many vaccines. Kajander

emphasises that this should not stop people from using vaccines, because the immediate risk from diseases that the vaccines are intended to prevent is relatively higher than the calcification risk in the short term. Nonetheless, the potentially explosive implications of contaminated vaccines and cow by-products would be clear to everyone at government agencies who has examined the issue.

In that context, a series of hotly disputed discussions went back and forth between Kajander and Ciftcioglu and disease prevention agencies. And it certainly wasn't a secret because the *Medical Letter on the CDC & FDA* (10 June 2001) published an article entitled "Nanobacteria Are Present In Vaccines; But Any Health Risks Remain Unknown", explaining that nanobacteria had been discovered in some polio vaccines.

The minutes of a subsequent meeting of the FDA Center for Biologics Evaluation and Research (CBER) advisory committee in November 2002 reveal an extraordinary decision by the committee members: they elected *not* to investigate the potential contamination. According to the minutes they based their decision

on a lone experiment, suggesting that what Kajander had found was a contaminant often found in lab experiments and nothing new. In other words, they maintained that Kajander had made a mistake.

But one of the glaring problems with the NIH-funded experiment performed around late 1999 or early 2000, as shown in the published paper about the results,⁶ is that it did not use a control sample that could have been provided by Kajander. In other words, the experiment never examined the particle that Kajander had discovered, but instead relied on growing the particle independently without knowing if it was the same one Kajander was referring to. Moreover, the experiment was never repeated after the preliminary finding. On that very slim basis, according to the CBER committee minutes, the whole issue of nanobacteria was dismissed as a potential contamination issue for the time being. Since then, papers have been published showing that nanobacteria have been grown in labs around the world and that patients began to improve when the pathogen was targeted in disease. Nonetheless, neither the FDA nor NIH has indicated much readiness to re-investigate the vaccine contamination issue or the nanobacteria treatment.

What might be the price for this delay in researching nanobacteria? Annually, millions of heart disease patients go through agony or die because drugs and surgery prescribed for them haven't worked. For this last-ditch group, the choices are simple: try something new or die.

The question that the NIH and FDA may one day face is: when such promising early evidence was being reported and so many patients had exhausted their other options, why were doctors not advised of this new possibility so that they could at least tell patients and make some informed decisions?

Researchers like Ciftcioglu and Kajander, along with cardiologists like Benedict Maniscalco plus experienced general practitioners such as Douglas Hopper, profess frustration that so many patients and their doctors are not being given the information that could help them, especially in last-ditch situations. Meanwhile, calcification continues its relentless march in millions, and the human and financial costs are mounting.

POSTSCRIPT

In May 2005, Dr Olavi Kajander delivered a sobering message to a joint meeting of the US FDA and the European Medicines Agency on viral safety when he presented new evidence to support something first published in 1997: that vaccines are contaminated with nanobacteria.

Since 1999, government agencies have done virtually nothing to investigate the claim, due largely to that NIH experiment which failed to use particles discovered by Kajander as control samples; so now that the vaccine contamination has been officially reported to authorities, the question is: what will be done?

Then on 24 June 2005, a "smoking gun" was announced about calcium deposits in heart disease. British researchers published proof in the leading medical journal *Circulation Research*⁷ that calcium phosphate crystals cause inflammation in the arteries. Inflammation is a leading cause of heart attacks, but until now most cardiologists have believed calcification to be an innocent bystander in the inflammatory process. Because of that, calcium deposits were never targeted with treatment. If true, the British discovery would force a re-evaluation of the whole medical approach, not only to inflammation but also to the foundations of heart disease, looking at calcification as a prime culprit.

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**In other words,
nanobacteria are in
cows, and cow blood
is used to develop
many vaccines.**

About the Author:

Douglas Mulhall is a leading nanotechnology journalist who appears often on nationally syndicated talk shows in the US. As managing director of the Hamburg Environmental Institute, he co-developed methods now used by government agencies to measure environmental impacts. His book *Our Molecular Future* (Prometheus Books, 2002) describes how to use nanotechnology as a defence against tsunamis and other natural disaster risks. His disease prevention experience comes from pioneering water purification technologies in China and South America.

Mr Mulhall's communications background began with a Bachelor of Journalism (Hons.), progressed to (award-winning) documentary film making, then diversified into management when he co-founded the first commercial TV network in the Republic of Ukraine. He has written articles for US media such as *News Day*, *The Futurist* and *The National Post* as well as for publications in Germany and Brazil. He contributed to the first *Financial Times* (UK) book on green business opportunities and has also written and edited a range of technology training books. Douglas Mulhall sits on the advisory boards of the

Center for Responsible Nanotechnology and the Acceleration Studies Foundation. He has given invited lectures to organisations such as the National Research Council, the US EPA and the Institute of Medicine.

Editor's Note:

This article is based on material in the book *The Calcium Bomb: The Nanobacteria Link to Heart Disease & Cancer*, by Douglas Mulhall and Katja Hansen (The Writers' Collective, 2005; see review this issue), which was selected as a Finalist for the 2004 Book of the Year Award for Health by *Foreword Magazine*. For more information, visit <http://www.calcify.com>.

Endnotes

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2. Shoskes, Daniel A., Kim D. Thomas and Eyda Gomez, "Anti-nanobacterial therapy for men with chronic prostatitis/chronic pelvic pain syndrome and prostatic stones: Preliminary Experience", *J. Urology*, February 2005.
3. The ingredients are described in *The Calcium Bomb*, p. 94; they are: (1) nutraceutical powder (vitamins C and B6, niacin, folic acid, selenium, EDTA, L-arginine, L-lysine, L-ornithine,

bromelain, trypsin, CoQ10, grapeseed extract, hawthorn berry, papain), 5 cm³ taken orally every evening; (2) tetracycline HCl, 500 mg taken orally every evening; (3) EDTA, 1500 mg taken in a rectal suppository base every evening. According to the representatives of the company that sells the nutraceutical/EDTA combo, the treatment works this way: the nutraceuticals boost the immune system, accelerate EDTA action and reduce inflammation; the EDTA strips off the calcium phosphate shell; and the tetracycline eradicates the nanobacteria. The tetracycline is also a chelator on its own and helps remove the calcium phosphate.

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ALZHEIMER'S DISEASE

THE ALUMINIUM LINK

Alzheimer's disease is on the rise in many regions of the world due to environmental factors, but by increasing magnesium and calcium intake and reducing aluminium absorption the disease can be prevented and its symptoms reversed.

by Harold D. Foster, PhD © 2005

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Lear: *Does any here know me? This is not Lear.
Does Lear walk thus, speak thus? Where are his eyes?
Either his notion weakens, his discernings
Are lethargied – Ha! Waking? 'Tis not so.
Who is it that can tell me who I am?*

Fool: *Lear's shadow.*

William Shakespeare, *King Lear*

THE COSTS OF LONGEVITY

Life expectancies have risen dramatically over the past century. As a consequence, in both the developing and developed world, the number of elderly has undergone an unprecedented increase, with the proportion of the very old in the population doubling in one generation. Globally, in 1950 there were 214 million people aged 60 or over; by 2025 there probably will be one billion, a more than fourfold increase.¹ Although, of course, there are major advantages associated with this trend, there are also serious costs. Not only are more people surviving into old age and therefore increasing their chances of developing dementia, but those who do so are living longer after its onset.

Gruenberg² termed this paradox the "failure of success" because it was a major problem that was largely attributable to progress in medical care. As he and his colleagues pointed out, "the old man's friend, pneumonia, is dead—a victim of medical progress".³ While this is an oversimplification, pneumonia is certainly less common than it used to be, as are many other diseases that were previously fatal to the elderly. As a consequence, 5–6 per cent of the USA population now has Alzheimer's disease or related dementia, some 4.5 million Americans. This figure is expected to rise to 14 million by 2050.⁴

Of course, dementia is not limited to the USA. For example, it has been estimated that, as of the year 2000, approximately eight million people in the European Union Member States had Alzheimer's disease. Since this disorder accounts for some 50 per cent of all dementia in people over sixty-five, total estimates for dementia in Europe are closer to 16 million. As in the USA, the population of Europe is ageing rapidly and the number of senile dementia cases increasing dramatically.⁵ Clearly, in the Western world, dementia is not a rare problem. Indeed, Katzman and colleagues⁶ have argued that, in those aged over seventy-five, new cases of dementia occur as frequently as myocardial infarction and twice as often as stroke.

Despite considerable hype from the pharmaceutical industry, there has been little real progress in either the prevention or the treatment of Alzheimer's disease. The estimated US\$100 billion costs associated with the disease in the USA produce no cures and, if anything, by extending the life expectancy of the demented merely exacerbate the problem. The health bill for "warehousing" 4.5 million Alzheimer's patients in the USA is roughly equivalent to the cost of running 500 moderate-sized universities, providing higher education to some seven million students. The reader can decide which would be the better use for their taxes.

GENETIC PREDISPOSITION

Alzheimer's disease is named after Dr Alois Alzheimer, the first doctor to identify a patient (Auguste D.) suffering from this disorder, and then only after her death. What was

it about Auguste D.'s brain samples that Alzheimer found so striking and unusual? He noticed something in the slides that was extremely rare: gum-like clumps outside some cells and abnormal collections of proteins inside others; that is, plaques and tangles respectively. A fresh look at the recently rediscovered Auguste D. slides confirms Alzheimer's claims. Her cortex displayed what are now accepted as the classic pathological signs of the disease named after him: amyloid plaques and neurofibrillary tangles. Indeed, neurofibrillary tangles were described for the first time ever in this brain.⁷

It is now well known that such plaques and tangles are formed by the deposition of abnormal proteins, especially beta-amyloid and tau. The risk of developing Alzheimer's disease, therefore, rises and falls with the ability to prevent the formation and deposition of such proteins. This ability is, in part, genetic. The apolipoprotein (APO) E4 allele plays a key role in promoting Alzheimer's disease because of the inefficiency with which those possessing this genetic aberration can remove brain beta-amyloid and tau.⁸

Genetically, however, there is more to Alzheimer's disease than the APO E4 gene. To date, four genes have been identified as playing a role in either early- or late-onset Alzheimer's disease: beta-amyloid precursor protein, presenilin-1, presenilin-2, and apolipoprotein E genes.⁹ Workers have linked most of these variants to familial early-onset Alzheimer's, but the APO E4 allele is a relatively common risk factor for developing late-onset Alzheimer's disease.¹⁰ Considerable progress has been made in interpreting the significance of such genetic variants.

To illustrate, mutations in the presenilin-1 gene seem associated with increased super-oxide production and greater vulnerability to amyloid beta peptide toxicity.¹¹ Interestingly, mutations in the presenilin genes, which are linked to more than 40 per cent of all familial Alzheimer's cases, cause enhanced production of an abnormal form of beta-amyloid precursor protein.¹² This protein is longer than normal, aggregates more rapidly, kills neurons in culture more effectively and precipitates preferentially to form amyloid plaques. The same elongated protein also is produced as a result of mutations in the gene encoding beta-amyloid precursor protein.

ENVIRONMENTAL VARIATIONS

There must be far more to Alzheimer's disease, however, than just genetics. There is no doubt the environment plays a key role in this illness. Multi-infarct dementia is common in Japan but Alzheimer's disease incidence seems to be much lower than in Europe.¹³ This is unlikely to be due to racial variables because, in China, vascular dementia predominates in Beijing and Alzheimer's disease in Shanghai.¹⁴

At the regional scale, spatial variations in the incidence and prevalence of Alzheimer's disease are far greater. Two hospital-based studies¹⁵ involving brain autopsies of every patient dying with dementia in Maracaibo, Venezuela, a city with a population

of some 650,000, discovered only one Alzheimer's case in over a decade. In contrast, in the worst-affected Norwegian municipalities during the period 1974–1983, the median annual age-adjusted Alzheimer's disease mortality rates were between 44 and 55 per 100,000 for males and between 87 and 109 per 100,000 for females.¹⁶ These figures suggest that Alzheimer's disease is at least 1,000 times more common in the municipalities along the south and southeastern coasts of Norway than in Maracaibo, Venezuela. Even within Norway itself, Alzheimer's mortality was higher by a factor of 15 in some municipalities than in others during this period.

Studies of temporal change in dementia incidence are expensive and complex and involve extensive fieldwork. As a result, they are rare. The best study probably comes from Lundy, Sweden,¹⁷ where the entire population was medically examined several times between 1947 and 1972. Interestingly, all levels of dementia were found to have decreased by the end of the period. This seems unusual, since more recent studies conducted in the United States,¹⁸ England,¹⁹ Australia,²⁰ Canada²¹ and Norway²² all suggest that Alzheimer's disease is becoming increasingly common.

Two recent research projects have demonstrated that migration greatly influences the prevalence rates of dementia. Graves and co-workers²³ established that, in the Japanese Americans of King County, Washington State, dementia was more common than in Japan. In addition, the distribution of subtypes of dementia in Japanese Americans was found to be much more like that of North American and European Caucasians than of Japanese residing in their homeland. As a result, Alzheimer's disease was more common and vascular dementia less prevalent in Japanese Americans than might have been expected. A similar study conducted in Indianapolis and Ibadan, Nigeria, by Hendrie and co-workers²⁴ established that Alzheimer's disease was more than twice as common in African Americans than in Nigerian Yoruba of the same gender and age ranges.

In summary, globally and regionally Alzheimer's disease does not have a random, relatively uniform spatial

pattern. It appears to be increasing faster than the population is ageing and its incidence and prevalence are greatly affected by migration. In short, it shows none of the expected geographical characteristics of a primarily genetic disease.

KEY RISK FACTORS

In their book *Genome*, Bishop and Waldholz²⁵ argue that: "...aberrant genes do not, in and of themselves, cause disease. By and large their impact on an individual's health is minimal until the person is plunged into a harmful environment." The significance of an aberrant gene therefore depends upon location and lifestyle; that is, on geography.

The preceding review of the literature establishes that the "harmful environments" that increase the significance of inheritance of the APO E4 gene and other Alzheimer's-related genetic aberrations have two very important characteristics. They

The great bulk of evidence from numerous...studies therefore supports a strong link between aluminium consumption, especially monomeric aluminium from drinking water, and an elevated incidence of Alzheimer's disease.

display very clear spatial variations, and appear to be increasing quite rapidly in number. There is extensive evidence to suggest that such environments are areas where drinking water is high in dissolved aluminium [aluminum] (especially in its monomeric form) together with depressed levels of magnesium and calcium. This water is also typically low in silicic acid. These conditions occur where low-alkalinity surface waters have very little ability to buffer the impacts of acid rain, one of which is increased aluminium solubility.²⁶ In such low-alkalinity, high-acid-rain regions, rising levels of dissolved aluminium, found in both soil water and run-off, are resulting in widespread ecological damage. It appears that this element is also the dominant environmental risk factor in Alzheimer's disease.

Clear evidence was provided in 1988 that excess aluminium in potable water can affect memory. An accident at a water supply plant at Camelford in Cornwall, England, resulted in water that contained enormously elevated levels of aluminium sulphate being drunk by the local population. Memory loss was an extremely common complaint amongst those unfortunate enough to use such contaminated water.²⁷

Significant evidence of the link between dementia and aluminium also comes from McLachlan's Ontario study involving 668 autopsy-verified Alzheimer's brains.²⁸ These demonstrated that the risk of developing Alzheimer's disease had been about 2.5 times greater in individuals from communities that drank water that contained more than 100 mcg per litre of aluminium than it had been in those from areas where the potable water had contained less than this level of aluminium. McLachlan's results were even more spectacular for those who had drunk water that contained 175 mcg per litre of aluminium. Depending on how those patients were grouped, the odds ratio of developing Alzheimer's disease varied from 6.7 to 8.14; that is, their brains were some 7–8 times more likely to show the characteristic signs of Alzheimer's disease if such patients had normally consumed water that was very high in aluminium.

Several authors have attempted to quantify the strength of the association between Alzheimer's disease and aluminium. Forbes and McLachlan,²⁹ for example, studied this link in the very elderly, those aged eighty-five years or more. They discovered that, after controlling for six other factors such as fluoride, silicic acid, iron, pH and turbidity, those living in districts that supplied drinking water that contained more than 250 mcg of aluminium per litre were almost 10 times more likely to develop Alzheimer's disease. This confirmed an earlier Ontario longitudinal study³⁰ which established that men aged seventy-five years and older, who were drinking water containing at least 0.0847 mg per litre of aluminium, were 1.72 times as likely to show impaired mental functioning. Similarly, after statistical control for five other variables, Alzheimer's mortality displayed an odds ratio of 3.54 for those who had drunk water that contained at least 0.336 mg per litre of aluminium.³¹

A more recent eight-year longitudinal study involved 3,777 people aged sixty-five years and older who lived in southwest France in 1988–1989. It confirmed that double the risk of developing Alzheimer's disease occurred in those who drank water with an aluminium concentration greater than 0.1 mg per litre.³²

Looking for a link between Alzheimer's disease and total drinking water aluminium may be too simplistic. In 2000, Gauthier and co-workers³³ described a case control study in which the chemical characteristics of the water historically drunk by 58 elderly Alzheimer's patients were compared with those of potable water used by age- and gender-matched non-demented controls. This was conducted in the Saguenay-Lac-Saint-Jean region of Quebec. Aluminium (Al) specification was assessed using standard analytical protocols. Long-term drinking water exposure (from 1945 to the onset of Alzheimer's disease) was estimated for total aluminium, total dissolved aluminium, monomeric organic and inorganic aluminium, polymeric aluminium and five other species of this metal. While there was no obvious relationship between total aluminium in potable water and Alzheimer's disease, after adjustment for educational level, family cases of the disorder and the APO E4 allele, exposure to monomeric aluminium clearly was associated with this form of dementia (odds ratio 2.67).

The importance of monomeric (single molecule) aluminium has been confirmed again by a more recent study conducted by Prolo and colleagues³⁴ in northwest Italy, where the drinking water contained between 5 mcg and 1,220 mcg per litre of total aluminium. Levels of monomeric aluminium (the type of this element most easily able to enter human cells) ranged from 5 mcg to 300 mcg per litre. These researchers from the University of California at Los Angeles established that Alzheimer's disease was most common where drinking water levels of monomeric aluminium were highest.

They also discovered that monomeric aluminium interfered with cell function in cultures, accelerating cell death especially in the presence of beta-amyloid protein.

The great bulk of evidence from numerous geographical and epidemiological studies, therefore, supports a strong link between aluminium consumption, especially monomeric aluminium from drinking water, and an elevated incidence of Alzheimer's disease. The negative impact of aluminium, however, appears to be mitigated by silicic acid, calcium and magnesium, especially in potable water with a pH of between 7.85 and 8.05. Acidic drinking water that is high in aluminium and lacking in silicic acid, calcium and magnesium seems to be particularly dangerous. Fluoride is a well-established antagonist of aluminium and may also protect against Alzheimer's disease when the water pH is high; but unfortunately, elevated water fluoride levels are known to cause other health problems.

HOW ALUMINIUM CAUSES ALZHEIMER'S DISEASE

If aluminium causes Alzheimer's disease, how does it trigger this form of dementia? It seems that individuals who inherit the APO E4 gene(s) are less capable than the general population of removing the beta-amyloid and tau brain proteins that form the bulk of neuritic plaques and neurofibrillary tangles. As a result, such people are at higher risk of developing Alzheimer's disease in regions that promote the deposition of beta-amyloid and tau. Such "harmful environments" are those in which the potable water is acidic, high in monomeric aluminium and lacks silicic acid, calcium and magnesium. Under such circumstances, aluminium can enter the brain and impair the enzyme choline acetyltransferase,

The negative impact of aluminium, however, appears to be mitigated by silicic acid, calcium and magnesium.

creating an acetylcholine deficiency. A shortage of acetylcholine encourages the growth of senile plaques. Similarly, aluminium interferes with the enzymes calcium/calmodulin kinase II and alkaline phosphatase, promoting the formation of neurofibrillary tangles. Plaques and tangles created in this manner are the hallmarks of Alzheimer's disease. Such relationships, therefore, explain why this form of dementia is most common in regions of high water acidity, in those members of the population that carry the APO E4 isoform.

There is, however, more to Alzheimer's disease than plaques and tangles. David Shenk,³⁵ in his interesting book *The Forgetting*, describes Alzheimer's disease as "death by a thousand subtractions". The scientific evidence appears to support this characterisation. In 1980, for example, Barry Reisberg,^{36,37} a neurologist from New York University, established the presence of an inverse relationship between the progressive stages of Alzheimer's disease and those of infant and childhood development. He demonstrated that as the symptoms of this form of senile dementia worsen, the patient begins to lose abilities in cognition, coordination, behaviour, language and feeding, in the reverse order in which they were acquired in the early years of life. In the final stage of the disorder, the patient becomes infant-like and can no longer walk, sit up without assistance, smile or hold up their head. Reisberg called this process of a thousand subtractions "retrogenesis", meaning "back to birth".

Although retrogenesis is not a perfect reversal, neurological tests do show that, as Alzheimer's disease progresses, there is an almost precise inverse relationship in neurologic reflexes, brain glucose metabolism and EEG activity. As the disorder worsens, all these abilities decline. Such evidence led Reisberg to present a picture of the brain as a giant ball of string wound up in infancy and childhood but unwound by Alzheimer's disease. From birth and throughout childhood and beyond, the ball grows rapidly, but in Alzheimer's it is unravelled in reverse, slowly but surely reducing the ability of the brain to function.

In Alzheimer's disease, brain damage appears to begin in the most recently and least myelinated area of the brain, specifically in the hippocampus. As a consequence, the first symptoms of developing Alzheimer's are losses of recent memories. From the hippocampus, demyelination begins to impact on the frontal cortex, adversely affecting concentration, abstract thought and planning ability. This reverse myelination relentlessly continues, unwinding the "ball of string" in a very predictable manner until the primary motor area is finally affected and the late-stage Alzheimer's patient is again infantile, unable to speak, sit up unassisted or hold up their own head.

Interestingly, aluminium is known to damage myelin in numerous ways. Animal experiments clearly demonstrate that aluminium can alter the nature of myelin, accelerate its oxidation rates and promote its rapid loss from the hippocampus and spinal cord. Exactly how these procedures occur is uncertain. In a study of brains from monkeys chronically administered aluminium,

Sarin and colleagues³⁸ were able to show, however, that this metal had inhibited three membrane-bound enzymes: specifically Na+K+ ATPase, acetylcholinesterase and, most interestingly, the myelin-specific enzyme 2',3'-cyclic nucleotide phosphohydrolase. This inhibition causes a rapid thinning of the myelin sheath in both rats³⁹ and mice,⁴⁰ and it can alter its composition by increasing galactolipids and so make myelin more prone to oxidation.^{41,42} It does not seem much of a step to suggest that these destructive processes probably lie behind the demyelination and associated retrogenesis seen in Alzheimer's patients.

Beyond this, aluminium also inhibits the enzyme phospholipase A2, probably causing brain membrane dysfunctions, and seems to cause depression of antioxidant status by reducing levels of brain glutathione peroxidase, superoxide dismutase and catalase. As a result, the lipid peroxidation of cell membranes by free radicals is accelerated.⁴³

The biochemical evidence therefore is very good in that in individuals who have a depressed calcium and magnesium intake combined with abnormally high aluminium absorption, some enzymatic processes are inhibited. This inhibition is most likely to occur in enzymes that have aluminium antagonists, such as calcium, magnesium and iron, as co-factors. It is not surprising, then, that since the end result of such enzyme inhibition is Alzheimer's disease, patients with this form of dementia experience a wide variety of biochemical abnormalities, 11 of which are discussed in some detail in the author's book, *What Really Causes Alzheimer's Disease*.⁴⁴ This is why no drug will ever prevent or reverse this form of dementia, unless it prevents aluminium absorption by the body.⁴⁵

AVOIDING ALZHEIMER'S DISEASE Reducing Social Risk

Exposure to acidic water that contains elevated aluminium and depressed calcium, magnesium and silicic acid levels appears to promote Alzheimer's disease.

One might naively expect that it would be a relatively simple matter to pass legislation reducing levels of aluminium in, and promoting the addition of calcium, magnesium and perhaps silicic acid to, drinking water. Not only do governments show little interest in increasing the magnesium content of drinking water, they routinely allow the use of aluminium sulphate as a flocculant by water treatment plants. This practice reduces the amount of sediment in the water supply but greatly increases levels of dissolved aluminium, especially if the water is acidic.⁴⁶ Clearly, aluminium sulphate must be replaced by alternatives.

The Western diet promotes Alzheimer's disease in three distinct ways. First, it tends to be deficient in calcium and magnesium,⁴⁷ making those who eat it very susceptible to aluminium toxicity. Second, many foods are canned, wrapped and/or cooked in aluminium. The more acidic the food, the more easily it appears to dissolve this metal. Third, maltol is added to many processed foods in an attempt to "improve" flavour.⁴⁸ Maltol greatly increases aluminium's ability to cross the blood-brain barrier and

Exposure to acidic water that contains elevated aluminium and depressed calcium, magnesium and silicic acid levels appears to promote Alzheimer's disease.

interfere with brain enzymes. Indeed, when researchers want to study a rabbit whose brain has been badly damaged by Alzheimer's-like plaques and tangles, they feed maltol to it.⁴⁹ There is no logical reason why maltol should be allowed to be routinely added to hot chocolate, beer, some commercially baked goods and many other products.

Reducing Personal Risk

For most of those reading this article, the average day will begin with a shower. If the water used is acidic and deficient in calcium and magnesium, it is possible that it will be a source of aluminium that enters the body through the pores and nose. This exposure to aluminium is most likely if the water supplier uses aluminium sulphate as a flocculant to remove sediment. Once dried off, most readers will smear their bodies with a layer of aluminium provided by antiperspirants and deodorants.⁵⁰ How much of this aluminium passes through the skin into the body is unclear, but McGrath⁵¹ has argued that under-arm shaving and frequent use of antiperspirants and deodorants seem linked to an early age of breast cancer diagnosis.

British researchers^{52, 53} provided evidence to support the feasibility of McGrath's hypothesis, reporting traces of parabens in every tissue sample taken from 20 different breast tumours. Parabens are chemicals used in deodorants and other cosmetics that can mimic oestrogen. The hormone oestrogen is known to encourage breast tumour growth. Clearly, parabens can enter the body from deodorants and it is possible that aluminium can do the same. Deodorants with a herbal base do not usually contain these toxins.

Then comes breakfast. Tea, coffee and hot chocolate are usually made with water from the tap. It is important not to use soft, acidic water which is likely to contain monomeric aluminium. Most water supply companies will provide chemical analyses, allowing the assessment of the aluminium, calcium and magnesium content of their product. If not, private companies can conduct such analyses relatively cheaply. If colas or fruit juices are drunk, they are likely to have come from cans. These are typically made of aluminium. The longer the drink has been in the can, the higher the aluminium levels in it are likely to be.⁵⁴ In addition to any aluminium it contains, hot chocolate is likely to be "enhanced" with maltol, so increasing the likelihood that this metal will reach the brain. Similarly, tea brewed in acidic water or flavoured with lemon juice contains significantly higher levels of bioavailable aluminium than normal, because the metal contained in the leaves is more soluble in water with a low pH.⁵⁵

After breakfast comes lunch, dinner and a variety of snacks. Junk food, because it is so heavily processed, is usually a very poor source of minerals, including calcium and magnesium. The average British and North American diet contains less than half the calcium and magnesium required to avoid the associated deficiency illnesses, including Alzheimer's disease.

The best way to address this problem is to eat many of the mineral-enriched foods such as salmon, sardines, broccoli, spinach and bok choy, for example, which are all high in

calcium.^{56, 57} Pumpkin seeds, almonds, Brazil nuts and wholegrain brown rice are good sources of magnesium.⁵⁸ Certain supplements, especially mineral ascorbates, provide high levels of both calcium and magnesium. Alacer Corporation of Foothill Ranch, California, a company with which I have no financial associations, provides excellent mineral ascorbate products. One tablet of Super-Gram II, for example, contains four per cent of the calcium and eight per cent of the magnesium recommended daily allowance. Emer'Gen-C is a fizzing drink mix that is pleasant to take when added to water. It provides 1,000 mg of vitamin C and 32 mineral complexes, including calcium and magnesium. Alacer's products were used in the Joint Russian Committee on World Health research projects that produced a marked reversal of memory loss in the elderly.^{59, 60, 61} ∞

It is not surprising, then, that since the end result of such enzyme inhibition is Alzheimer's disease, patients with this form of dementia experience a wide variety of biochemical abnormalities...

About the Author:

Harold D. Foster, PhD, was born and educated in England. He specialised in geology and geography, earning a BSc in 1964 from University College London and a PhD in 1968 from London University. A Canadian by choice, he has been a faculty member in the Department of Geography, University of Victoria, British Columbia, Canada, since 1967.

A tenured professor, Dr Foster has authored or edited some 245 publications, the majority of which focus on reducing disaster losses or identifying the causes of chronic disease or longevity. He has published hypotheses on the origins of numerous diseases including myocardial infarction, SIDS, cancer, diabetes, schizophrenia, multiple sclerosis (MS), amyotrophic lateral sclerosis (ALS), Alzheimer's and Parkinson's diseases, stroke and AIDS.

His numerous books include: *Disaster Planning: The Preservation of Life and Property* (Springer Verlag, New York, 1980); *Reducing Cancer Mortality: A Geographical Perspective* (Western Geographical Press, Victoria, 1986); *The Ozymandias Principles: Thirty-one Strategies for Surviving Change* (Southdowne Press, Victoria, Canada, 1997); *What Really Causes AIDS* (Trafford Publishing, Victoria, 2002; reviewed in NEXUS 10/05), *What Really Causes Schizophrenia* (Trafford, 2003; reviewed in 11/02); and *What Really Causes Alzheimer's Disease* (Trafford, 2004; reviewed in 12/03).

Dr Foster is Associate Editor of the *Journal of Orthomolecular Medicine*, and was named Orthomolecular Doctor of the Year (2004–2005) by The International Society for Orthomolecular Medicine. He is a member of the board of the International Schizophrenia Foundation and is also a member of the Science Advisory Panel for the Healthy Water Association.

Every day, Dr Foster makes a point of taking at least the recommended daily allowance of the known essential nutrients. He is also currently pursuing offers for his suggested nutrient mixture to be produced for use in clinical trials with AIDS patients.

For a more detailed résumé, visit Dr Foster's website, <http://www.hdfoster.com>. Copies of several of his books can be freely downloaded from his website.

Editor's Note:

Due to space constraints we are not able to reprint Dr Foster's end-notes accompanying this article; however, these can be accessed via his website, <http://www.hdfoster.com>.

BRITAIN'S SECRET WAR IN ANTARCTICA

At the end of World War II, Britain sent a covert mission to investigate anomalous activities near its secret base at Maudheim in eastern Antarctica and to seek out and destroy a subterranean Nazi haven.

Part 1 of 2

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Introduction

In 1938, Nazi Germany sent an expedition to Antarctica with a mission to investigate sites for a possible base and to make formal claims in the name of the Third Reich. To prepare them for their mission, they invited the great polar explorer Richard E. Byrd to lecture them on what to expect. The following year, a month after hostilities had commenced in Europe, the Germans returned to Neuschwabenland to finish what had been started, with many suggesting that a base was being constructed.

Nine years later, Richard E. Byrd, who by now had become an Admiral in the United States Navy, was sent to Antarctica with the largest task force ever assembled for a polar mission. In Admiral Byrd's own words, the mission (code-named *Highjump*) was "primarily of a military nature".¹ Many claim that the task force was sent to eradicate a secret Nazi base in Queen Maud Land, which the Nazis had renamed Neuschwabenland and which had never been explored as profoundly as the rest of the Antarctic. But, and the big but is, the fact that Admiral Byrd spoke of "flying objects that could fly from pole to pole at incredible speeds"² and with well-documented German activity before, during and in the immediate aftermath of World War II, one can't help but wonder whether there is some truth in the Nazi Antarctica myth. Even so, could Operation *Highjump* and Byrd's quotes have overshadowed the truth about British excursions in Antarctica by way of misinformation, bringing attention to *his* mission and, by doing so, making sure that history only remembered one mysterious Antarctic mission?

When the Antarctica mystery is mentioned, Britain is never given more than a footnote. That fact is surprising in itself, especially as British forces were active in Antarctica throughout the war and quite possibly took the initiative in dealing with the Antarctic Nazi threat a whole 12 months before Operation *Highjump* was initiated.

Britain's activities on Antarctica, though less documented and more clandestine, are just as intriguing as the supposed much-vaunted Operation *Highjump*. Unfortunately for Britain, though victorious in the War, it was bankrupted and humiliated by the two new superpowers. But Britain was in a position to regain some pride and surreptitiously upset its supposed allies with the final, decisive battle against the surviving Nazis: a battle that would never be recorded in the history books; a battle that would make its claims on the continent more legitimate; but, most importantly, a battle that ended the war that it had been compelled to wage.

Antarctic Postage Stamps: Claim or Commemoration?

On 1 February 1946, a set of postage stamps was released with His Majesty's royal approval. The stamps caused international outrage and brought on a diplomatic crisis for a war-weary Great Britain. The offending eight postage stamps commemorated Britain's claim to the Falkland Islands Dependencies, but one of them also depicted a territorial map of Antarctica that completely overlooked Chile's and most of Argentina's claims on the continent. Now why would Britain, when the world economy was in such dire straits, bring about an international crisis over an area of the world that appeared on the surface to be totally devoid of life?

Many historians claim that Britain's postwar interest arose because, with Britain in dire need of materials, Antarctica was deemed as the solution; the stamps were a way of making Britain's claim valid. That assertion, however partially true, does not explain why British forces, as part of Operation *Taberlan*, were on the continent throughout and in the immediate aftermath of the War.

Operation *Taberlan* was activated as a measure of monitoring German activities on the Antarctic continent. The known British bases were mainly on the Antarctic Peninsula, in places such as Port Lockroy and Hope Bay, and on the islands surrounding the peninsula, such as the secret bases on Deception and Wiencke Islands—though some were set up on the continent. The most secret of all has not, and more than likely never will be, disclosed. The base at Maudheim, near the Mühlig-Hoffmann Mountain Range in Queen Maud Land or, alternatively, Neuschwabenland, was so secret that it was never given a name or even a grid reference on official maps.

Could the stamps have been released to commemorate a successful mission in Queen Maud Land? The facts and rumours, as well as a story dispensed by a wartime SAS officer, may shed some light on the many mysteries of the Antarctic arena—a front that has been kept secret for 60 years—and on a hostile encounter that will never be divulged to the public.

Britain has suppressed so many wartime events in the name of national security that now, even 60 years on, many people are still none the wiser about the secrets of the war—from Rudolph Hess to the peace parties, to the even more sinister happenings including Britain's knowledge of the Nazi extermination camps, the Irish Republican Army's flirtation with Nazis, and the lesser known secrets such as SS concentration camps on British soil on Alderney in the Channel Islands. With just those few listed, a pattern of suppression is emerging—and on some, a total denial is normally forthcoming. Antarctica is no exception.

With the passing of time, all those who served in the Neuschwabenland campaign are no longer with us. The last survivor gave me the following account of the forgotten battle. I hasten to add that the story was told on two separate occasions, 10 years apart, and there was not one discrepancy in either account.

[Editor's note: We have deleted opening and closing quotation marks in the next section for ease of reading.]

The Neuschwabenland Campaign

When Victory in Europe was announced, my unit was resting in a cave in the former Yugoslavia. I was thankful that the War had finally ended, though with war still being waged in the Pacific and tensions rising in Palestine, we were warned that our war could continue.

Thankfully, I was spared from participating in the war against Japan—but alas, I was posted to Palestine where the influx of Jews, allied with a rise in Zionist terrorism, was causing anguish not only to the inhabitants of Palestine but also to the British forces that were sent to stem the Jewish influx and quell the uprisings. I

was warned that my posting in Palestine would continue indefinitely. I saw many of my fellow soldiers die. Thankfully, I received an order at the beginning of October 1945 to report to my commanding officer, as I had been selected for a mission so secret that none of my senior officers knew why I had been requested to go to Gibraltar. I was not told why I had to report, but I went, hopeful that I would soon be discharged into Civvy Street. How wrong I was: I would be spending another Christmas on a war footing.

Once I arrived on Gibraltar I was secreted away by a Major and informed that I would be sent to the Falkland Islands Dependencies for further briefing and that I would be joined by several other soldiers from other elite British forces. The mystery thickened as we were all flown to the Falklands under complete silence. We were ordered to not even speculate about why we had been selected and where we were going.

Upon reaching the desolate and forbidding Falkland Islands, we were introduced to the officer who was leading the expedition and a Norwegian who had served in the Norwegian Resistance, an expert in winter warfare who was going to be training us for the mission that we had no inkling about.

The Falklands is now considered the best-kept secret in the British Army, and being posted there normally meant an easy few years; however, things were different in the 1940s—even more so for those who had been selected with me.

We were forced to undertake a gruelling month's training where we were prepared for cold-weather warfare. From being plunged into the icy Atlantic to facing the elements in a tent on South Georgia, the

training was arduous and there seemed little sense in the madness that we were forced to undertake. However, after the month's training we were briefed by a Major and a scientist, and as the mission was relayed to us we all realised that there would be little chance of us all returning, especially if the suspicions proved correct.

We were informed that we were to investigate "anomalous" activities around the Mühlig-Hoffmann Mountains from the British base in Maudheim. Antarctica, so we were told, was "Britain's secret war". We were then briefed on British activities in the South Pole during the war.

We sat intrigued as to what was being divulged; none of us had heard anything so fascinating or frightening. It was not common knowledge that the Nazis had been to Antarctica in 1938 and 1939, and even less known was the fact that Britain began to set up secret bases around Antarctica in response. The one we were to visit, Maudheim, was the biggest and most important as well as the most clandestine Antarctic base of them all. The reason for its importance was the fact that it was within 200 miles of where the



Nazis had supposedly built their Antarctic base.

We sat there stunned, but still the mystery deepened. We were told about German activity in the Southern Ocean around Antarctica. We were also informed that an inestimable number of U-boats were missing and unaccounted for; but worse, some of those that had surrendered months after the War had ended fuelled even more speculation.

British forces had captured three of the biggest names in the Nazi party—Hess, Himmler and Dönitz—and with their captures Britain was given information that was not going to be shared with Russia or the United States. That information compelled Britain to act alone, and we were spearheading that operation.

We were told in no specific terms what was expected of us and what Britain expected us to find on Antarctica. Britain had more than a strong suspicion that the Germans had built a secret base and had spirited many of the unaccounted Nazis away from the turmoil in Europe.

Still, more and more revelations were forthcoming. The summer before, we were told, the original scientists and commandos had found an "ancient tunnel". Under orders, the force went through the tunnel but only two returned before the Antarctic winter set in. During the winter months, the two survivors made absurd claims over the radio about "Polar Men, ancient tunnels and Nazis". Radio contact was finally lost in July 1945, and ominously for our mission, going into the unknown, the last broadcast brought us all further anxiety as we listened to the fear in the voice: "...the Polar Men have found us!" was screamed before contact was lost.

After the radio broadcast was played, we were then given a rousing speech from the Major who would be leading the expedition to investigate what had happened. "We are to go to the base at Maudheim, find the tunnel, investigate the enigma of the Polar Men and the Nazis and do what we can to make sure the Nazi threat is destroyed."

When asked for questions, we all had so many, and thankfully the answers were honest and direct. We were informed that evasive action was being taken because Britain was well aware of US and USSR intentions in mounting their own expeditions, and Britain did not want to risk the chance that the US or the USSR would discover the base and gain further Nazi technology. Both countries had a technological advantage over Britain because of the scientists, equipment and research both countries had recovered. Nevertheless, Britain wanted to be the nation to destroy the menace because Britain viewed Antarctica as under the British Empire's jurisdiction, and if the Nazis were there it was their duty and their desire to eradicate them first and thus deny both the USA and the USSR the propaganda value of fighting the last battle of World War II.

We were flown to the pre-designated drop-off point which was 20 miles from the Maudheim base; snow tractors had already been despatched and were awaiting our arrival. After parachuting into the icy wilderness, full of fear and trepidation, we reached the snow tractors and from that moment on we were on a war footing.

We had to operate under complete radio silence. We were alone, with no back-up and no chance of retreat if our worst fears were confirmed.

We approached the base wary of what was awaiting us, but when we got there the base appeared devoid of life, a ghost town. Instantly, our suspicions were roused, but, just like all the previous campaigns I had fought during the War, we had a job to do and so our personal fears could not shroud our judgement.

As we split up to search the base, a trip wire was detonated and a siren sounded, destroying the silence and startling the whole force. A shout was soon heard, demanding us to identify ourselves, but the voice could not be targeted. With our guns raised the Major introduced us to the voice, and then, thankfully, the voice was given a body. The voice belonged to a lone survivor, and what he divulged made us more anxious and had us wishing that there were more troops amongst our ranks.

The lone survivor claimed that in Bunker One was the other survivor from the "tunnel" trip, along with one of the mysterious Polar Men that we had heard on the recorded broadcast. Despite obstructions and objections from the survivor, Bunker One was ordered to be opened. The survivor had to be held back and his fear and anguish panicked us instantly, and none of us wanted to be the one to enter the bunker.

Fortunately, I was not selected to enter; that honour was bestowed on the youngest member of our unit. He proceeded inside, hesitating slightly as he struggled with the door. Once inside, a silence descended across the base, followed moments later by two gunshots. The door was opened and the Polar Man dashed to freedom. None of us was expecting what we saw, and the Polar Man had fled into the surrounding terrain so quick that only a few token shots were fired.

Out of fear and awe at what we had seen, we all decided to go into the bunker. Go in we did, and two bodies were found. The soldier who had pulled the short straw was found with his throat ripped out, and, more heinous, the survivor had been stripped to the bones.

What we had witnessed demanded answers; and with our abject anger at seeing one of our unit die within hours of our landing on the continent, our anger was taken out on the lone survivor who had warned us against opening Bunker One.

The whole unit listened categorically to the Major's questions, but it was the answers that were to provoke the most intrigue. The first question that needed answering was just what had happened to the other survivor, and how he had become trapped in the bunker with that Polar Man. However, the lone survivor preferred to start from the beginning, from when they had first found the "tunnel". Whilst he narrated what had happened, the scientist who had accompanied us scribbled down everything divulged.

It transpired that the area near the tunnel was one of Antarctica's unique dry valleys, and that was how they managed to find the tunnel with such ease. Every one of the 30 personnel at the Maudheim base was ordered to investigate and, if possible, find out exactly where the tunnel led.

**"We were informed
that we were to
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Mountains from the
British base in
Maudheim.**

**"Antarctica, so we
were told, was
'Britain's secret war'."**

They followed the tunnel for miles, and eventually they came to a vast underground cavern that was abnormally warm; some of the scientists believed that it was warmed geothermally. In the huge cavern were underground lakes; however, the mystery deepened, as the cavern was lit artificially. The cavern proved so extensive that they had to split up, and that was when the real discoveries were made.

The Nazis had constructed a huge base into the caverns and had even built docks for U-boats, and one was identified supposedly. Still, the deeper they travelled, the more strange visions they were greeted with. The survivor reported that "hangars for strange planes and excavations galore" had been documented.

However, their presence had not gone unnoticed: the two survivors at the Maudheim base witnessed their comrades get captured and executed one by one. After witnessing only six of the executions, they fled to the tunnel, lest they be caught, with the aim to block up the tunnel—though "it was too late; the Polar Men were coming", claimed the survivor.

With enemy forces hot on their tail, they had no choice but to try to get back to the base so that they could inform and warn their superiors about what they had uncovered. They managed to get back to the base, but, with winter approaching and little chance of rescue, they believed it was their duty to make sure the secret Nazi base was reported; and so they split up, each taking a wireless and waiting in separate bunkers. One of the survivors tempted one of the Polar Men into the bunker in the hope that they'd believe only one had survived. The plan worked, but to the detriment of his life and to the radio. Unfortunately, the brave soul in Bunker One had the only fully operational wireless radio, which was destroyed in the fracas. The other survivor had no option but to sit, wait and try to avoid going stir crazy.

The mystery of who or what the Polar Men were was explained, not satisfactorily but explained nonetheless, as a product of Nazi science; and the enigma of how the Nazis were getting power was also explained, albeit not in scientific terms. The power that the Nazis were utilising was by volcanic activity, which gave them heat for steam and also helped produce electricity, but the Nazis had also mastered an unknown energy source because the survivor claimed: "...after what I witnessed, the amount of electricity needed is more than could be produced, in my opinion, by steam".

The scientist amongst the party dismissed most of what was divulged, and rebuked the survivor for his lack of scientific education and implied that his revelations "could not possibly be true". Though the scientist dismissed the survivor's claims, the Major didn't. He wanted to know more about the enemy that we were facing, but, more fundamentally, just what the Polar Man was going to do next. The answer from the survivor did nothing to comfort us and provoked the scientist to announce that the survivor was "certifiable". Disconcerted is too weak a word to describe how we felt when the survivor replied to the Major's questions about the escaped Polar Man's intentions: "He will wait, watch and wonder just how different we taste."

On hearing that, the Major issued the battle cry, and guard duty was set up whilst the Major and the scientist discussed, in private, just what we were to do next, even though it was obvious to the rest of us.

The next morning we were ordered to "investigate the tunnel", and for the next 48 hours we made our way steadily to the dry valley and the supposed "ancient tunnel". Upon arriving in the dry valley we were all amazed, for we had been told that Antarctica was completely ice-bound and yet here we were in a valley that reminded me of being back in the North African Sahara. We were forbidden from even approaching the tunnel until the temporary base camp had been erected; and whilst the men constructed the base, the scientist and Major investigated the tunnel.

After a few hours, they returned to the now complete camp to chronicle what they had seen and what our next plan of action was to be. The tunnel was not an ancient passageway at all, claimed the scientist, although the Major added that the walls were made of smooth granite and looked infinite. We were informed that we would be able to make our own minds up after we had rested for the night.

Sleeping in Antarctica during the summer months was difficult with perpetual daylight covering the continent; but that night, sleep was even more difficult to come by with all the thoughts running through each of our minds about what we would find and just when, or where, we would encounter the Polar Man again.

Just before we were assigned our times for guard duty, we were informed that we would be following the tunnel all the way—"...to the Führer, if needs be".

That night our fears were confirmed, as the Polar Man did indeed return. However, this time no more casualties occurred [on our side], but the Polar Man was slain as he was lured to the camp. The scientist decided that the Polar Man was "human" but, it seemed, had been able to produce more hair and withstand the cold far more effectively.

The corpse, after a brief post-mortem, was stored in a body bag, and with the cold could be preserved until a more meticulous dissection could occur.

The next morning it was decided that two would remain at the tunnel's entrance with the corpse, the tractors, the equipment but, more fundamentally, the radio. The Major, leading the expedition, needed the Norwegian for his expertise and also the scientist; the survivor, too, was critical for the mission's success. The rest of us wanted to join them. I was selected with the other jubilant four who would be undertaking one of the most exciting and possibly one of the most important expeditions in human history.

The two who were kept behind were disappointed, but their roles were just as vital to the mission's success as the nine who would be traversing into the unknown.

As the nine of us prepared to enter the tunnel, we made sure that we took enough ammunition and explosives to wage a small war and hopefully destroy the base in its entirety, for that was our mission: not to salvage, but to destroy.

We walked into the darkness, and thankfully after four hours of

"The cavern proved so extensive that they had to split up, and that was when the real discoveries were made. The Nazis had constructed a huge base into the caverns and had even built docks for U-boats..."

walking we began to see some light in the far distance. However, the light was still another hour away; and as each of us battled with our mind's questions of what we would uncover, we inched forward.

Eventually we reached the vast cavern that was artificially lit. We were then led to where the survivors had witnessed the executions. The survivor stated it was as covert as one could possibly have wished for.

As we looked over the entire cavern network, we were overwhelmed by the numbers of personnel scurrying about like ants, but what was impressive was the huge constructions that were being built. From what we were witnessing, the Nazis, it appeared, had been on Antarctica a long time. The scientist jotted down everything he could, drew diagrams and took rock samples as well as the odd photograph. The Major, on the other hand, was more interested in how the base was to be destroyed without being caught by the Nazis present.

After two days of vigilant reconnaissance, the scientist and Major decided on the targets for the mines. The mines were to be placed all around the roof of the cavern, with other targets on the to-do list such as the generator and the petrol dumps and, if possible and attainable, the ammunition dumps.

Throughout the day, mines were laid and more photos were taken; and with the odds of not being detected looking good, a hostage was taken, as well as proof of the Nazi base, the "Polar Man" and photographs of new, and quite advanced, Nazi technology.

When the mission to place the mines that would destroy the base had been accomplished, as well as substantial proof of the base gathered, we headed towards the tunnel—but, alas, we were spotted, and more of the Polar Men and a troop of Nazis gave chase. Upon reaching the tunnel, we needed to put an obstacle in the way to slow down our enemy long enough for the mines to detonate. Some mines were placed at the entrance to the tunnel, and when the explosions were heard we were hopeful that not just the base had been comprehensively destroyed but so, too, the enemy forces giving chase. We were wrong.

The mines did indeed close the tunnel, but, for those Nazis and Polar Men behind, the chase was still on. In a fighting retreat, only three of the 10 escaped the tunnel: the Norwegian, the scientist and myself. The rest had fallen gallantly in making sure that some of the party survived.

Upon reaching the safety of the dry valley, enough mines were laid to close the tunnel permanently. After the mines were detonated, there was no evidence of any tunnel ever existing.

Suspiciously, very little of the evidence unearthed remained. Whether it had been lost accidentally or purposely, it mattered little because the scientist had already made his and, ultimately, the mission's own conclusions.

The camp was disbanded and we returned to the Maudheim base where we were evacuated and flown back to the safety of the Falkland Islands Dependencies. Upon reaching South Georgia, we were issued with a directive that we

were forbidden to reveal what we had seen, heard or even encountered.

The tunnel was explained away as nothing more than a freak of nature; "glacial erosion" was the scientist's specific term. The "Polar Men" were nothing more than "unkempt soldiers that had gone crazy"; the fact that they were German was never submitted into the report, and any notion of the mission going public was firmly rebutted. The mission would never be made official, though certain elements of the mission were to be leaked to the Russians and the Americans.

So my last Christmas of World War II was spent on the Antarctic continent in 1945, fighting the same Nazis that I had fought against every Christmas since 1940. What was worse was the fact that the expedition was never given any recognition, nor the survivors any credit. Instead, the British survivors were de-mobbed from the forces, whilst the scientist and his report would soon disappear, the mission never to be known about except by the select few.

That mission never made the history books, but the return mission in February 1950, conducted by a joint British-Swedish-Norwegian expedition that lasted till January 1952, did. The main purpose of the expedition was to verify and investigate some of the findings of the 1938–39 Nazi

expeditions to Neuschwabenland.

Five years after our mission, Maudheim and Neuschwabenland were revisited, and that expedition had everything to do with the Neuschwabenland campaign, but, more importantly, with what we had destroyed. For the intermediate years between the missions, the Royal Air Force continuously flew flights over Neuschwabenland. The RAF's official reason for their extensive flights was that they were searching for suitable places to set up base camps. However, one can't help but wonder.³

[The SAS officer's account ends here. Ed.]

"The mission would never be made official, though certain elements of the mission were to be leaked to the Russians and the Americans."



"Apparently it's run by stupid adults."

How Britain Gained the "Knowledge"

My U-boat men, six years of U-boat warfare lie behind us. You have fought like lions. A crushing superiority has compressed us into a narrow area. The continuation of the struggle is impossible from the bases that remain. U-boat men, unbroken in your war-like courage, you are laying down your arms after a heroic fight which knows no equal. In reverent memory we think of our comrades who have sealed their loyalty to the Führer and Fatherland with their death. Comrades, maintain in the future your U-boat spirit with which you have fought at sea, bravely and unflinchingly, during the long welfare of our Fatherland. Long live Germany!
Your Grand Admiral.

— Grand Admiral Dönitz, 4 May 1945,
ordering his U-boats to start their return journey.

With 16 German U-boats sunk in the South Atlantic area between October 1942 and September 1944, and with most of those sunk engaged in covert activities, Britain had long since been aware of Neuschwabenland being a possible base, but it was not until after the war in Europe had ended that the world awoke to the possibility.

On 18 July 1945, newspapers around the world focused their headlines on Antarctica. The *New York Times* stated "Antarctic Haven Reported", whilst others claimed that "Hitler had been at the South Pole".⁴ These headlines which shook the world were based, in part, on fact. The news reports and events happening in South America made the world sit up and take notice, not least the military forces of the United States and Great Britain.

On 10 June 1945, an unmarked German U-boat surrendered to the Argentine Navy; no further details were released. The whereabouts of at least a hundred other U-boats were still a mystery, as renowned historian Basil Liddell Hart noted: "During the early months of 1945 the size of the U-boat fleet was still increasing... In March, the U-boat fleet reached its *peak strength* of 463 [emphasis added]."⁵

The mystery deepened when, on 10 July 1945, the German U-530 surrendered at Mar del Plata, Argentina, and it only took eight days for the world to know. However, the U-boat mystery did not end with U-530; just over a month later, on 17 August 1945, U-977 also surrendered at Mar del Plata. Even more curious was the fact that the same month, U-465 was scuttled off Patagonia.

Only three months after the Kriegsmarine's U-boat's strength had peaked, the first of the unaccounted-for U-boats appeared. Unfavourably though, historians tend to gloss over the enigma of the missing U-boats and Hart also offers no explanation other than to explain the 362 known U-boats' fate: "After Germany surrendered in May, 159 U-boats surrendered but a further 203 were scuttled by their crews. That was characteristic of the U-boat crews' stubborn pride and unshakeable morale."⁶

With so many U-boats missing—a minimum of 40 were estimated missing at the end of the War—and with Britain still possessing one of the world's largest navies and strategically based territories in the Falklands and Antarctica, Britain was the

most ideally placed of all the Allies to deal with a Nazi haven. It would have been the best informed about the missing U-boats due to its southern hemisphere territories and an empire that, though crumbling, was still the largest the world had ever seen. Intelligence soon substantiated the suspicions with the interrogations of the captains of both the U-977 and U-530.

Captain Wilhelm Bernhard, commanding the U-530, claimed that under Operation *Valkyrie-2* his U-boat set off to the Antarctic on 13 April 1945. Under interrogation he divulged just what the mission had involved. Supposedly, 16 crew members had landed on the Antarctic shore and deposited numerous boxes that were apparently documents and relics from the Third Reich. Heinz Scheffer, captain of the U-977, also claimed that his U-boat had spirited relics away from the Reich. However, less plausible is the theory that the U-boat delivered the remains of Hitler and Eva Braun to the South Pole, and other theories that the Holy Grail and the Spear of Destiny were also taken to the Antarctic only cloud the truth.

What does help substantiate their story is the little-known fact (which *Pravda* reported on 16 January 2003) that, in 1983,

Special Services seized a confidential letter that Captain Scheffer wrote to Captain Bernhard, and in the letter Scheffer pleads to Bernhard not to publish his memoirs in too profound a detail and, in fact, states his intent for the world not to know the truth:

"We all made an oath to keep the secret; we did nothing wrong: we just obeyed orders and fought for our loved Germany and its survival. Please think again; isn't it better to picture everything as a fable? What results do you plan to achieve with your revelations? Think about it, please."⁷

Another mystery that has never been solved is that of the cargo of

mercury contained inside U-859 which was sunk on 23 September 1944 by the British Royal Navy submarine HMS *Trenchant* in the Strait of Malacca in the Java Sea, so far from home with such an anomalous cargo—a cargo that could be utilised as a fuel source. The survivors divulged to their British captors what they had been carrying, and that information would have definitely raised eyebrows when their find was relayed to British Intelligence.

The case of U-859 was not an isolated one. Many German U-boats were active throughout the world; many supplied the Japanese throughout the war and, strangely, even after the German capitulation. In July 1945, an unmarked German U-boat, supposedly part of a secret convoy, delivered a new invention to Japanese research and development units. The Japanese constructed and activated the device. The device soared into the sky where, however inauspiciously, it burst into flames. It was never dared to be built again.

The British Navy, having already retrieved many of the U-boats that had surrendered in Norway, was well aware that many more had fled, especially if the tale reported in the Latin American press about a German U-boat convoy totally annihilating the British destroyers that engaged the convoy is to be believed. On 2 May 1945, *El Mercurio* and *Der Weg* claimed that the final naval battle of World War II between the Kriegsmarine and the Royal

Another mystery that has never been solved is that of the cargo of mercury contained inside U-859 which was sunk in 1944 by the British Royal Navy submarine HMS *Trenchant* in the Java Sea, so far from home with such an anomalous cargo...

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THE ELECTRIC SUN & THE MYTH OF THE NUCLEAR FURNACE

by David Talbott

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What is the source of the Sun's light and heat? Throughout history, people have proposed answers to this question that have always reflected human experience. The Sun was a shining god, or a "spark" cast off in the creation. Later it was a pile of burning sticks or coal.

By the 19th century, astronomers had become accustomed to thinking that gravity was the dominant force in the heavens. So they began to conjecture that the energy of the Sun might be due to "gravitational collapse", a compression of solar gases by gravity. This simple hypothesis, its proponents claimed, could provide the required energy output for a few tens of millions of years. However, by the late 19th century, geologists were confident that Earth was much older than the astronomers' model would allow, and the conflict between astronomy and geology continued for several decades.

Then, in 1920, the British astronomer Sir Arthur Eddington combined the principle of gravitational collapse with an exciting new principle in the physical sciences: nuclear fusion. He proposed that at the core of the Sun, pressures and temperatures induced a nuclear reaction fusing hydrogen into helium.

In 1939, two astrophysicists, Subrahmanyan Chandrasekhar and Hans Bethe, working independently, began to quantify the gravitational collapse and nuclear fusion hypothesis. Bethe described the results of his calculations in a brief paper entitled "Energy Production in Stars", published in 1939.

The model that followed the work of Eddington, Chandrasekhar and Bethe

described a "nuclear furnace" responsible for igniting stars. And for decades now, cosmologists, astronomers and astrophysicists have accepted the basic concept as fact. In the early formulations of this "standard model" of star formation, it was said that the gravitational force within a primordial cloud leads to its progressive compression into a "circumstellar disc", as the outer material in the cloud "falls" inward and gravity gives birth to a star-sized sphere whose core temperature continues to rise under increasing pressures. Collisions of atoms within the core eventually become so energetic that electrons are stripped from their nuclei, leaving free electrons and hydrogen protons (a plasma, as we now understand it). In stars

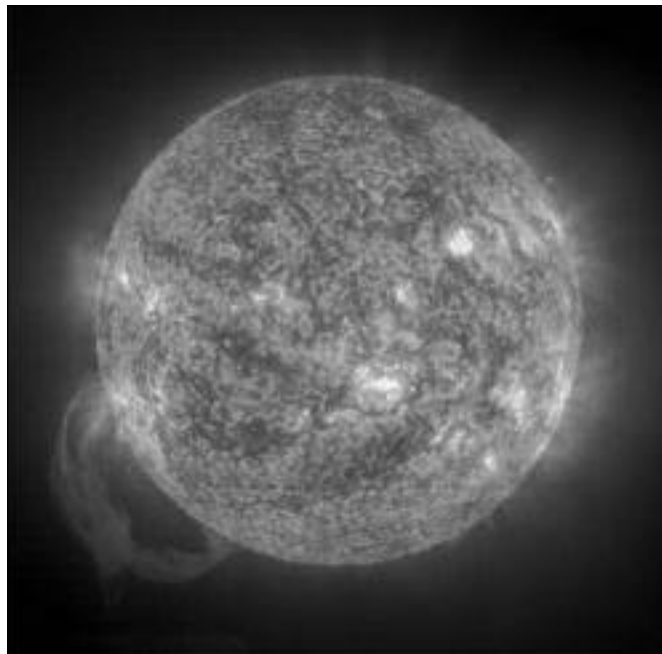
case the electric repulsion between two protons or like charges. Once protons are fused, they could be held together by the strong nuclear force, but that force dominates only at short distances. To achieve fusion, it would be necessary for protons to cross the barrier of the repulsive electric force, which is sufficient to keep the protons apart forever. But Eddington's successors accomplished the impossible by something called "quantum tunnelling", enabling an extremely small percentage of protons simply to "appear" inside the barrier at any particular time.

It is ironic that the early objections to the fusion model of the Sun focused on the powerful electric force. This was long before the arrival of the Space Age, with its discovery that the charged particles of plasma permeate interplanetary and interstellar space, and long before any systematic investigations of plasma and electricity in space.

Advocates of the "nuclear furnace" model made a series of fundamental assumptions common to astronomy long before the emergence of a nuclear model of the Sun. The credibility of these assumptions was not an issue to them. They assumed that diffuse clouds of gas in space would collapse gravitationally into star-sized bodies. They assumed that the Sun's mass could be calculated simply from the orbital motions of the planets. They assumed that Newtonian calculations of mass, coupled with standard gas laws, enabled them to determine

the pressure and temperature of the Sun's core. The pioneers of the nuclear furnace model also followed another assumption common to astronomy in their time: that the Sun and planets are electrically neutral. They gave no consideration to the role of electricity and no consideration to the role of the magnetic fields that electric currents generate.

Are the assumptions made in the first



Credit: NASA/CXC/SAO

roughly comparable to our Sun, with envisioned core temperatures less than 15 million Kelvin, the nuclear reaction begins when hydrogen protons are joined or stuck together in the "proton-proton fusion" of hydrogen into helium.

Critics, however, pointed out that the temperatures given by standard gas laws are not sufficient to provoke nuclear fusion. They cited the "Coulomb barrier", in this

half of the 20th century still warranted after decades of space exploration? Those proposing an electrical perspective, based on more recent data, insist that the earlier conjectures are not only unwarranted but discredited by direct observation and measurement. They emphasise that every feature of the Sun, as we now observe it, defies both the gravitational assumptions and the standard gas laws relating to pressure, density, temperature and relative motions of gases. The deepest observable surface of the Sun yields a temperature of about 6,000 degrees Kelvin. As we peer into the darker interior of sunspots we see cooler regions, not hotter. But moving outward to the bottom of the corona, the temperature jumps spectacularly to almost two million degrees. Thus, the superheated shell of the Sun's corona reverses the expected temperature gradient predicted by models of internal heating.

It seems that the Sun does not even "respect" gravity. The mass of charged particles—expelled by the Sun as the solar wind—continues to accelerate beyond Mercury, Venus and Earth. Solar prominences and coronal mass ejections do not obey gravity, either. Nor does sunspot migration. Nor does the movement of the atmosphere, since the upper layers rotate faster than the lower—reversing the situation predicted by theory—while the equatorial atmosphere completes its rotation more rapidly than the atmosphere at higher latitudes—another reversal of predicted motions. If the Sun's atmosphere were subject only to gravity and the hot surface, it should be only a few thousand kilometres thick instead of the hundred thousand kilometres or more that we measure.

Even the shape of the Sun defies the expectations of theory. The revolving Sun should be an oblate sphere. But it is virtually a perfect sphere, as if gravity and inertia have been overruled by something else.

For the electrical theorists, the "something else" should be obvious from the dominant, observed features of the Sun (in contrast to things assumed but never seen).

The anomalies facing the standard model of the Sun are predictable features of a glow discharge. Refer to Pictures of the Day at <http://www.thunderbolts.info..>

[Note: This article, dated 27 May 2005, is copyright © 2005 Thunderbolts.info. The full text of this article, with text links, can be viewed at <http://www.thunderbolts.info/tpod/2005/arch05/050517fusion.htm>.]

THE ELECTRIC GLOW OF THE SUN

by David Talbott

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A little known fact: popular ideas about the Sun have not fared well under the tests of a scientific theory. The formulators of the standard Sun model worked with gravity, gas laws and nuclear fusion. But closer observation of the Sun has shown that electrical and magnetic properties dominate solar behaviour.

For centuries, the nature of the Sun's radiance remained a mystery to astronomers. The Sun is the only object in the solar system that produces its own visible light. All others reflect the light of the Sun. What unique trait of the Sun enables it to shine upon the other objects in the solar system?

Today, astronomers assure us that the most fundamental question has now been answered. The Sun is a thermonuclear furnace. The ball of gas is so large that astronomers envision pressures and densities within its core sufficient to generate temperatures of about 16 million K, producing a continuous "controlled" nuclear reaction.

Most astronomers and astrophysicists investigating the Sun are so convinced of the fusion model that only the rarest among them will countenance challenges to the underlying idea. Standard textbooks and institutional research, complemented by a chorus of scientific and popular media, "ratify" the fusion model of the Sun year after year by ignoring evidence to the contrary.

A growing group of independent researchers, however, insists that the popular idea is incorrect. These researchers say that the Sun is *electric*. It is a glow discharge fed by galactic currents. And they emphasise that the fusion model anticipated none of the milestone discoveries about the Sun, while the electric model predicts and explains the very observations that posed the greatest quandaries for solar investigation.

More than 60 years ago, Dr Charles E. R. Bruce, of the Electrical Research Association in England, offered a new perspective on the Sun. An electrical researcher, astronomer and expert on the effects of lightning, Bruce proposed in 1944 that the Sun's "photosphere has the appearance, the temperature and the spectrum of an electric arc; it has arc characteristics because it is an electric arc, or a large number of arcs in parallel". This discharge characteristic, he claimed, "accounts for the observed granulation of the solar surface".

Bruce's model, however, was based on a conventional understanding of atmospheric lightning, allowing him to envision the "electric" Sun without reference to external electric fields.

Plasma Glow Discharge

Years later, a brilliant engineer, Ralph Juergens, inspired by Bruce's work, added a revolutionary possibility. In a series of articles beginning in 1972, Juergens suggested that the Sun is not an electrically isolated body in space but the most positively charged object in the solar system, the centre of a radial electric field. This



field, he said, lies within a larger galactic field. With this hypothesis, Juergens became the first to make the theoretical leap to an external power source of the Sun.

Juergens proposed that the Sun is the focus of a "coronal glow discharge" fed by galactic currents. To avoid misunderstanding of this concept, it is essential that we distinguish the complex electrodynamic glow discharge model of the Sun from a simple electrostatic model that can be easily dismissed.

Throughout most of the volume of a glow discharge, the plasma is nearly neutral with almost equal numbers of protons and electrons. In this view, the charge differential at the Earth's distance from the Sun is smaller than our present ability to measure—perhaps one or two electrons per cubic metre.

But the charge density is far higher closer to the Sun, and at the solar corona and surface the electric field is of sufficient strength to generate all of the energetic phenomena we observe.

Today, the electric theorists Wallace Thornhill and Donald Scott urge a critical comparison of the fusion model and the electrical model. Given what we now know about the Sun, which model meets the tests of unity, coherence, simplicity and predictability? Why did so many discoveries surprise investigators and even contradict the expectations of the fusion model? Is there any fundamental feature of the Sun that contradicts the glow discharge hypothesis?

Our closer looks at the Sun have revealed the pervasive influence of magnetic fields, which are the effect of electric currents. Sunspots, prominences, coronal mass ejections and a host of other features require ever more complicated guesswork on behalf of the fusion model. But this is the way an anode in a coronal glow discharge behaves!

In the electric model, the Sun is the "anode" or positively charged body in the electrical exchange, while the "cathode" or negatively charged contributor is not a discrete object but the invisible "virtual cathode" at the limit of the Sun's coronal discharge. (Coronal discharges can sometimes be seen as a glow surrounding high-voltage transmission wires, where the wires discharge into the surrounding air). This virtual cathode lies far beyond the

planets. In the lexicon of astronomy, this is the "heliopause". In electrical terms, it is the cellular sheath or "double layer" separating the plasma cell that surrounds the Sun ("heliosphere") from the enveloping galactic plasma.

In an electric universe, such cellular forms are expected between regions of dissimilar plasma properties. According to the glow discharge model of the Sun, almost the entire voltage difference between the Sun and its galactic environment occurs across the thin boundary sheath of the heliopause.

Juergens suggested that the Sun is not an electrically isolated body in space but the most positively charged object in the solar system, the centre of a radial electric field. This field, he said, lies within a larger galactic field.

Inside the heliopause there is a weak but constant radial electrical field centred on the Sun. A weak electric field, immeasurable locally with today's instruments but cumulative across the vast volume of space within the heliosphere, is sufficient to power the solar discharge.

The visible component of a coronal glow discharge occurs above the anode, often in layers. The Sun's red chromosphere is part of this discharge. (Unconsciously, it seems, the correct electrical engineering term was applied to the Sun's corona.) Correspondingly, the highest particle energies are not at the photosphere but above it.

Solar Temperatures

The electric theorists see the Sun as a perfect example of this characteristic of glow discharges—a radical contrast to the expected dissipation of energy from the core outward in the fusion model of the Sun.

At about 500 kilometres (310 miles) above the photosphere or visible surface, we find the coldest measurable temperature, about 4,400 degrees K. Moving

upward, the temperature then rises steadily to about 20,000 degrees K at the top of the chromosphere, some 2,200 kilometres (1,200 miles) above the Sun's surface. Here it abruptly jumps hundreds of thousands of degrees, then continues slowly rising, eventually reaching two million degrees in the corona. Even at a distance of one or two solar diameters, ionised oxygen atoms reach a temperature of 200 million degrees!

In other words the "reverse temperature gradient", while meeting the tests of the glow discharge model, contradicts every original expectation of the fusion model.

But this is only the first of many enigmas and contradictions facing the fusion hypothesis. As astronomer Fred Hoyle pointed out years ago, with the strong gravity and the mere 5,800-degree temperature at the surface, the Sun's atmosphere should be only a few thousand kilometres thick, according to the "gas laws" that astrophysicists typically apply to such bodies. Instead, the atmosphere balloons out to 100,000 kilometres, where it heats up to a million degrees or more. From there, particles accelerate out among the planets in defiance of gravity. Thus the planets, Earth included, could be said to orbit inside the Sun's diffuse atmosphere.

The discovery that blasts of particles escape the Sun at an estimated 400–700 kilometres per second came as an uncomfortable surprise for advocates of the nuclear-powered model. Certainly, the "pressure" of sunlight cannot explain the acceleration of the solar "wind". In an electrically neutral, gravity-driven universe, particles are not hot enough to escape such massive bodies, which (in the theory) are attractors only. And yet, the particles of the solar wind continue to accelerate past Venus, Earth and Mars. Since these particles are not miniature "rocket ships", this acceleration is the last thing one should expect!

According to the electric theorists, a weak electric field, focused on the Sun, better explains the acceleration of the charged particles of the solar wind. Electric fields accelerate charged particles. And just as magnetic fields are undeniable witnesses to the presence of electric currents, particle acceleration is a good measure of the strength of an electric field.

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DOES THE EARTH HAVE A SOLAR UMBILICAL CORD?

January 2005 was a stormy month—in space. With little warning, a giant spot materialised on the Sun and started exploding. Between 15 and 19 January, sunspot 720 produced four powerful solar flares. When it exploded a fifth time on 20 January, onlookers were not surprised.

They should have been. Researchers realise now that the 20 January blast was something special. It has shaken the foundations of space weather theory and possibly changed the way astronauts are going to operate when they return to the Moon.

Scant minutes after the 20 January flare, a swarm of high-speed protons surrounded Earth and the Moon. Thirty minutes later, the most intense proton storm in decades was underway.

"We've been hit by strong proton storms before, but [never so quickly]," says solar physicist Robert Lin of UC Berkeley. "Proton storms normally develop hours or even days after a flare."

This one began in minutes.

Proton storms cause all kinds of problems. They interfere with ham radio communications. They zap satellites, causing short circuits and computer reboots. Worst of all, they can penetrate the skin of spacesuits and make astronauts feel sick.

"An astronaut on the Moon, caught outdoors on January 20, would have had almost no time to dash for shelter," says Lin. The storm came fast and "hard", with proton energies exceeding 100 million electron volts. These are the kind of high-energy particles that can do damage to human cells and tissue.

"The last time we saw a storm like this was in February 1956." The details of that event are uncertain, though, because it happened before the Space Age. "There were no satellites watching the Sun."

According to space weather theory (soon to be revised), this is how a proton storm develops. It begins with an explosion, usually above a sunspot. Sunspots are places where strong magnetic fields poke through the surface of the Sun. For reasons no one completely understands, these fields can become unstable and explode, unleashing as much energy as 10 billion hydrogen bombs.

From Earth we see a flash of light and X-rays. This is the "solar flare", and it's the first sign that an explosion has occurred. Light from the flare reaches Earth in only eight minutes.

Next, if the explosion is powerful enough, a billion-ton cloud of gas billows away from the blast site. This is the coronal mass ejection (CME). CMEs are relatively slow. Even the fastest ones, travelling at 1,000 to 2,000 km/s, take a day or so to reach Earth. You know a CME has just arrived when you see auroras in the sky.

En route to Earth, CMEs plough through a lot of gaseous material, first in the Sun's atmosphere and then out in interplanetary space. You thought space was empty? No. The void between planets is filled with protons and other particles from the solar wind. Shock waves in front of the CME can accelerate these protons in our direction—hence the proton storm.

"CMEs can account for most proton storms," says Lin, but not the proton storm of 20 January.

According to theory, CMEs can't push material to Earth quickly enough. So, back to the drawing board. But if a CME didn't accelerate the protons, what did?

"We have an important clue," says Lin. When the explosion occurred, sunspot 720 was located at a special place on the Sun: 60 degrees west longitude. This means "the sunspot was magnetically connected to Earth".

He explains that the Sun's magnetic field spirals out into the solar system like water from a lawn sprinkler. (Why? The Sun spins like a lawn sprinkler does.) The magnetic field emerging from solar longitude 60 degrees W bends around and intersects Earth. Protons are guided by magnetic force fields, so on 20 January there was a superhighway for protons leading all the way from sunspot 720 to our planet.

"That's how the protons got here," speculates Lin.

How they were accelerated, however, remains a mystery.

(Source: NASA, 10 June 2005, http://science.nasa.gov/headlines/y2005/10jun_newstorm.htm)

Continued from page 47

A common mistake made by critics of the electric model is to assume that the radial electric field of the Sun should be not only measurable but also strong enough to accelerate electrons toward the Sun at "relativistic" speeds (up to 300,000 kilometres per second). By this argument, we should find electrons not only zipping past our instruments but also creating dramatic displays in the Earth's night sky.

But as noted above, in the plasma glow discharge model the interplanetary electric field will be extremely weak. No instrument placed in space could measure the radial voltage differential across a few tens of metres, any more than it could measure the solar wind acceleration over a few tens of metres.

But we *can* observe the solar wind acceleration over tens of millions of kilometres, confirming that the electric field of the Sun, though imperceptible in terms of volts per metre, is sufficient to sustain a powerful drift current across interplanetary space. Given the massive volume of this space, the implied current is quite sufficient to power the Sun.

Look for more details on the drift current, solar magnetic fields, nuclear reactions and many other features of the Sun in upcoming Pictures of the Day at <http://www.thunderbolts.info>. ∞

[Note: This article, dated 27 April 2005, is copyright © 2005 Thunderbolts.info. The full text of this article, with text links, can be viewed at <http://www.thunderbolts.info/tpod/2005/arch05/050427sun.htm>.]

Additional Reading

See also these Pictures of the Day:

- Arc Lamp in the Sky
<http://www.thunderbolts.info/tpod/2004/arch/040729solar.htm>
- Stellar Nurseries
<http://www.thunderbolts.info/tpod/2004/arch/040727stellar-nurseries.htm>
- Electric Stars
<http://www.thunderbolts.info/tpod/2004/arch/040922electric-stars.htm>
- The Iron Sun
<http://www.thunderbolts.info/tpod/2004/arch/041006iron-sun.htm>
- Solar Tornadoes
<http://www.thunderbolts.info/tpod/2004/arch/041015solar-tornado.htm>
- Kepler Supernova Remnant
<http://www.thunderbolts.info/tpod/2004/arch/041103supernova.htm>

DOES SOUND CREATE CROP CIRCLES?

Experiments with plants and sound have produced effects similar to those analysed in and around crop circles, suggesting that particular sonic frequencies could be creating these beautiful, mysterious designs.

by Freddy Silva © 1997–2005

Email: lovely272@earthlink.net

The Crop Circular website:
<http://www.lovely.clara.net>

Smashing the Myth that "All Crop Circles Are Hoaxes"

During the twilight days of 1998, small articles tucked away in the nether regions of the British press quietly announced "Unknown Force Was Behind Corn Circles, Claims Hoaxer". This dramatic U-turn by the surviving member of the infamous Doug and Dave duo—the English sexagenarians who from 1991 misled the world with tales of their crop-flattening prowess with planks of wood—illustrates that the hand of man materialised in crop circle lore long after the real phenomenon had manifested.

Although hoaxers claim to have orchestrated the phenomenon in 1978, unpublished evidence at the time showed approximately 200 sporadic reports of crop circles around the world throughout the 1900s, with dozens of eyewitnesses reporting crop circles forming in a matter of seconds as far back as 1890. Several highly descriptive accounts were even documented in 1678 by Robert Plot, then curator of the Ashmolean Library in Oxford, England. If hoaxers are responsible for crop circles, then they appear to have mastered the art of time travel, in which case it is *they* who ought to be under scientific scrutiny.

To date, some 10,000 crop circles have been catalogued in 29 countries worldwide, and their anomalous features continue to defy human replication: plants bent an inch above the soil, their cellular structure altered, their stems lightly burned around the base; alterations to the crystalline structure of the affected soil; evaporation of groundwater; alteration of the local electromagnetic field; and dowsable, long-lasting energy patterns, not to mention hundreds of measured effects on the human biological field.

So much, then, for two guys and a piece of wood. But thanks to a virtual embargo on the coverage of research throughout the media, a popular myth has developed that all crop circles have been nothing more than a prank with a plank. By definition, a hoax is a forgery, and a forger requires an original from which to copy. So what is this "unknown force" that creates genuine crop circles? One answer may lie with sound.

Sound and Sacred Geometry

Traditionally, sound has been considered a prime universal force in the creation of matter. This concept is echoed in all faiths and traditions: "In the beginning was the Word, and the Word was with God", so the Bible, the Q'ran and the Rig Veda remind us. In a similar way, Hopi and Navajo religious traditions assert that, in ancient times, shamans could utter words onto sand and create patterns not dissimilar to the Hindu mandalas—those geometric paintings held to be expressions of vibrations from the unseen Universe. Consequently the Eastern faiths, Islam in particular, chose this sacred geometry to express the image of God. In the 12th century these geometric principles were encoded in the design of Gothic cathedrals, and their application is now known to enhance these buildings' sonic effects.

Geometry, sound, resonance and vibration are fundamental to our supposedly physical world. When the primeval Hindu sound, the "OM" (from which is derived our modern term "hum"), is sung into a tonoscope (a device for converting the human voice into visible form), it is possible to see geometric shapes attributed with "sacredness". Under the microscope, even atoms are seen as harmonic resonators, and their structures are composed of geometric rhythms whose proportions are similar to the mathematical intervals governing the notes of the music scale. For example, the gap between the notes C and G—a musical fifth—can be represented geometrically as a pentagram.

As the expression of number in space, geometry is inextricably linked to sound, since

the laws of the former govern the mathematical intervals that make up the notes in Western musical scales, also known as diatonic ratios. Physical reality, it seems, is governed by geometric arrays related to sound frequencies.

One of the mathematical minds studying crop circles was the late Professor Gerald Hawkins. In February 1992 he published an interesting challenge to the half a million subscribers of *Science News*. Prof. Hawkins had studied the work of Euclid, a Greek mathematician of the third century BC, whose treatises on mathematics pretty much form the basis of our knowledge today. He used the principles of Euclid to prove that four geometric theorems can be derived from the relationships of design elements in crop circles. More significantly, he discovered a previously unknown fifth theorem from which he could derive the other four. Euclid himself had not written it in his 13 treatises on mathematics, and yet Prof. Hawkins showed that a gap existed in Euclid's work where logically it ought to have fitted.

Despite an open challenge to the high IQ readership of *Science News*, no one was able to create this fifth theorem. Needless to say, it came as a slight shock when it materialised as a 160,000-square-foot crop circle at Litchfield, England, in 1995 (see fig. 1).

Incredibly, the theorem did not appear overtly, and, just like the challenge laid by Hawkins, the Circlemakers required it to be decoded from within their own design.

By their nature, the crop circle theorems produce diatonic ratios, so a link now exists between crop circles and musical notes, which are the by-product of sound frequencies. And by 1995, crop circles bearing unmistakable physical associations with sound began to appear. One contained a curious ratchet feature from which is extracted a musical diagram, the Lambdoma, dating to the ancient Egyptian mystery schools. Also known as

the Pythagorean Table, it defines the exact relationships between musical harmonics and mathematical ratios (see figs 2a, 2b).

But it was a convincing crop circle etched in barley at Goodwood Clatford, England, in 1996—which had its plants bent six inches from the top—that gave the proverbial nod to sound, for here was a representation of a cymatic pattern (see fig. 3).

Cymatics is the study of sound waves and their interaction with physical substances. One of its modern pupils was Swiss scientist Hans Jenny who, throughout the 1950s to 1960s, painstakingly captured on film the effects of sound as it interacted with powders and liquids. He observed how sound vibration created geometric shapes: a low frequency produced a simple circle encompassed

by rings, whereas a higher frequency increased the number of concentric rings around a central circle. As the frequencies rose, so too did the complexity of shapes, to the point where tetrahedrons, mandalas and other sacred geometric forms could be discerned.

Just as the Egyptians had once described geometry as "frozen music", so Jenny now enabled humanity to see it. Jenny also provided a physical connection to the creation of crop circles I'd been looking for, since many of the vibrational patterns captured in his photos mimic

their designs: from the simple circle surrounded by concentric rings, typical of early 1980s designs, to the tetrahedron and the complex star fractals of the 1990s (see fig 4).

Visually, then, the connection is undeniable. But what evidence links sound and crop circles at a physical level?

Sonic Effects in the Field and in the Laboratory

• Audible sound

Many accounts exist of a trilling sound heard by the 80 reported witnesses to crop circles forming. This unusual noise, which sounds like a cross between a cicada and a waterfall, was captured on magnetic tape in 1989 during a night watch of a field at Cheesefoot Head, England, by a group of researchers. It was duly sent to NASA's Jet Propulsion Laboratory in Pasadena, where it was brought to the attention of Robert Weiss, the man who had previously analysed the famous Watergate tapes. He concluded that the noise was not related to any type of bird or insect, and due to its looping, rhythmic nature it appeared to be of intelligent, mechanical origin. Further, it contained a frequency of 5.0–5.2 kHz.

Later that summer, the trilling sound was captured again—this time by a BBC cameraman whilst recording an interview inside a crop circle. A few seconds after its appearance, it rendered his US\$55,000 camera useless. According to the technicians who later rebuilt the equipment, the sound frequency had interfered with the circuitry to such a degree that the camera would not work after that episode.

Interestingly, many latter-day Australian Aborigines relate to this trilling sound. During their ceremonies to contact their "sky spirits", a specially shaped piece of wood called a *bora* is attached to the end of a long string and whirled, creating a noise practically identical to the crop circle sound. It was later discovered that not only have

Cymatics is the study of sound waves and their interaction with physical substances. Low frequencies produce a simple circle encompassed by rings, whereas higher frequencies increase the number of concentric rings around a central circle.

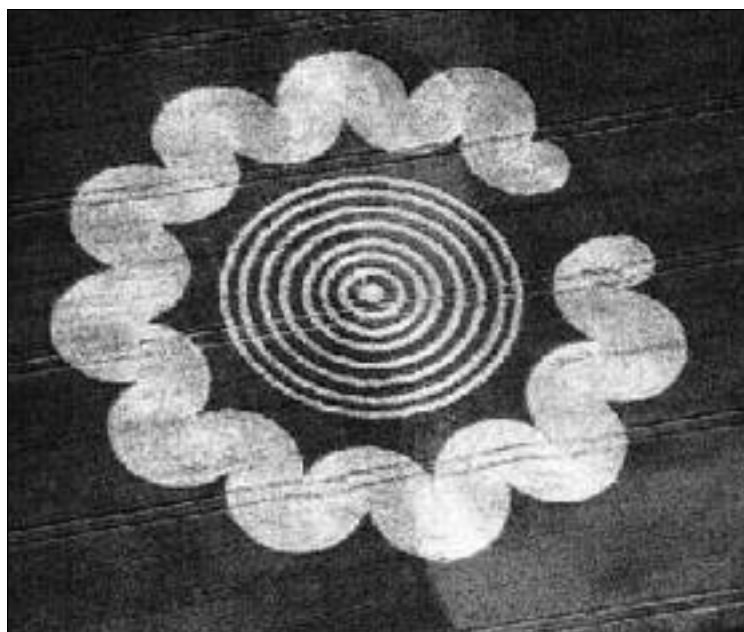


Figure 1: Crop circle at Litchfield near Dunley, Hampshire, UK, formed 4 July 1995. Photograph © Steve Alexander 1998.

crop circles appeared in Australia, they have also manifested throughout Aboriginal myths, just as their geometries have appeared in ancient Aboriginal rock paintings.

But back to that 5 kHz connection, since it has taken me on a journey of extraordinary connections, particularly regarding the way in which sound interacts with plants and soil. Back in the 1950s, American agricultural researcher George Smith found that exposing corn to sound frequencies produced a higher heat content in soil as well as a slight burnt appearance in the plants. Such effects are consistent with the soil of crop circles, where the affected area appears noticeably drier—in some cases, baked—compared with the rest of the field, even despite overnight rain; the same applies to the "slight burning" at the base of crop circle stalks. Oddly enough, Smith speculated at the time that particular sound frequencies also increased molecular activity in plants.

Three decades later, such activity was indeed discovered in plant samples taken from crop circles. Tests performed since 1989 by Michigan-based physicist Dr W. Levensgood consistently show how the energy creating crop circles affects seed embryo and plant growth and elongates the plants' nodes, even altering the pattern of their crystalline structure.

The sudden and abnormal growth in plants affected by the energy of crop circles was attributed by Levensgood to microwaves. However, microwaves have the ability to render biological systems sterile, and an overdose will even kill organisms. Crop circle plants, on the other hand, are certainly alive and well, so there is another answer.

Already conversant with discoveries by Russian scientists that certain sound frequencies noticeably affected the growth of plants and seeds, Mary Measures and Pearl Weinberger experimented with sound at the University of Ottawa throughout the 1960s. They succeeded in accelerating growth in wheat, but the sound also produced a resonant effect in the plants' cells, thereby affecting their metabolism. And the frequency applied was identical to the crop circle trilling noise: 5 kHz.

Perhaps the greatest connection linking sound to the manifestation of crop circles lies in their greatest anomaly: the permanent bending of the plants' stems. In 1968, laboratory experiments at Temple Buell College, Colorado, measured the effects of music

on plants by subjecting them to different tones. Exposure to heavy metal music made the plants tilt in the opposite direction or die, whereas classical music lulled the plants to lean toward the speakers. But in the case of Hindu devotional music—the type played by the sitar player Ravi Shankar—the stems bent in excess of 60° to the vertical, perhaps the closest any human has ever come to recreating that right-angle bend common to plant stems in genuine crop circles.

Interestingly, applications of Indian devotional song to plants

during the 1930s at Annamalai University, India, also showed a number of similar biophysical changes to those which occurred in plants collected from crop circles and analysed by Dr Levensgood.

Sound as one energy source capable of creating crop circles now becomes very feasible. But what type of sound coaxes plants to bend and lie down by applying firm and gentle pressure and, given the intricacy and complexity of latter-day patterns, with a fine degree of precision?

• Ultrasound

Interestingly, ultrasound is capable of interacting with physical elements to such an incredible degree. It can be aimed like a laser beam, and specific frequencies can be focused to cause certain kinds of molecules to vibrate while others nearby are left unmoved.

The higher the frequency of ultrasound, the greater its ability to be directed. This requires frequencies in the high MHz range, such as those detected for over a decade inside crop circles. The readings generally hover in the vicinity of 260–320 MHz. However, the frequencies inside them appear to increase each year, and relative to the increase in their geometric complexity. This mirrors Jenny's experiments, which show that a relationship exists between the complexity of cymatic geometries in proportion to the dispensed sound frequencies. In other words, the

higher the frequency, the greater the geometric intricacy.

Such extremely high frequencies are known to affect states of awareness and consciousness in humans, and visitors to crop formations often report this.

Such effects are traditionally associated with sacred spaces—stone circles in particular—and it is interesting to note that ultrasound has been detected at stone circles and standing stones in



Figure 2a: Crop circle at Andover, Hampshire, UK, formed July 1995.

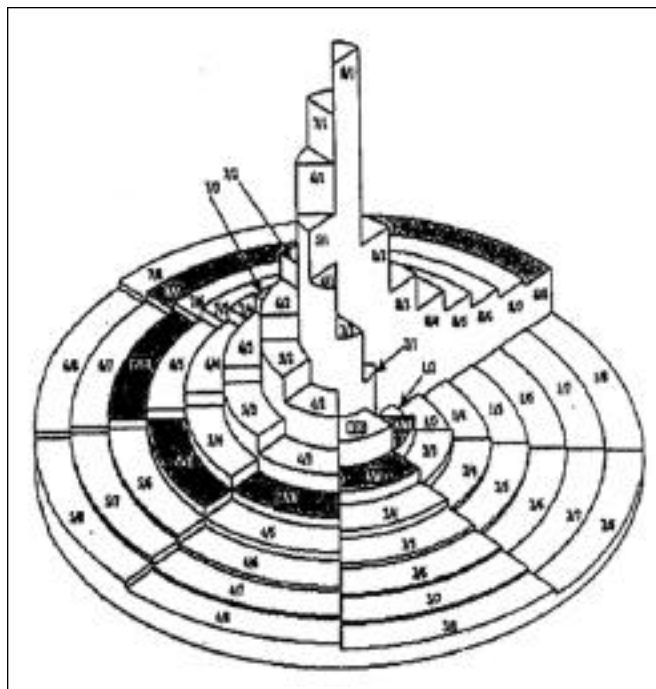


Figure 2b: Pythagoras' Circular Lambda, which contains all musical ratios. Diagram © Robert Faulkrod.

England. When tuned in the MHz range, ultrasound prevents damage to sensitive tissue, so its healing properties are today used in the treatment of muscular ailments. Again, this mirrors the folklore of sacred spaces—and as far as crop circles are concerned, hundreds of people have also reported healings. One long-time sufferer of Parkinson's disease stopped shaking. A man with a retinal eye tumour, 99 per cent malignant, saw the tumour shrivel away after contact with crop circles; this case is clinically documented in New Hampshire, and the patient's doctor remains at odds to explain this.

• Infrasound

Below 20 Hz, sound becomes infrasonic, and such frequencies influence biological processes. And here lies the direct connection to crop circles.

Experiments throughout the 1980s at the Princeton Engineering Anomalies Research (PEAR) Laboratory demonstrate that the acoustic power of infrasound, when combined with high pressure, boils water inside a cavity in one nanosecond.

As water heats, it expands; and in the case of crop circle plants and their water-filled stems, a close look reveals tiny holes in their nodes (the plant's "knuckles"), indicating that the superheated water has blown outwards. The bases of the stems are made subtle like molten glass by the heat, leaving the now top-heavy plants to collapse into their new horizontal position. Since this action (called "vapour cavitation") creates local temperature increases of hundreds of thousands of degrees for a fraction of a second, it is now not difficult to see how millions of gallons of groundwater can disappear within and around the perimeter of a crop circle or why the plants attain their slightly burnt appearance.

Combine this with Levenson's discovery of microscopic blow-holes in the plants' cell-wall pits (indicating the rapid boiling of water inside the plant), and everything starts to fall into place.

Infrasound is also capable of atomising water molecules, creating a fine mist, and farmers in England and Canada have witnessed columns of mist rising from within newly arrived crop circles.

Finally, the lower the operating frequency of infrasound, the

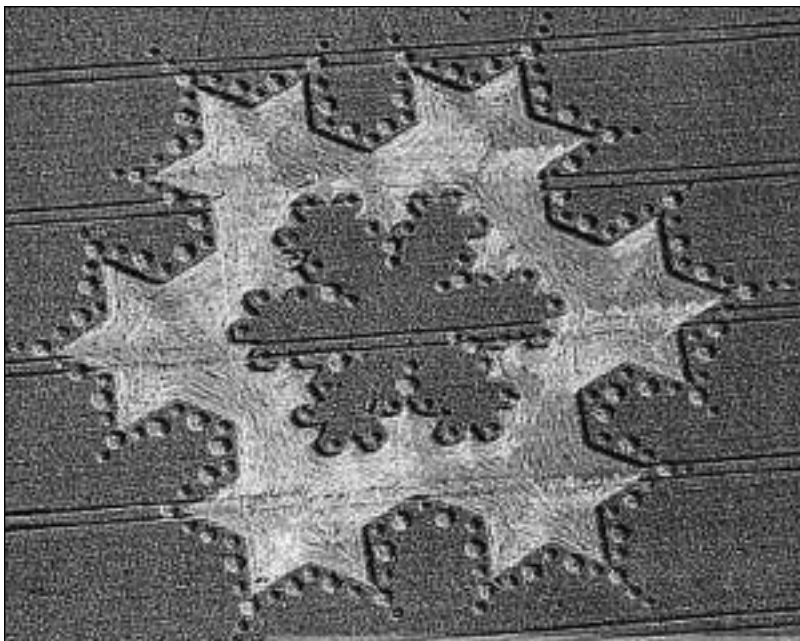


Figure 4: Crop circle at Milk Hill, near Alton Barnes, Wiltshire, formed August 1997. Photograph © Steve Alexander 1998.



Figure 3: Graphic of crop circle at Goodworth Clatford, near Andover, Hampshire, formed June 1996. From www.cropcircleconnector.com.

greater the effect, and 18 Hz is the lowest safety threshold below which the pressure formed by infrasound is known to produce disruption to chromosomes.

Every northern summer, crop circle plants of every variety are sent to Dr Levenson for blind-testing, and some samples inevitably show unmistakable disruption to their chromosomes. Yet give him samples from man-made designs and he finds something remarkable: perfectly normal plants!

Psychic Questing with the Circlemakers

So, who is in control of this "technology" that is manifesting these euphonious crop circles? In England, one highly respected psychic individual inadvertently vectored information about the origin of crop circles during a trance session. Her name is Isabelle Kingston.

Psychic ability is undoubtedly the hardest practice to prove because of the social barriers placed in front of the quest for its understanding, the biggest of all being ridicule. Yet since the 1950s, Soviet parapsychologists have systematically established the sixth sense as a valid means of communication.

What gives Eastern scientists the edge is their deep-rooted understanding that nature is composed of both the seen and the unseen, and that many of its phenomena—like ultrasound, infrasound and the greater portion of the light spectrum—lie beyond our five limited senses of perception.

In Bulgaria, psychic abilities have proved so useful that they have been applied throughout education and medicine. In the West, despite lack of public acknowledgement, the employment of psychics is becoming more commonplace than one might think. Psychics are today employed in successfully locating geological faults, in crime solving, even in predicting earthquakes. The military has admitted working with psychics, both in remote viewing and in remote influencing of policymakers, so something obviously works.

The information vectored by Isabelle Kingston in

1982 came from the Watchers, a universal group consciousness who appear throughout history, serving as helpful guides to humanity during its times of tumultuous change. As the Shining Ones or Els, they are featured throughout ancient Egyptian texts. They also facilitated the building of Europe's tallest mound, Silbury Hill ("Sil-bury" means "hill of the shining beings").

The problem with the information received by Isabelle was that, at the time, few knew what a "crop circle" was, so when the Watchers said they would provide signs of their purpose in the fields at Silbury Hill within seven days, no one in Isabelle's group knew what to expect. Seven days later, a group of five crop circles arranged like a Celtic cross manifested at the base of the 5,000-year-old sacred site.

In succeeding years, Isabelle would be provided with further instructions ahead of time as to the circles' locations and physical attributes. Their appearance was often closely followed by military helicopters which seem to be able to pick up their electromagnetic fingerprint on radar.

The main purpose behind the glyphs, we are told, is to feed information into the planet's subtle energy grid, thus providing human beings with the tools that will help them wake up to their responsibilities as co-creators and achieve their greater potential.

To some, the message may seem somewhat simplistic, even utopian, yet there is no doubt that we are living in times of great upheaval, and whatever choices we are making as a collective will affect generations to come. What is already certain is that the tens of thousands of people who have come into contact with crop circles have taken with them a more positive world-view, and this change in perception is quietly seeping into the everyday world.

The Watchers spoke of technology yet to be deciphered from the glyphs (spinning disc and antigravity devices based on the designs are being developed as I write), and how the patterns are connected to all ancient sacred sites via subtle energies. It has since been discovered that all genuine crop circles indeed lie at the crossroads of invisible electromagnetic pathways which criss-cross the entire globe, linking all sacred sites.

They also spoke of the designs being essentially created through thought processes sent from other levels of awareness. These vibrations transform into sound and light as their frequencies are slowed down by our atmosphere and the laws of the physical world. Indications of these processes would eventually be discovered in the plants and the soil by people who'd be communicated with at a subtle level of exchange.

The Sound of Transformation

The musical scale, constructed on the harmonics of sacred geometry and now found within the framework of crop circles, represents the mathematical structure of the soul of the world because it embodies the essence of the Universe. So it's no coincidence that a large percentage of crop circles can be identified with, and by, ancient cultures who to this day honour their histories through song and music, their healing rituals performed with

sound. This relationship is applied in Buddhist mandalas, whose elaborate geometries are used to alter states of consciousness. Perhaps it is not by coincidence that crop circle designs mirror these intricate patterns, just as they bear an uncanny familiarity to Jenny's materialisations of sound.

If sound vibrations are creating crop circles, is it not possible that they can arouse the individual at a spiritual level? After all, it's through music that whole human experiences are celebrated and carried on from generation to generation. It is very probable that the very shape of the human ear—more specifically, the cochlea—is a spiral constructed according to the harmonic laws of tone, just as the same spiral shape is the primary form from which thousands of crop circles have sprung.

Music is a carrier for social change: the effect of Handel's music is believed to have reversed the lax moral values prevalent throughout early Victorian England, just as the anarchic overtones of Punk music corralled disillusioned youth into fighting an

Establishment that held no tolerance for those who stepped outside its rules.

The effects on people's awareness after contact with crop circles is similarly documented. In 1990, a pictogram at Alton Barnes sported the trident of Neptune or Shiva—figures traditionally associated with transformation. Ironically, it was through exposure to this unique crop circle that millions around the world felt transformed, just as images of crop circles today continue to enlighten the awareness of those who come into contact with them.

If sound is one of the formative principles behind crop circles, it is not surprising that these formations are leaving psychological impressions on those whose antennae are extended and receptive to their tune. ∞

If sound is one of the formative principles behind crop circles, it is not surprising that these formations are leaving psychological impressions on those whose antennae are extended and receptive to their tune.

About the Author:

Freddy Silva is a writer and art director who has researched crop circles and sacred spaces from a multidisciplinary point of view since 1990. He is today one of the world's leading experts on these subjects as well as a bestselling author. His comprehensive book *Secrets In The Fields: The Science And Mysticism of Crop Circles*

(Hampton Roads, 2002; reviewed in NEXUS 9/06) is available from his website, The Crop Circular, at <http://www.lovely.clara.net>. The original version of this article, with accompanying colour photographs, can also be viewed at his website. Mr Silva is a scheduled speaker at the NEXUS Conference in Brisbane on 23–25 September.

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UFOs ON CAPITOL HILL

July 1952 was famous for a UFO flypast over Washington, DC, and sightings exactly half a century later on Capitol Hill within restricted airspace confirm that the US Government is still not prepared to divulge what it knows about UFOs.

by Robert Stanley

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Photographic Evidence of UFOs Landing on Capitol Hill, Washington, DC

As I write this article in June 2005, the official American policy of plausible deniability, distraction and public dissuasion regarding UFOs is now more than 50 years old. This policy is currently supported by nearly all politicians, Pentagon officials and members of the media regardless of their political or religious affiliation. The policy began to emerge in 1942, due to increasing numbers of military encounters with UFOs during World War II. However, the current policy didn't achieve its mandate until the year 1952, as dramatically growing numbers of UFO sightings worldwide were viewed by a range of responsible American leaders as the beginning of a possible alien invasion.

In 1952, during the month of July, many of the world's newspapers reported that dozens of strange, spherical, glowing, unidentified aircraft were sighted by hundreds of eyewitnesses above the nation's Capitol. These objects had registered on radar as they flew over Washington, DC, and F-94 jets were scrambled to intercept but they were easily outmanoeuvred by the UFOs. The UFOs reportedly were loitering in the area for many hours through the night on at least two occasions and were able to appear and disappear mysteriously at will.

There were very few photographic images taken of those events, but they are impressive. And yet, when those strange, glowing, unidentified aircraft returned again exactly 50 years later in July 2002, only a few media sources reported a brief but failed UFO intercept by F-16s. Most Americans had no idea that this was just the tip of the iceberg.

In fact, the events that occurred during 2002 were even more enigmatic than those of 1952 because of the incredibly clear, high-resolution, night-time photographs that were taken. Colour images captured on high-speed film by a professional photographer show conclusively that during the month of July 2002, on 4th and 16th, there were a number of UFOs flying over the restricted air space of the Capitol Building and the Washington Monument. And as incredible as it sounds, they provide evidence that on July 16, UFOs encircled and landed on the Capitol Building roof and the surrounding park area late that night!

Here's what happened. On July 16 at approximately 12.30 am, a professional photographer from Washington, DC, was shooting an album cover for a recording artist using the Reflecting Pool and Capitol Building as a background. Based on the photographer's testimony and the two images that he took, there were no other people on the Capitol Building grounds at that time. However, what is clear from these two images is that there were at least five UFOs that penetrated restricted air space in that location. At least two of these vehicles actually landed for a brief period. As that was occurring, one of the other UFOs entered the Reflecting Pool and submerged while yet another UFO hovered nearby over the water, emitting an eerie-looking energy field that reflected light beneath it.

The DC photographer captured all of these images with a Nikon F-5 camera equipped with a very expensive, distortion-free, AF-ED 600-mm F2.8 lens mounted on a tripod. The exposure time was one-fifteenth of a second on high-speed film, ISO 1600. The ISO meter on the camera was set at 1200 to slightly overexpose the film and increase the overall density of the image.

After taking the two pictures in front of the Capitol Building, the DC photographer then moved to a different location on the edge of the Capitol Building's Lower Senate Park.



On July 16, 2002, a blue sphere-shaped UFO lands briefly on the Capitol Building roof (lower right of dome), then takes to the air. (Photo © WGA 2002)

He estimates that 20 minutes elapsed before he took the next and final shot of the evening. That image's exposure time was 3.5 minutes. Hovering in the sky, just above a commercial building, there are a number of UFOs, some grouped in a triangular formation. Near the ground there are two UFOs in the distance. However, floating in the air in front of the DC photographer, there are two oval-shaped, semi-transparent spheres of energy that he believes were UFOs equipped with some type of advanced optical stealth device. The amount of alien activity that took place that night was mind-boggling.

The large formation of UFOs parked above the building emitted a strange energy. The highly complex signature of their energy fields was clearly captured on the film due to the long exposure time and their close proximity to the camera. Just prior to leaving the area, the UFOs generated a "wormhole" in space. Unfortunately, this incredible image came at a price. The DC photographer's fingers were burned by radiation and took about a year to heal.

During one of our conversations, he explained: "I was positioned underneath these objects. And according to my images



UFOs over the Washington Monument and Capitol Building, July 4, 2002. (Photo © WGA 2002)



they warped out, or whatever they did, and went back to wherever they came from in the time of that exposure. At that point there is an image that shows a centre set of UFO formations in lateral and upward motions. I felt that I was caught in the thrust of something...like I was hit by a mist, but there wasn't any moisture. Soon after that, I noticed I had very fine, pinhole-sized burns in my fingernails...and my arms felt like they were charged with some kind of energy."

More UFO Sightings in 2002-03

Just 10 days later, on July 26, 2002, Fox News correspondent Shepard Smith reported: "The night-time skies over the nation's Capitol came alive with blue and orange lights streaking across the sky, so say a lot of panicked people who called in to a radio station; no joke here. American fighter jets in hot pursuit... NORAD [North American Aerospace Defense] confirmed to Fox News that two F-16s did scramble, but found nothing! A mystery in the sky above Andrews Air Force Base...that's the one the President uses."

Fox DC correspondent Brian Wilson continued the story. "It's fair to say, Shepard, that there are a lot more questions than answers at this point, but something strange was going on in the Maryland night sky. Here is what we know. At 1.00 am, the folks at NORAD saw something they couldn't identify in Maryland airspace, not far from the nation's Capitol [*restricted airspace*]. The track it was taking caused them some concern, so they scrambled two DC Air National Guard jets to check things out. Now, DC Air National Guard confirms that two F-16s from the 113th Wing were vectored to intercept whatever it was that NORAD was worried about.

"However, when the pilots got where they were supposed to be, they said they didn't see anything when they arrived on the scene. NORAD would not provide details about the exact location, direction or speed of the object they were tracking. Independently, a number of folks who live in Waldorf, Maryland, which is not far from Andrews Air Force Base and not far from the nation's Capitol, called local radio station WTOP to say that, at about the same time, they witnessed a fast-moving, bright blue light in the sky. They claimed that the light was being chased by military jets. One witness told the radio station that the jets were right on its tail: 'As the thing would move, a jet was right behind it.'

"An investigation is underway. But National Guard spokesman Captain Sheldon Smith said: 'We don't have any information about funny lights.' By the way, this just happens to be the 50th anniversary of a series of still-unexplained sightings over the nation's Capitol, a story that made banner-headline news in 1952. Shepard, we'll continue to watch for this."

Meanwhile, that same night, a father and son in Arlington, Virginia, had gone outside to get their cat off a ledge outside a second-floor window around 1.15 am. They were

both looking up at the side of the house, wondering how to get their cat down, when two circular white lights flew over their house. They estimated the UFOs were about the size of a baseball held at arm's length. The UFOs were visible for about two minutes before moving off, but soon came back again.

This time, both UFOs stopped close by—and that was when the father and son realised the spheres were small. Both UFOs stopped for a second, and then one of the objects flew away at a right angle to its previous path of flight. The other object remained motionless for about five seconds before continuing on pretty much its original direction. These were two separate objects flying in tandem at first, and then separately. They were clearly under intelligent control.

Four months later, on November 11, 2002, the DC photographer captured another amazing night-time photograph of a small UFO. This object was a metallic sphere about the size of a golf ball that silently defied gravity. It literally floated over the head of a beautiful blonde model before swiftly moving off.

One year later, in November 2003, Fox News reported that Air Force fighter jets had once again been scrambled and that the White House had briefly been evacuated on November 20 after "birds" or possibly "disturbances in the atmosphere" tripped radar that keeps watch on restricted airspace around the complex.

According to Fox News, Federal Aviation Administration spokesman William Shumann said: "It's a false radar target. When the NORAD fighters got to the location of the alleged violation, they found nothing." NORAD is the command centre for the defence of American and Canadian airspace. Shumann explained how "flocks of birds or atmospheric disturbances might have caused the false radar reading, which was initially thought to be a plane flying within five miles of restricted airspace around the White House". He said: "It's one of those 'electronic gremlins' that pop up, but there was no aircraft there."

Swarm over the Capitol in May 2005

So, should we just forget what happened in 1952 and again in 2002 and 2003? Those events are behind us now and no one was seriously injured, right?

But what if I told you that a "swarm" of UFOs passed over our nation's Capitol as recently as Monday, May 2, 2005, at 8.45 pm Eastern Time? According to an eyewitness, a fleet of UFOs once again passed through restricted airspace undeterred.

Below is the amazing account that was sent to me by a friend of the DC photographer. I spoke with him on the phone 24 hours after the event and he was still in shock from what he had observed. This man, whom I call "the graduate student", is highly intelligent and very credible. He is working on his PhD in anthropology at a Catholic university. He

wrote: "I was in my bathroom of my apartment on U Street, NW, DC, looking out the window, when I saw a helicopter with its searchlight on as it cruised at about 400 feet elevation moving west to east over the S Street, NW, area. This is a normal thing to see in my 'hood. I just paid attention because it had the searchlight on, which is generally only used when they are looking for bad guys on the ground.

"However, the searchlight of the helicopter went directly over what appeared to be a very large swarm of bees. I thought this was very strange, not only to see such a swarm at that altitude but also that these objects must have been a lot larger than bees to see them that distinctly from about 1/8 mile away and approximately 400 feet up!

"The helicopter continued on its way as if it did not see anything. Nor did it fix its light onto the strange swarm. So I began looking more closely at this "swarm", which was cloud-like but seemed to have the distinct shape of a very large triangle. It was the size of a football field and was much larger than any aircraft. The wind was blowing west to east at about 10 mph (the yahoo.com weather page said it was NW 10 mph that night). Either way, the wind was not blowing westerly—

which makes my next point even stranger. The clouds in the sky were either standing still or moving toward the east.

"This group of objects started to cruise south toward the National Mall. At this point I yelled for my wife to come to the bathroom. 'Get in here now! You have to see this weird thing in the sky!' I pointed it out to her and she watched with me as we tracked it moving east to west over The Mall, over the Washington Monument, toward the Lincoln Memorial, and off toward the Pentagon area.

But what if I told you that a "swarm" of UFOs passed over our nation's Capitol as recently as Monday, May 2, 2005, at 8.45 pm Eastern Time?



A closer look at the three lights over the Washington Monument, July 4, 2002. (Photo © WGA 2002)



"Now, mind you, this is exactly the route the airplanes use to enter DC airspace to land at Washington National Airport. One problem, though: the planes must approach from west to east—the exact opposite of what this thing was doing. And this thing was about 15 times or more the size of a 747...easily! It also emitted what appeared to be a faint light—which could have been city light reflecting off of it, but it did seem to be generating this very faint light, almost like it was shimmering, or some weird phasing of light, like when you are seeing a heat mirage off of hot asphalt. Then it simply faded off into the distance and out of our view.

"Again, it was huge, appeared to have a triangular shape, though the mirage-like shimmering somewhat distorted this, had a possible illumination effect and was moving against the wind at a good speed. It must've been moving pretty fast, since it covered ground from Logan Circle area to the Capitol Building area, across The Mall toward the Lincoln Memorial and then off to the Pentagon area, all within a matter of minutes. Yes, the F-16s can do that even quicker, I know, but this was not moving at 10 mph as the wind would suggest if it were a cloud, nor was it moving in the same direction of the other clouds! Okay, so you tell me what the hell this was?"

Historically, the official answers to this question have been: (a) temperature inversion layers; (b) weather balloons; (c) ball lightning; (d) swamp gas; (e) gremlins; (f) meteors; (g) birds; and (h) stars.

National Security Issues

Now, compare the May 2, 2005, event to what occurred just nine days later. The FAA revoked the pilot's licence of a Pennsylvania man who flew his two-seater Cessna into Washington, DC's restricted airspace on May 11, causing a highly emotional evacuation of the White House and Capitol Building mid-afternoon. Just how serious was this event? NORAD sent two F-16s and a Black Hawk helicopter to intercept one Cessna.

The FAA said the flight instructor has had his licence revoked and must wait at least a year to apply for a new one and start over with flight school lessons. Because the instructor was the only licensed pilot in the aircraft, he was responsible for the restricted airspace violation. According to FAA spokesman Greg Martin: "It's an extraordinary action that reflects how seriously we view violations within restricted airspace."

The big question regarding this ongoing alien incursion of restricted airspace is: at what point does a UFO, or swarm of UFOs, represent a threat to national security? Clearly, a two-seater Cessna aircraft is considered a threat to national security. Why not a UFO? Perhaps it is because UFOs have not taken any overt hostile action toward us...yet?

But by the mid-1950s, having studied the matter for years, the US Government had concluded that the public's potential to panic due to waves of UFO sightings was the only clear and present danger to national security. And thus began the official denial, distraction and dissuasion regarding this matter.

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Do our current leaders in Washington, DC, know about this issue? Clearly, part of their job is to know what's going on, and most are briefed daily from a variety of sources.

One such source is the aforementioned photographer who has lived and worked in Washington, DC, for many years. He is an intelligent, patriotic American who felt it was his duty to report what had happened to the proper authorities. That's why he went to the Capitol Building a few days after the evening of July 16, 2002, and met with members of the detective division of the Capitol Police. He patiently showed them the UFO images he had taken on July 4 and 16 and explained the night's events. After some careful consideration, the detectives told him "no crime took place" and therefore they would not make a report. Undeterred, he next sent copies of his photographs and a detailed report to the Office of the President, but he received no reply. He then contacted officials at the Pentagon. Not surprisingly, there has been no official response as yet. He then submitted his work to *National Geographic* and eventually met with an assistant art director who was very excited about the pictures. The DC photographer did not hear back from him for a month, and when he called *National Geographic* to inquire about his pictures he learned that the assistant art director had been fired.

When I spoke by telephone with the public relations officer for the Capitol Police about the events that transpired on the night of July 16, 2002, I was told: "We can neither confirm nor deny if a report exists on this event."

When I asked if the Capitol Police are on duty all night, he replied: "Security personnel are stationed around the area at all times and security cameras are on all the time for surveillance of the Capitol Building and surrounding grounds." Finally, I wanted to know if any representatives worked in the Capitol late at night after the building is closed to the public. The officer explained: "Members do conduct business at night and will work as late as required."

During the course of my investigation of this incredible case, I have discovered an immense amount of material regarding UFOs and Washington, DC. As a result, a book entitled *Capitol Offence: Alien Incursions of Restricted Airspace*, written by myself and the DC photographer, will be published later this year. If you or anyone you know has further information regarding this case, please contact me at rstanley@socal.rr.com. ∞

About the Author:

Robert M. Stanley is a writer and researcher specialising in technology trends. His article on Robert Krupa's "FireStorm" spark plug was published in NEXUS vol. 12, no. 2, and his interview with space technology consultant David Adair appeared in NEXUS vol. 9, no. 5.

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THE BREITENWINNER CAVE EXPLORATION IN 1535

Dear Sir: Following your request for further information subsequent to the publication of this article in NEXUS June–July 2005 [12/04], I would like to provide some facts which may be helpful. Amberg is a medium-sized town (approximately 50,000) in northeastern Bavaria in Germany. Since the 13th century it has been a centre of trade to Bohemia (Czech Republic), the border of which today is about 100 km away. It is situated on the eastern border of the Frankonian Jura, a limestone formation well known for its many caves and mining activities back to prehistoric times. For more detailed information on the area, I have included a copy of a current road atlas.

Inconsistencies of the article

- "...citizens of the town of Amberg set off to a mountainous area three miles distant from Amberg." There is no village of Predenwind within this distance of the town, and one has to question why the good citizens had to stay overnight in Hohenburg just to cover three miles.

- The cave is called "Breitenwinner Cave", supposedly because it is near the village of Predenwind. I think it is fair to conclude that Breitenwinn and Predenwind are one and the same location, "Preden-" being an old form or local dialect of the High German "Breiten-". However, from my knowledge of the dialect spoken in the

area, "Preden-" is not a word used; rather, it may come from Flat German, which is spoken in the far north of Germany.

- It is unclear if this text is the original, but, if so, the style and words used are not consistent with the time when it was published. For comparison, I also include a copy of a text published in 1552, which despite the archaic font can be read by most German-speakers but certainly is not even close to what the Buchner account provides.

Historical/geographical background

- There is a cave called "Holloch" ("hollow hole"), close to another one called "King Otto Cave", close (about three miles) to a village called Breitenenthal and two villages called Kirchenwinn and Reicherstwinn, in an area about 12 km southwest of Hohenburg. With an early start from Hohenburg, these caves could be reached by early/mid-morning. Breitenenthal could have been called "Breitenwinn" in the past. Alternatively, this may point to a simple mix-up of place names.

- The caves are just outside a restricted military training area which was established in the first half of last century (Hohenfels Truppenübungsplatz), and I went to both caves when I spent time with the military. Holloch is like an elongated gate through the mountain, whereas the other is known to be quite extensive underground.

- Back to before Roman times and for a long time after, the area was settled by Slavic people called "Wendish" (Wenden in German), equivalent to "Sorbs" (Sorben). With the eastward colonisation of the Franks after 800 CE, Germanic people increasingly settled there too, living in reasonable coexistence and indicated by many place names ending in -thal, -dorf, -hausen, -ing, etc. However, typical Slavic names remained, such as those ending in -winn, -wind, -a, -is, -itz. It is interesting to note that the Romans called today's Augsburg "Augusta Vindelicorum", the Wendish "Augusta". Also the noble family of Windischgrätz, royal in both the Austro-Hungarian Empire and the Holy Roman Empire of the German Nation, has its roots in exactly the same area.

- These Slavic tribes were renowned for their mining skills and at the time of the Buchner publication in 1535 may have been marginalised and taken up living in caves and abandoned mines. This accounts for the encounter with the female "ghost".

It is also undisputed that the Jura caves had been occupied even before Neolithic times; so, not surprisingly, even fossilised bones in great quantities may be found.

I conclude by agreeing that the "ignorant will not believe this story" but equally also those who have some understanding of history.

Best regards,

Peter L. Zeidler, Richmond, Victoria, Australia

THE TWILIGHT ZONE

MASS SIGHTINGS OF UFO FLEET OVER XALAPA, MEXICO

A mass UFO sighting took place on Friday 24 June 2005 in Xalapa, Mexico. This stunning event was witnessed by Xalapa's governor, Fidel Herrera Beltrán, members of his staff, many officers of the Xalapa police department, newspapers and television reporters and many people gathered at Casa Veracruz for an official ceremony for the delivery of new police patrol cars to the police department.

The amazing incident took place at 10.30 am, causing commotion, excitement and some alarm among the people and officials.

Just after Governor Beltrán finished a speech inaugurating the new units, his attention was called by his officials who were signalling to the sky where a strange spectacle was appearing.

A fleet of at least 14 unknown flying objects shocked the entire gathering at Casa Veracruz who, pointing to the sky, screamed "OVNIs, OVNIs!" in a tremendous state of excitement. The police officers were also signalling to the sky, wondering what these unknown flying objects could be.

Newspaper reporters were taking photos and the television crew videotaped the entire spectacle. Governor Beltrán took the microphone and said jokingly: "It seems the Martians have arrived!"

After some minutes, Governor Beltrán continued reviewing the new police patrol units while the attention of the people was divided between the official act and the UFO spectacle.

Some time later, Governor Beltrán returned to the stage and, looking again to the sky, realised the UFOs were still there. So he took the microphone again and began counting the objects—one, two...thirteen, fourteen—to the smiles of the people.

The enigmatic flying objects remained almost static in the sky, in a formation describing a triangular pattern in perfect alignment for almost 30 minutes.

(Source: By Santiago Yturria, 25 June 2005, via <http://www.rense.com/general66/massive.htm>)

ENGLISH WORDS IDENTIFIED ON BLACK TRIANGULAR CRAFT!

On 9 April 2005, I saw what I believe to be a UFO in Comanche County, Texas, at 9.12 pm local time.

That evening, I was walking back to my motor home after wild boar hunting in an unpopulated area that I lease for hunting. The sky was clear, the wind was calm and the sun had just set. The sky was growing a darker and darker blue straight above and stars were beginning to show...

I had my rifle set up with a high-tech Leupold optical sight (scope), which is extremely accurate and highly specialised for great light-gathering ability and performs best in low-light conditions. The scope magnifies the target image with great sharpness and definition and the magnification is adjustable from 4.5 to 14 times that of the natural image.

Upon my return to the motor home, I was tired after a long walk. I had carried quite a bit of equipment with me. I sat on a chair, took my eyeglasses off and towelled my face, as it was already becoming hot in Texas.

While I rested, without my glasses on, I noticed three very "unfocussed" lights to my south and these lights were moving toward me. Immediately I put my glasses back on and saw what I believe was a UFO.

The object approached from the south-southwest, and while moving north-northeast it passed almost directly overhead, making no sound whatsoever.

I estimated its altitude to be somewhere about 800

feet and its air speed approximately 30 mph. It "floated" and did not fly, as it obviously had insufficient airspeed to fly. (I am a physicist and an FAA-licensed pilot.)

I could clearly see its underside, as it was illuminated from the fading sunlight to the west. I estimated that the machine was about 60 feet wide, 80 feet long and 10 feet thick at the rear. Under its belly, there was a straight line going from its leading tip toward the centre of the aft edge of the fuselage, which was perpendicular to its [direction of] travel. This straight edge clearly showed its shape to be three-dimensional. The straight line showed that its belly was V-shaped, much like the hull of a speedboat.

This machine was directly over me and I was alone in the middle of nowhere, therefore I felt quite "uneasy". It made no threatening moves whatsoever, but I aimed my rifle at it and through the riflescope, which was set on 8.5 power, I could clearly see surface detail in explicit detail.

The machine's surface detail appeared to be covered with well-fitted tiles, much like the ceramic tiles used on the US space shuttle.

Then, in the fading light, I noticed a distinct marking. This marking was absolutely shocking, as I could actually read it! It was white print outlined in black on a red arrow pointing toward a rectangle of sorts...something rectangular that I cannot define, but I clearly could read these words, "EMERGENCY RELEASE and RESCUE". In the same place were other words that appeared too fuzzy to read. I suspect that these words were "PULL FOR..."

Instantly I realised that this was a military machine and no "flying saucer". I felt much better, as I knew that these were surface details that were intended to help rescuers gain access to remove the pilots on board in the event of a crash.

I kept the crosshairs on the centre of the aircraft as it disappeared into the darkness, but as I realised it was "one of ours" and it was not a threat to my personal safety (I think) I put the rifle safety back on.

I can see, however, that others may have "defensively" shot at it—and that may have resulted in a crash of the vehicle.

(Source: From a UFO report posted on 16 April 2005 at <http://www.nuforc.org/webreports/043/S43465.html>)



"Drought's been bad, so I've only got a bunch of cropless circles this year."

BRAZILIAN AIR FORCE BEGINS DISCLOSURE ON UFOs

Friday 20 May 2005 was an historic day for ufology in Brazil and in the world. The Brazilian Air Force (FAB), for the very first time in its history, officially received a committee of top UFO researchers to openly discuss sightings in the country and fully examine classified UFO documents in two separate military facilities in Brasilia, the federal capital.

"We want to have all information on the subject, which has been withheld by us for some decades, fully released to the public through the UFO community," declared Brigadier Telles Ribeiro, chief of the Brazilian Air Force communication centre.

The Brazilian Government, through the Brazilian Air Force, has finally decided to come forward and recognise UFO research as a genuine activity.

This is a direct result of the intense pressure made by the campaign "UFOs: Freedom of Information Now", a movement started by the Brazilian *UFO Magazine* in April 2004. The campaign was launched by the Brazilian Committee of UFO Researchers (CBU), composed of six UFO civilian researchers: Claudeir Covo, Marco Petit, Rafael Cury, Reginaldo de Athayde, Fernando Ramalho and A. J. Gevaerd.

Details of the campaign in both Portuguese and English can be consulted at websites <http://www.ufo.com.br> and <http://www.ufo.com.br/secretcy.php>.

The approach of the Brazilian military to the CBU committee started last February, 10 months after the campaign began, with a phone call from a Brazilian Air Force spokesman, Major Antonio Lorenzo, and a formal invitation to a visit and a chat in some Air Force headquarters in Brasilia.

Two meetings between the civilian UFO researchers and the military took place on Friday 20 May, and the first was in the headquarters of the Integrated Centre of Air Defence and Air Traffic Control (Centro Integrado de Defesa Aérea e Controle de Tráfego Aéreo, or CINDACTA), a very sensitive facility.

For over two hours, the researchers were given lectures on the procedures conducted at CINDACTA and had the chance to visit air traffic control rooms and understand how UFOs could be detected by Air Force personnel.

The second and more important meeting took place just after this one at the very

reserved facilities of the Brazilian Airspace Defence Command (Comando de Defesa Aérea Brasileiro, or COMDABRA), an even more sensitive installation that controls the entire air defence situation in the country and surrounding areas of the Atlantic Ocean and South America. In this facility, the UFO researchers were given a full briefing on the top aspects of aerial defence of the country.

It was in this facility that its own commander, Brigadier Atheneu Azambuja, admitted to the UFO researchers how concerned the Brazilian military is about the UFO phenomenon. Azambuja also gave details of COMDABRA procedures and openly admitted that the country has systematically detected and registered UFOs in the country—labelled as "H traffic"—since 1954.

After detailed explanations of COMDABRA activities, Brigadier Atheneu Azambuja gave full access for the first time to the civilian UFO researchers to examine three different folders with classified UFO information—cases from the specific dates of 1954, 1977 and 1986.

The first case was that of an aircraft pursuit of a UFO over the ocean shores of Paraná State.

The second file was much more important. In the folder containing the 1977 documents that could be examined by the UFO researchers there were dozens of cases of UFOs in the Amazon, with an amazing number of pictures—over 100—

made during the so-called Operation *Saucer*, an official program of UFO investigation by the military that took place from September to December 1977 and has been fully covered by specialised UFO press around the world.

The third case was "The Official Night of UFOs in Brazil", a very significant group of events that happened in May 1986, when 21 objects of over 100 metres in diameter jammed Brazilian air traffic control systems over mainly Rio de Janeiro, São José dos Campos and São Paulo, and several jets were sent to intercept the intruders but without any success.

The Brazilian Air Force representatives at those meetings then admitted that ufology is serious business and they broadly recognised the activity of UFO research by the civilian UFO community.

They also guaranteed that further steps are about to be taken to let the researchers examine the entire military UFO files in a more comprehensive way.

Plus, it was promised that a committee of military and civilian UFO researchers would start operating very soon, coordinated by the Brazilian Committee of UFO Researchers. ∞

(Source: By A. J. Gevaerd, Editor of *UFO Magazine, Brazil*, and head of the *Brazilian Committee of UFO Researchers (CBU)*, posted 23 May 2005, email gevaerd@ufo.com.br, website <http://www.ufo.com.br>)



From left: A. J. Gevaerd, Fernando Ramalho, Roberto Beck, Marco Petit, Rafael Cury and Claudeir Covo outside the offices of the Integrated Centre of Air Defence and Air Traffic Control (Centro Integrado de Defesa Aérea e Controle de Tráfego Aéreo, or CINDACTA) after their two-hour visit.



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BOOKS

Reviewed by Ruth Parnell

THE SECRET TEACHINGS OF PLANTS by Stephen Harrod Buhner

Bear & Co., USA, 2004

ISBN 1-59143-035-6 (318pp tpb)

Availability: **Australia**—Brumby Books, tel (03) 9761 5535; **USA**—Inner Traditions, <http://www.innertraditions.com>

In this insightful study of the natural world, Herbalist and poet Stephen Buhner argues that science will not progress if it continues to rely on analytical, linear, reductionist, deterministic and materialistic modes of cognition. The way forward is through an holistic, intuitive, "depth" mode that is more in line with how indigenous peoples gain knowledge of the world around them. His intention is to open us up to the idea that the heart is an organ of perception and intelligence, a brain that feels, that operates in physical, mental, emotional and spiritual planes. Native peoples and sensitive individuals through the ages have been able to learn directly from plants—that is, they learned the uses of plants as medicines from the plants themselves, not through mere trial and error—and to do so they had to use heart-centred perception.

For the sake of explanation Buhner takes an analytical approach in the first half ("Systole") of *The Secret Teachings of Plants*, but he discusses information that's at the cutting edge of science, dealing with the nonlinearity of nature, self-organisation of life and bioenergetics as well as specifics of the heart as a multidimensional organ.

The second half ("Dystole") takes us on an inward journey into nature and the nature of

ourselves, and includes snippets of wisdom from remarkable people who have learned from direct heart perception—Goethe, for instance, who studied plant metamorphosis.

Buhner suggests that biognosis, this "knowledge of life", is an inherent aspect of our humanness and something we all have the capacity to develop; so he provides exercises to help us become more attuned and better able to "gather knowledge from the heart of the world" about everything from our physical selves to the environment at large. In reality, this heart intelligence is a way of being and it allows an intimate sense of connectedness with nature.

Experiment with Buhner's advice and you're bound to feel and be more alive!

THE CALCIUM BOMB

by Douglas Mulhall and Katja Hansen

The Writers' Collective, Rhode Island, USA, 2005

ISBN 1-59411-101-4 (228pp hc)

Availability: The Writers' Collective, tel 800 497 0037 (toll free in North America); Amazon.com

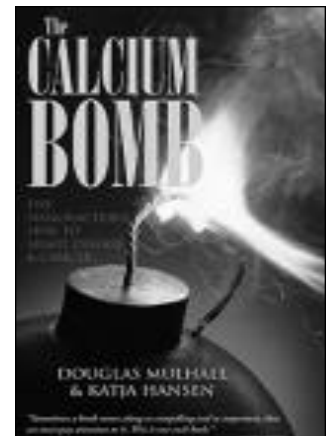
One thing that's common to Alzheimer's disease, arthritis, cancer, heart disease, psoriasis and a host of other illnesses is calcification: the build-up of calcium phosphate deposits in the blood, blood vessels or organs. Until fairly recently, these deposits have been noticed but ignored as having a role to play in the disease process itself.

So what's behind this calcification? According to authors Douglas Mulhall and Katja Hansen, writing in *The Calcium Bomb*, the invaders at the heart of these deposits are "nanobacteria"—although they're so microscopic that even the frontier scientists aren't sure whether they're bacteria

or not, so we may as well call them "nanobes". Signs of calcium build-up in the body can be a signal of impending disease including tumour development, but if they're so bound up in the disease precondition, what would happen if we could dissolve them? Or should we be tackling the nanobes that are at the heart of these calcium phosphate deposits?

Breakthrough clinical studies are going on around the world, utilising combinations comprising the chelator EDTA, the antibiotic tetracycline and a cocktail of "nutraceuticals". The authors argue that if success is being had in reversing the symptoms of the most intransigent diseases of our times, then doctors should be much better informed by health authorities about their benefits and these treatments should be widely available. It's not so long ago that the bacterial source of stomach ulcers was discovered.

There's much to be learnt about prevention, too, in this "explosive" book. (Also see Mulhall's article in this issue.)



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BIG OIL AND THEIR BANKERS IN THE PERSIAN GULF

by **Dean Henderson**

Dean Henderson (self-pub.), USA, 2005
ISBN 1-57558-000-0 (451pp tpb)
Availability: Dean Henderson, 1706
Diane Street, Papillion, NE 68046, USA,
email loccoperros@yahoo.com

The Illuminati's plan to control the world's resources and implement a globalised economy is well on track, although new financial and military alliances may still be emerging as the elite move their pieces on the grand chessboard. The power behind this centuries-old (if not millennia-old) cabal set on dominating the world is a group of "Eight Families" with the familiar name Rothschild at the top of the pyramid, joined by other key European and American banking families. Certainly many researchers have written at length about their centuries-long power plays, but Dean Henderson assembles a staggering amount of detail in the one place and makes some surprising connections about these power players in *Big Oil and their Bankers...*, while acknowledging the contribution of these researchers throughout his commentary and in his (unnumbered) endnotes (though an index would have been helpful).

Tales of conspiracy and corruption are writ large on every page, so much so that it's hard to single out any particular episode in recent or distant history that is worse than the next. But the theme running through the book is that of the "Eight Families" who have the "Four Horsemen" of oil do their bidding; these are the giant oil/resource companies Exxon-Mobil, Chevron-Texaco, BP-Amoco and Royal Dutch/Shell. Henderson, a political activist, organic farmer and columnist

with an MS in environmental studies, examines their exploits in securing markets and revenues but with reference, too, to their global networks in intelligence and terrorism as well as in arms and narcotics trading.

However, Henderson goes further (perhaps too far for some readers) to include his takes on the origin and spread of Freemasonry, on the so-called "Protocols of the Elders of Zion" and on the Illuminati's connection with the allegedly reptilian Anunnaki "gods" linked with ancient Sumer (and popularised in extreme conspiracy lore by author David Icke). Overall, an extraordinary exposé of the powers and events that are exacting a heavy toll on us, the people.

PYRAMID OF FIRE: The Lost Aztec Codex

by **John Major Jenkins & Martin Matz**

Bear & Co., USA, 2004
ISBN 1-59143-032-1 (175pp tpb)
Availability: **Australia**—Brumby Books, tel (03) 9761 5535; **USA**—Inner Traditions,
<http://www.innertraditions.com>

The Pyramid of Fire is a "lost" Aztec codex (hieroglyphic manuscript) which was probably painted in the latter half of the 15th century and has been protected by the Mazatec of Mexico ever since. However, in 1961, the American visionary poet Marty Matz, having lived in Mexico off and on since the late 1950s, was initiated into Mazatec secret knowledge by a shaman, don Daniel, who read/performed the codex text to him for transcription in the native Nahuatl. Matz also transcribed the original pictographic form and translated the text into English. Apart from sharing the content with his fellow Beat poets, he guarded the codex translation for many years, and it was

not until 1995 that, on the suggestion of Terence McKenna, he teamed up with Aztec and Mayan scholar John Major Jenkins to bring this material to a wide audience.

One of the fascinating things about the codex—and the translation is included in this book—is how it corresponds with what could be termed "perennial philosophy": a "visionary ascent literature" found in many traditions around the world from the kabbalistic, gnostic and alchemical to the teachings of Gurdjieff. In the final chapter, Jenkins compares the Pyramid of Fire's concepts with those of Taoism and Hinduism. The basic premise is that personal sacrifice is a necessary prerequisite for spiritual growth.



Fascinating background is provided by Matz, with a short story on his search for Paititi—the legendary paradise city that ends the spiritual quest—and an unfinished novella structured upon all 13 pages of the codex (Matz died in 2001). Interestingly, the 13th page of Matz's codex was missing until Jenkins was able to transcribe it from a



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recording Matz made in the early 1960s with Jack Kerouac! There's additional commentary on the codex lines by Jenkins, who is convinced the codex has mantric power and relevance for our times.

THE COST OF A DISCOVERY

by **Loïc Le Ribault**

LLR-G5 Ltd, Ireland, 2003 (first published in French in 1998)

ISBN n/a (488pp tpb)

Availability: LLR-G5 Ltd, c/- Ross Post Office, Castlebar, County Mayo, Republic of Ireland

If you followed Martin J. Walker's story of the persecution of French forensic scientist Loïc Le Ribault in our last two issues, you may be interested to read *The Cost of a Discovery*. This is Le Ribault's memoir of his life in forensics as well as in developing the G5 organic silica compound that has so riled the French authorities and the big pharmaceutical companies. It was first published in French in 1998, but Le Ribault has updated it for his 2003 English-language edition, although it was released before his imprisonment in Switzerland in November 2003 and France in early 2004.

His recollections of his forensic research are intriguing, although this work, too, brought on several battles with the authorities as he was not prepared to toe the line. One interesting aside in his coverage of the grim forensic cases he's been involved with is his analysis of the videotape of the "live" executions of the Ceausescus of Romania.

It's a tragedy of our times that visionary, innovative and dedicated scientists like Le Ribault are so persecuted instead of praised for providing answers for the ills that ail us and our societies. However, his battle with

the French state could have been duplicated in any nation where a maverick who goes against the status quo comes up against the full force of a corrupt police force, a compromised judiciary and powerful corporate interests. And yet Le Ribault's story is a triumph over adversity, for he's back in Ireland producing his famous G5 formula without being persecuted and, with his supporters, is making a difference to people's lives. One person can indeed help change the world, but at what personal cost?

THE BROTHER OF JESUS AND THE LOST TEACHINGS OF CHRISTIANITY

by **Jeffrey J. Bütz**

Inner Traditions, USA, 2005

ISBN 1-59477-043-3 (220pp tpb)

Availability: **Australia**—Brumby Books, tel (03) 9761 5535; **USA**—Inner Traditions, <http://www.innertraditions.com>

Probably the most overlooked and suppressed figure in the early Christian Church was James, younger brother (but not the only one) of Jesus. According to author Jeffrey Bütz (a Lutheran minister, theological scholar and an adjunct professor of world religions at Penn State University), it was James, not Peter, who was the leader of the fledgling Jewish Christian movement from the time of Jesus' crucifixion.

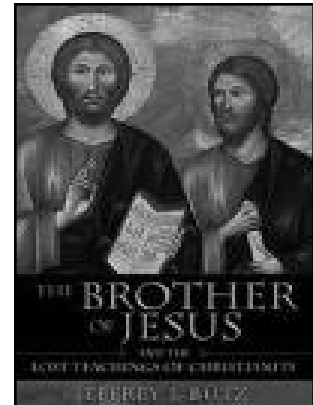
Highlighting some key scholarly investigations into the historical Jesus as well as canonical and apocryphal writings, Bütz maintains that breakthroughs in understanding come by analysing the figures in the context of their essential Jewishness. He agrees that studying the life and works of James (Ya'akov) can give insights into the true teachings and story of Jesus—and how they've been covered up by dogma and doc-

trine. The fact that Jesus had siblings at all is a cause of embarrassment for the Roman Catholic Church, he notes, because it threatens the doctrine of virgin birth and Jesus' mother Mary's perpetual virginity.

It was James who was embroiled in ideological battles with Paul, and Bütz argues that Paul's interpretations, which became the foundation of the Christian Church, were at odds in many ways with the teachings of Jesus. James' desire to retain Jewish law and practices while upholding the ministry of Jesus lost out to Paul's zeal to take the mission to the Gentiles, and the sack of Jerusalem in AD 70 cemented the split.

But the memory and teachings of James have been kept alive as an undercurrent over the last 2,000 years, quite separate from the Roman Church, as Bütz explains.

His hope is that the insights that James provides on his brother Jesus could help heal the rifts between Christianity, Judaism and Islam. His book is another in a growing movement that's changing our perspectives on historical and religious traditions.



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THE TRUE MEANING OF THE DA VINCI CODE

by Robert Pope

The Science-Art Research Centre of Australia, Inc., 2005

ISBN 0-9577784-7-3 (155pp tpb)

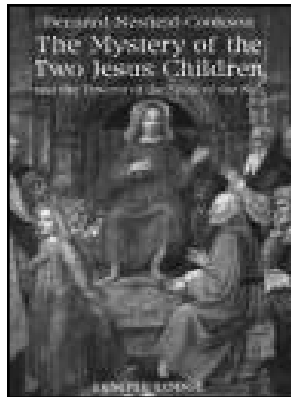
Availability: **Australia**—The Science-Art Research Centre of Australia, Inc., PO Box 773, Murwillumbah, NSW 2484, email pope@science-art.com.au

By adhering to a mechanistic world view, Western civilisation is on a path to extinction, says Science-Art philosopher Robert Pope. The ancient knowledge passed on by the Greeks upheld a survival science, a "Saviour science" that was misinterpreted by Leonardo da Vinci but was privately understood by Isaac Newton.

Da Vinci was an "unbalanced genius" according to Professor Pope, and by "inadvertently" obscuring the "principle of creation" he helped bring into existence a mechanistic mindset that is now accelerating a global crisis of destruction. He made the ultimate mistake by suggesting that all of the universe could be made visible to human perception—and yet the Greeks, and other ancients before them, identified with a universal reality in which harmonious, invisible atomic movement generated divine wisdom.

In response to popular novels like Dan Brown's *The Da Vinci Code*, Pope hopes to set the record straight by returning to the atomistic philosophy of the ancient Greek scholars such as Plato and Philo. Plato's world view is much more akin to a holographic reality, Pope argues. The "true meaning of the code", he suggests, relates to atomic movement creating evolutionary wisdom, and he points out some classic examples of Renaissance art that communicate

this truth. Furthermore, he says, the quest of the Knights Templar was bound up in ensuring that the wisdom of this code would not be lost. In this escapade through the philosophies of the ages, Pope reassesses our technocentric society and posits a better way to achieve true democracy and peace.



THE MYSTERY OF THE TWO JESUS CHILDREN and the Descent of the Spirit of the Sun

by Bernard Nesfield-Cookson

Temple Lodge, UK, 2005

ISBN 1-902636-65-1 (82pp tpb)

Availability: Temple Lodge, <http://www.templelodge.com>

There's an underground mystery tradition that holds that there were two Jesus children. The two completely distinct genealogies given in the canonical gospels of Matthew and Luke lend support to this notion, says UK author and educator Bernard Nesfield-Cookson.

He contends that the genealogies of Matthew and Luke split after King David;

the Matthew tree goes from Solomon, David's eldest and royal son, while in Luke it goes from Nathan, the prophet-priest who was another of David's sons. There were two Marys and Josephs, he says, as well as two Jesus/Messiah contenders who were a year apart in age, so these stories of the childhood of Jesus are describing the lives of two different people, he maintains. The "two Jesuses" concept is recorded in various apocryphal and gnostic texts, was known in the Arab world, was portrayed in certain paintings of the Renaissance era, and was confirmed in the so-called Dead Sea Scrolls that were found at Qumran in 1947.

In fact, Nesfield-Cookson is a student of Rudolf Steiner, who in 1908–09, decades before the scrolls were found, publicly discussed this dichotomy. However, Steiner's contention was that during the reputed missing three days in the Temple, the wisdom and cognitive abilities of the Solomon Jesus were transferred to the more sensitive, soulful, 12-year-old Nathan Jesus in a magical ceremony that fulfilled the prophecies, but with the result that the former was depleted of his life-force and died. The fact that incidents like this were passed on and recorded in Renaissance art adds weight to the author's argument that there was an esoteric undercurrent so strong that it was kept flowing through the centuries.

Nesfield-Cookson says that Steiner also drew on the wisdom of ancient Persia and India, suggesting that what happened in the Temple between the Solomon and Nathan lines was a fusing of the Zarathustra and Buddha streams of wisdom. He shines a light on the mystery of the "descent of the spirit of the Sun" in this thoughtful reassessment of biblical and spiritual history.



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UFO CRASH IN BRAZIL: A Genuine UFO Crash with Surviving ETs by Dr Roger K. Leir

The Book Tree, San Diego, USA, 2005
ISBN 1-58509-105-7 (150pp tpb)
Availability: The Book Tree, tel 1-800 700 8733 (toll-free in North America), website <http://www.thebooktree.com>

A land of colour and contradiction, Brazil is no stranger to UFO and paranormal activity and has had its fair share of truthful claims and cruel hoaxes surrounding these phenomena. News of one particularly unusual ET-related incident in July 1996 in the city of Varginha, north of São Paulo, captured the headlines and hit the radars of most ufologists around the world.

Dr Roger Leir, who conducts research on UFO phenomena and has a particular focus on the physical evidence for alien implants (his book *The Aliens and The Scalpel* was reviewed in NEXUS 6/03), has been intrigued for years by this case. The famous Varginha incident involved a crashed UFO and a couple of surviving aliens who interacted with the populace for a short time before being hunted, captured and whisked away by the Brazilian military, possibly with covert US military complicity.

In any case, it wasn't until 2002 that Dr Leir managed to travel to Varginha to check out the evidence, or what was left of it, for himself. With help from contacts in the Brazilian UFO research world, he tracked down and interviewed a number of eyewitnesses to the strange incidents—including people who'd not previously met each other but whose stories have uncanny similarities. Statements obtained in interviews from three young girls who encountered one of the aliens, from medical staff on duty at the

medical hospitals, and from military personnel involved in the retrieval support the case for contact. Dr Leir believes that what happened in Varginha is among the most important UFO events ever, especially as it involved direct human interaction with ETs—true close encounters of the first kind. He also draws parallels with the 1947 alleged UFO crash at Roswell, New Mexico.

There are many bizarre moments and amazing scenes in Dr Leir's *UFO Crash in Brazil*, and enough travel highlights to make you think seriously about visiting Brazil—for the land and the people, not the aliens!

WELCOME TO THE DANCE: Caffeine Allergy—A Masked Cerebral Allergy and Progressive Toxic Dementia by Ruth Whalen, MLT

Trafford Publishing, Canada, 2005
ISBN 1-4120-5000-6 (423pp tpb)
Availability: Trafford Publishing,
<http://www.trafford.com>

It was not until 1999, some 27 years after she first showed symptoms, that lab technician Ruth Whalen was diagnosed with severe caffeine allergy/toxicity. Apparently she had developed a sensitivity to caffeine as a child (whose parents drank lots of strong coffee), and although she's now got it out of her system she still has to be careful of going into anaphylactic shock should she even be around coffee bean aroma.

Embarking on a research effort, she discovered that her symptoms were similar to classic signs of schizophrenia and bipolar disorder, and yet she had a hard time convincing doctors and psychiatrists that their treatments weren't helping her; they only made her worse and forced her into a psychiatric ward for a while. She also learned

that some drugs prescribed for these mental disorders contain caffeine, and thus can exacerbate an existing caffeine allergy.

Welcome to the Dance is Whalen's harrowing story of struggling with a confusing set of physical and psychiatric symptoms and waking up to and learning to deal with her situation. The foreword is by Dr A. Hoffer, president of the International Schizophrenia Foundation, who says that at least 40 per cent of schizophrenic patients have food allergies—a statement which supports the call for more research to be conducted in these areas, including into allergies to caffeine and its metabolites such as theophylline. And let's not forget: caffeine isn't just found in cups of coffee but in soft drinks, chocolates and even teas. The caffeine anaphylaxis that Whalen underwent was like being chronically drugged on amphetamines, altering perceptions, thoughts and actions.

If you think you may have a caffeine allergy you'd be well advised to investigate the literature on the subject, and Whalen provides extensive listings.



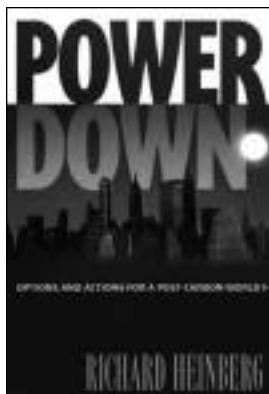
REVIEWS



POWERDOWN: Options and Actions for a Post-Carbon World by Richard Heinberg

New Society Publishers, Canada, 2004
ISBN 0-86571-510-6 (208pp tpb)
Availability: New Society Publishers,
<http://www.newsociety.com>

Independent "information worker" Richard Heinberg wonders how many more warnings about impending environmental and economic crises do we have to have in order to make changes to stave off the coming energy famine and socio-economic meltdown. Briefly restating his Peak Oil argument from *The Party's Over* (see 10/04), in *Powerdown* he proposes strategies to cope with the resource depletion, climate change, population pressures, declining food production, unsustainable debt levels and international instability about to overwhelm us.



Regarding this predicted energy famine, Heinberg believes that fossil fuels are non-renewable and their supplies finite, and that the signs are already here that the rate of global oil extraction has peaked and will start to subside within the next few years, regardless of any technical advances in exploration or recovery. Yet our demand for oil knows no bounds. This is obviously unsustainable, and Heinberg thinks that some form of collapse is now inevitable, though perhaps industrialised societies can do something to choose the form it takes.

He presents and analyses four options that demonstrate "the constraints and opportunities of our unique moment in time": Last One Standing, or the path of competition for remaining resources; Powerdown, the path of cooperation, conservation and sharing (including development of alternative energy sources and more equitable resource distribution); Waiting for a Magic Elixir, where wishful thinking, false hopes and denial distract from the hard work to avert a catastrophe; and Building Lifeboats, the path of community solidarity and preservation, which assumes that our civilisation cannot be salvaged in anything like its present form.

Heinberg rejects "business as usual" as the solution and suggests that a combined strategy of Powerdown and Building Lifeboats may preserve the best of what we have achieved while easing us out of a dire fate.

Heinberg concludes that small-scale, sustainable, decentralised communities that nurture individuals and preserve their culture while protecting the environment hold the answer for humanity to weather the coming challenges—but it means much sacrifice and effort on our part.

This is an alarm call for urgent action if we're to avoid decades of war, economic collapse and environmental catastrophe.

COCONUT CURES by Bruce Fife, ND

Piccadilly Books, Colorado, USA, 2005
ISBN 0-941599-60-4 (256pp tpb)
Availability: Piccadilly Books Ltd,
<http://www.piccadillybooks.com>

If ever there were a true cure-all, coconut would have to be it. Its water, meat, milk and oil are prized in the Asia-Pacific region for its benefits in health, healing and longevity, and its fibre is useful in a range of applications. Literally, a coconut a day can keep the doctor away for peoples in the tropics and, for that matter, anywhere.

Coconut Cures is nutritionist and naturopathic doctor Bruce Fife's follow-up to his bestselling book *The Healing Miracles of Coconut Oil* (Piccadilly, 2001; see review in NEXUS 9/02). Fife has done much to educate the public about the healing properties of the medium-chain saturated fats found in coconut products, and his new book has an abundance of advice on how to make the most of this gift from nature.

People who partake of coconut are less prone to coronary artery disease, stroke, arthritis, asthma, diabetes, Alzheimer's disease, auto-immune disease, psoriasis, cancer and many other illnesses compared with the general population.

As a food, coconut is nutritious, safe and can be taken freely; it promotes absorption of other foods, particularly fat-soluble vitamins (A, D, E, K) and minerals (calcium, magnesium, iron). It also has powerful anti-pathogenic, anti-inflammatory and immunoregulating properties.

Fife advises on treatments for specific ailments using the products of the coconut; these are inexpensive, accessible and time-honoured alternatives that you can introduce into your regime without having to resort to pharmaceuticals. And forget about facelifts: applying coconut oil and partaking of coconut can reduce wrinkles and combat ageing! For those who can get hold of fresh coconut, Fife has some fabulous recipes for making your own coconut-based products.



REVIEWS

FORBIDDEN HISTORY

edited by J. Douglas Kenyon

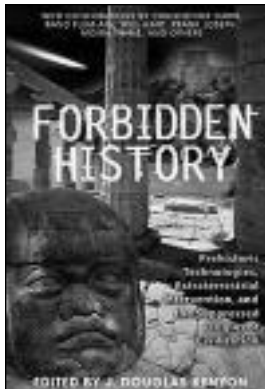
Bear & Co., USA, 2005

ISBN 1-59143-045-3 (322pp tpb)

Availability: **Australia**—Brumby Books, tel (03) 9761 5535; **USA**—Inner Traditions, <http://www.innertraditions.com>

The US-based bimonthly journal *Atlantis Rising* has been plugging away with alternative views on ancient history and mysteries for a decade or more. Now, its editor, J. Douglas Kenyon, has compiled a collection of essays from its pages that reflect a growing body of knowledge that questions the usual arguments and suspects, and applies some lateral thinking to our oldest conundrums on such questions as where we come from and where we are going.

The contributors are mavericks in their fields but are carrying on with expanding the envelope despite the occasional ridicule and extreme tactics from critics in academia. Several of them you'll have encountered before in the pages of NEXUS, whether in our feature or science pages or reviews.



As well as Kenyon himself, contributors include: Will Hart, on the futile search for missing links; Peter Bros, who exposes the scientific myth of the ice age; Robert Schoch, whose geological analyses confirm the Sphinx is much older than Egyptologists believe; Rand Flem-Ath, who wonders whether alignments of ancient monuments have something to do with the Earth's shifting crust; and Christopher Dunn, who speculates that the ancient Egyptians built the Great Pyramid as a power plant.

Touched on by various of these contributors are Velikovsky's catastrophe theories, Schwaller de Lubicz's secret wisdom insights, Michael Cremo's forbidden archaeology work, John Michell's research into the Atlantean dimensions of megalithic England, Paul LaViolette's and John Major Jenkins's heralding of a superwave from galactic centre, and Wal Thornhill and David Talbot on the electric universe (see David's items in Science News this issue).

This is a rollicking ride through history in the process of being rewritten (although, again, navigation would have been helped by the inclusion of an index).

COLLAPSE: How Societies Choose to Fail or Survive

by Jared Diamond

Allen Lane/Penguin, 2005

ISBN 0-7139-9862-8 (575pp tpb)

Availability: <http://www.penguin.com>

Many societies have failed in the past, but a handful have succeeded in prospering for millennia. So what can we learn from their experience and how can we apply it to societies today so that we don't repeat mistakes? In *Collapse*, his epic analysis of the changing fortunes of civilisations ancient and modern, Jared Diamond acknowledges that many cultures have disintegrated due to environmental crises—most of which have, at least in part, been self-induced.

Diamond identifies eight categories of processes through which past societies have brought on unintended ecological suicide: deforestation and habitat destruction, soil problems, water management problems, overhunting, overfishing, effects of introduced species on native species, human population growth and increased per-capita impact on people. He adds four more categories for today: human-caused climate change, environmental build-up of toxic chemicals, energy shortages and full human utilisation of the Earth's photosynthetic capacity. It's claimed that most of these 12 threats will become globally critical within the next few decades.

Diamond uses diverse examples from past and present societies, treating them with his hard-hitting, down-to-earth perspective to encourage us to connect with the rhythms of nature that produce times of abundance and then scarcity. The chapters cover a broad spectrum from the vanished Anasazi of the Four Corners of southwestern USA to our modern-day, drought-ridden Australia.

Ultimately, Diamond takes a positive note by stressing that our environmental, economic and social problems are not insurmountable but *can* be solved if we *choose* to start solving them. However, part of our choice must involve a realistic assessment of our modern consumer values and living standards, for we cannot continue treading roughshod over the environment if we want to survive into the future. He also takes a pot shot at corporations who put so much pressure on fragile environments, but points to more enlightened alternatives involving stewardship. Then again, there's not too much you can do about an asteroid impact on our planet. Sometimes, collapse just isn't your fault at all! A powerful, timely book.

REVIEWS



DVDs

Reviewed by Duncan Roads

THE CHARLIE HALL STORY: An Interview with Charles J. Hall by Paola Leopizzi Harris and David Coote

Produced by Paola Leopizzi Harris
© 2005 www.paolaharris.it (150mins)
Availability: Paola Harris, via her website
<http://www.paolaharris.it>

At the beginning of this millennium, Charles James Hall, a physicist and information technology specialist, took advantage of a period of unemployment to write his three-volume autobiography. Large portions of his writings are devoted to a record of his real-life experiences with ETs. He titled his book series *Millennial Hospitality* (see 12/02) and published it as fiction to protect the names of people he worked with. He states unequivocally that the events actually took place.

This historic video interview conducted in 2003–2004 is the first to put Charles Hall on the record and on the map. As a weatherman in the US Air Force, he was assigned to the desert ranges in the vicinity of the famous, super-secret "Dreamland" and Area 51. Hall not only claims to have witnessed interaction between "tall white" aliens and US military officials, but that he ended up playing a simple yet significant role in this joint terrestrial–ET project. It is a fascinating study of protocol and human–ET interaction on an exopolitical level.



CIRCLE SPEAK: A Journey into the Heart of Crop Circle Country

© 2005 New Land Films (217mins)
Produced by Laurence Newnam
Availability: New Land Films, PO Box 32660, Los Angeles, CA 90032, USA,
website <http://www.circlespeak.com>

This film comes with high praise from virtually all the leading luminaries from the crop circle research field (pardon the pun). I have to agree that it is the most comprehensive documentary on the subject that is "out there". In the process of covering the history of this phenomenon,



the producers introduce us to all the main characters—believers, sceptics, circle-makers and researchers alike. The film skilfully skirts all the personal politics, but still manages to capture the "big picture" of all that has transpired since the late 1980s.

It has excellent graphics and production quality, and heaps of interview clips with everyone involved. All angles of explanation are covered and great scientific detail appears where it is needed.

A must-have for all croppies!

STAIRWAYS TO HEAVEN:

The Practical Magic of Sacred Space

© 2004 Awaken Productions (54mins)
Produced and written by Freddy Silva
Availability: Freddy Silva, email
lovely272@earthlink.net, website
<http://www.lovely.clara.net>

Gothic cathedrals, 200-tonne rocks, standing circles, crop circles, sacred geometry and cymatics are all woven together in this excellent documentary.

Freddy is to be congratulated on such professionalism, considering he wrote, produced and directed this film. His choice of

musical scores is also great—and I had to keep reminding myself that I was *not* watching a UK TV documentary.

This is a very informative film which asks lots of questions and suggests some intriguing answers.

For example, I liked the thoughts at the end of the film, where it is suggested that the energy used to create crop formations could likely be affecting the deep

water aquifers under that part of the planet; and using the concept of water being able to retain memory, it is considered that the whole planet's water could be receiving information in the form of frequencies.

Stairways to Heaven also links in with Freddy's excellent book *Secrets in the Fields* (see 9/06), which explores the role of sound in the formation of these intriguing designs (see his article in this issue).

This film is truly a visual and mental feast that will leave you wanting more.





REVIEWS

MUSIC

Reviewed by Richard Giles

ECHU MINGUA

by Miguel "Angá" Díaz

World Circuit, UK, 2005 (59mins)
Distributors: **Aust**—MRA, tel (07) 3849 6020; **UK**—World Circuit, tel (0)1689 870 622, <http://www.worldcircuit.co.uk>

Percussionist Miguel "Angá" Díaz made his reputation with Irakere, a leading Cuban jazz ensemble, and started playing on Afro-Cuban All-Stars projects in the late 1990s. His solo debut is World Circuit label's most unusual Cuban fusion project to date. Band members on *Echu Mingua* include Cachaito on bass, flautist Magic Malik and DJ Dee Nasty. The CD has four fine pianists: Irakere's leader Chucho Valdés, Roberto Fonseca (of Ibrahim Ferrer fame), David Alfaro (Afro-Cuban All-Stars) and Rubén González. Malian Baba Sissoko is a guest on vocals and n'goni. A funky and unusual album of unique Cuban jazz.

SPIRIT OF HAVANA

by Kargo

New World Music, UK, 2005 (54mins)
Distributors: **Australia**—NWM, tel (02) 9565 4522; **UK**—NWM, tel 01986 891600; **Europe**—MCC, tel +49 4102 898202; **USA**—NWM, tel (303) 415 1040, <http://www.newworldmusic.com>

The sounds of Cuba have become very much a part of the world music scene since the Buena Vista Social Club hit the headlines in the late 1990s (see NEXUS 5/02). This album of Cuban music blends the Cubanismo rhythms with a touch of strings and piano and musical synth patterns that add an ethereal sound. Pleasant music with a good Cuban and sometimes Spanish feel, but it may not satisfy those fans of the true Buena Vista genre. There's much more of a Spanish influence that's enticing.

DAKSHINA

by Deva Premal

Prabhu Music, UK, 2005 (55mins)
Distributors: **Aust**—New World Music, tel (02) 9565 4522; **UK**—Prabhu Music, <http://www.prabhumusic.com>, <http://www.MitenDevaPremal.com>

The goddess of song must have smiled upon Deva Premal early in life as she is now one of the biggest minstrels of devotional sounds in the West. Her albums (see NEXUS 10/04) sell well throughout the Western world. The new album *Dakshina*, with her rendering of traditional mantras in a newer devotional style, with a richly layered production (with help from Miten and Kit

Walker), has blazed a trail of mantra across the globe. The album topped the new age charts at Amazon.com as soon as it was released. Its time has come.

DIVINE DEVOTION

by Sacred Earth

Sacred Earth Music, Aust, 2004 (56mins)
Distributors: **Australia**—New World Music; Sacred Earth Music, website <http://www.sacredearthliving.info>

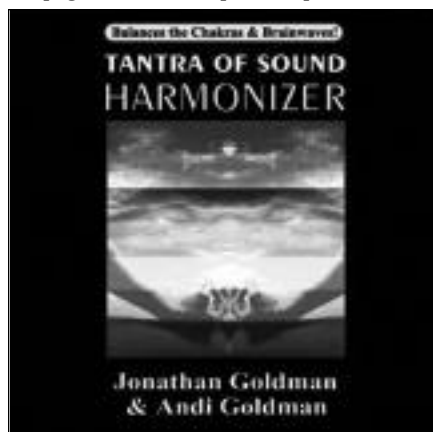
In Australia, it's always encouraging to see local artists doing well. This album by Sacred Earth is another of devotional music with a difference. Sublime vocals by Pene (Prem Ayliah) provide a beautiful, heartfelt sound, and the elegant flute playing by Jethro combines to create a very warm, Earth-connecting musical experience. The embracing, liquid, angelic sounds of the female voice especially on tracks three and four, together with acoustic guitar backing, are a real feast. Their first album, *Pamanyungan* (2003), was awarded "Album of the Year" by the Queensland Recording Association. This second release is destined to be another success.

TANTRA OF SOUND HARMONIZER

by Jonathan Goldman & Andi Goldman

Spirit Music, USA, 2005 (56mins)
Distributors: **USA**—Spirit Music, tel 800 246 9764 (toll free in USA), website <http://www.healingsounds.com>

Over the years we've reviewed several albums to be used as tools to open up the chakras and improve brain balance and harmony. This one uses a system called SynchroSound that balances brainwaves and the body. It contains sacred sound, toning, chanting psycho-acoustic frequencies and sound texture to create a profound tool for healing and communication. Jonathan Goldman is known worldwide for his sound healing work and has released a book to go with the album. The CD itself comes with a 16-page booklet to explain its processes.



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regime change can be attractive because it is "less distasteful than diplomacy and less dangerous than living with new nuclear states". However, he noted: "There is only one problem: it is highly unlikely to have the desired effect soon enough."

A Possible Attack on Iran's Nuclear Facilities

The presence of US General James L. Jones, Supreme Allied Commander Europe, and Retired US Army General John M. Keane at the Bilderberg meeting in Germany suggested to us that the next stage of the conquest is about to begin.

An American neo-con at an afternoon drink-fest said he was convinced that the "Iranian opposition movement" will unseat the mullahs. Nicolas Beytout of *Le Figaro* exclaimed: "You don't really believe that!" A tall, bald, well-dressed Swiss gentleman, believed to be Pascal Couchepin, head of the powerful Department of Home Affairs, replied reflexively that it will only succeed in having the Iranians rally behind their government. He ended by saying: "You don't know Iranians."

Temperatures boiled over momentarily when a French Bilderberger, raising his voice, told Kissinger that "an attack on Iran will escalate out of control". According to sources working for the CIA and the special unit of the US Army charged with protecting the US delegation at Rottach-Egern, both the CIA and the FBI are in open revolt against the Bush White House.

A member of the Greek Parliament asked Eival Gilady, strategic adviser to Israeli Prime Minister Ariel Sharon: "What would happen if Iran were to retaliate?" Someone pointed out that even if the United States or Israel were to show restraint in their use of tactical nuclear weapons, an attack on Iran's nuclear facilities would surely not only engulf neighbour states, raising the likelihood of a broader war, but also succeed in creating a nuclear disaster through nuclear radiation spilling over a wide area.

As a follow-up question, someone asked: "How much of this war has to do with America doing its utmost to prevent Iran from becoming a regional power?" A French Bilderberger wished to know if the impending attack on Iran would involve the United States and Israel working in

tandem, or if it would be a NATO operation. The question was directed at NATO Secretary-General Jaap G. de Hoop Scheffer. Another European Bilderberger wanted to know how the US was planning to cope with three wars simultaneously, referring to Iraq, Afghanistan and now Iran.

The reader should be reminded that there are now 150,000 US troops deployed in Iraq who are unable to move to another theatre of operations because of effective resistance tactics. The Israeli delegation was pressed to answer if Israel is prepared to use nuclear weapons against Iran. The answer was incoherent.

What is so terrifying about Iran as a theatre of operations is that, according to our deep sources (both of whom belong to the Bilderberg group), there are two alternative dates set for the invasion. The earliest possible date would be in the "deadest of summer", some time in August, and the other alternative is a late autumn campaign. This substantially confirms the information provided by Scott Ritter, the ex-Marine turned UNSCOM weapons inspector, who stated that "George W. Bush has signed off on plans to bomb Iran in June 2005" (Aljazeera, 30 March 2005),

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although he did go on to clarify that the June date suggests that the US and Israel are "in a state of readiness".

Russian vs American Foreign Policy

Policy discussion began with a European expert on international relations pointing out that over the next several years Russia is poised to assert itself and increasingly challenge Bush Government foreign policy goals.

Someone openly asked the committee if the world is safer today than in 2001 and if it will be safer in four years' time. A Dutchman responded by saying there is little doubt that the hand of international terrorism has been substantially strengthened by the US Government's heavy-handed policy in the Middle East. A Danish Bilderberger wondered about what had happened to the US promise to take a lower-key approach in Iraq—referring to the heavy-handed tactics employed by American troops in the siege of Fallujah, which played an important role in alienating a large cross-section of moderate Arab states. Additionally, the Dutchman pointed

out, terrorism hasn't been confined to the Iraq theatre of operations but has escalated across Asia, Africa and most of the Middle East.

A blonde woman, believed to be Thérèse Delpech, Director of Strategic Affairs for the Atomic Energy Commission, said that unilateralist policy actions by the US will only succeed in alienating friendly nations and emboldening enemy combatants. "US is not all-powerful. It must coordinate its policy with other great powers to achieve its ends."

An oil expert believed to be from Britain, possibly Sir John Kerr of Royal Dutch Shell, focused on the oil pipeline from Siberia to northern China. The Bilderbergers openly wondered at the medium-term repercussions of this deal. An American investment banker asked just how much oil is expected to flow through this pipeline. Another member of the oil cartel offered 65–80 million tonnes per year as a ballpark figure.

India's Missile Tests

During Saturday night cocktails at the bar, neo-con Richard Perle was seen and heard talking to a group of Bilderbergers,

amongst them Philippe Camus, President of the European Aeronautic Defence and Space Company (EADS), Donald Graham of the *Washington Post* and General James L. Jones about the near-future test-firing of India's *Agni 3* intermediate-range ballistic missile capable of carrying nuclear warheads. General Jones added that such a weapon would greatly increase India's capabilities because, according to the four-star general, India's strategic deterrents will be able to strike targets deep inside neighbouring China. In fact, Dr M. Natarajan, head of the prestigious Defence Research and Development Organisation (DRDO), said as much two weeks later on 17 May in New Delhi.

The 2005 German Elections

The Bilderbergers also discussed how to dust off the "boring" image of Angela Merkel, Germany's "future leader", ahead of the German elections on 18 September 2005.

A short, oversized male Bilderberger offered an opinion that in order for the widest cross-section of the German public to accept Merkel (leader of the Christian Democratic Union opposition) as

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Chancellor, it would be important to give a new definition to the term "family values". German Bilderbergers well versed in the conservative Bavarian collective psyche believe that Merkel, a divorcee with a doctorate in physics, doesn't have a "reliable" enough image to attract sufficient votes in this staunchly conservative area of the country. According to people within earshot of the discussion, the idea "in the up-coming campaign would be to stress the importance of families rather than marriage as an institution".

Bilderbergers pushing Gerhard Schroeder aside in favour of a new candidate could very well signify that, after three years of strife between American and European Bilderbergers over the war in Iraq, the secret society is ready to move forward with a much-revised and more cohesive policy. It must be remembered that Schroeder, along with French President Chirac, was one of the most vociferous European critics of the US-led Iraq intervention.

Both Schroeder, representing the left, and Merkel, representing the right, are

owned by the Bilderbergers. It has been the group's policy since its inception in 1954 to own both horses in the race.

For the record, every US President belongs to the Bilderberg group or its interlocked sister organisation, the Council on Foreign Relations. Although Bush Junior didn't personally attend the meeting in Rottach-Egern, the US Government was well represented by William Luti, Richard Perle, Dennis Ross and Allan Hubbard.

Towards a One World Government

History teaches by analogy, not identity. The historical experience is not one of staying in the present and looking back; rather, it is one of going back into the past and returning to the present with a wider and more intense consciousness of the restrictions of our former outlook.

If democracy is the rule of the people, then secret government agendas and sinister, influence-peddling cliques which stand for cunning selfishness are incompatible with it. The whole idea of clandestine spheres of influence waging secret campaigns is therefore foreign to the notion of democracy and must be fought with zealous determination.

Through lies and obfuscations, Bilderbergers are desperately trying to foist onto the unwilling world population a totalitarian One World Government, a single global currency and a syncretic universal religion.

Those of us who care deeply about the future of politics—domestic and international—cannot afford to ignore the fact that the grimly political One World Government is no longer merely a shadow subculture. It has, in fact, emerged as the dominant force in world affairs. ∞

About the Author:

Daniel Estulin is an award-winning investigative journalist who has been researching the Bilderbergers for over 13 years. He was one of only two journalists who witnessed and reported (from beyond the heavily guarded perimeter) the super-secret Bilderberg meeting at the Dorint Sofitel Seehotel in Rottach-Egern, Munich, Bavaria, Germany, on 5 to 8 May 2005.

Mr Estulin can be contacted by email at d.estulin@ctconsultoria.com. The full text of his article, including the list of participants, and other Bilderberg stories are available at <http://www.onlinejournal.com>.

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Navy had been won by the Kriegsmarine, and that the story had been suppressed in the Western press for fear of stimulating German resistance. Only one destroyer was reputedly spared and the Captain was reported as declaring, "May God help me, may I never again encounter such a force".⁸ Though the story has been suppressed and the British Government would never admit to the event, rumours of the naval battle are whispered amongst ex-servicemen—but alas, very little of the rumour is substantiated.

The missing U-boats were part of the Antarctic jigsaw puzzle that Britain had been putting together since the Nazis first sent Admiral Ritscher on his Thule-sponsored polar mission. And with Britain's Intelligence network—the SOE (Special Operations Executive) and the SIS (Secret Intelligence Service)—providing virtually all the information to the Allied Forces via the *Enigma* machine⁹ and its immense European spy network during the War, the picture was appearing slowly.

One prime example of Britain's Intelligence excelling was in how much

Britain knew about the Nazi's secret atomic weapons programmes which, in turn, helped the RAF bomb the Nazi's secret research station at Peenemünde in the Baltic Sea. The Germans were at a loss to how the British had even heard about it, let alone been able to bomb it.

Continued next issue...

About the Author:

James Robert is a civil servant with an agency of the UK Ministry of Defence, as well as a World War II historian and writer. He has travelled extensively throughout North Africa and Europe to investigate mysteries of Britain's secret wars. With a family from a military background, and with German sources giving many so-called "myths" credence, he has set a personal mission to delve deeper into the strange, suppressed, little-known and anomalous activities that were conducted before, during and after the war against Germany. "Britain's Secret War in Antarctica" has been taken from his forthcoming book that will document some of his investigations.

James Robert can be contacted at james-robert@hotmail.co.uk.

Endnotes

1. Admiral Byrd's press release, 12 November 1946.
2. *El Mercurio*, 5 March 1947; Admiral Byrd interviewed by Lee van Atta.
3. Former British SAS officer, documenting the 1945–46 Neuschwabenland campaign.
4. *Le Monde*, 18 July 1945.
5. Hart, Basil Liddell, *History of the Second World War*, Cassell, London, p. 410.
6. *ibid.*, p. 411.
7. *Pravda*, 16 January 2003, citing a confidential letter from Scheffer to Bernhard. The letter, dated 1 June 1983, was seized by Special Services, whom a German source claims were from the former German Democratic Republic (GDR) and sent at the USSR's behest.
8. The Captain cited by *El Mercurio* and *Der Weg* has never been named, nor has the story been given any credence by the British Navy.
9. The Intelligence network performed wonders for the Allies, especially after the capture of an *Enigma* machine with decoding documents on 9 May 1941; the German U-110 was captured by HMS *Bulldog* and HMS *Aubretia* of the 3rd Escort Group. The Germans never discovered the fact that Britain had broken their "unbreakable" codes. However, it was Britain's fortuitous capture which painted the full picture and helped complete the jigsaw puzzle, thus compelling them to take the possibility of a Nazi Antarctic haven seriously before others did.

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