

The Physicists versus the Flying Saucers

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The Situation: After years of playing cat and mouse with the Air Force and abducting social workers, hillbillies, and other unimportant people, the little gray monsters from Zeta Reticuli finally make their move, carrying out mass landings at former UFO hotspots Gulf Breeze, Florida, Uintah Basin, Utah, and the San Fernando Valley, California. At first the panicked calls from the locals are completely ignored by the Air Force which takes even longer than on September 11 to realize that an attack is under way. However, after Larry King broadcasts live footage of the flying saucers incinerating tacky condos in the Valley, the Air Force swings into action. It quickly becomes apparent that the Air Force and its F-18's, not to mention Aurora spy planes and every other multibillion dollar super-secret weapon system (many of which crash on the way from Area 51 to the Valley without any alien action), is totally outclassed by the alien ray guns. With the President relocated to a secret secure location (Omaha, Nebraska according to Larry King), DARPA frantically convenes its super-secret advisory panel of physicists known as SNOWJOB to counter the alien invasion.

Phase I. Ignore the Experts

The wet-behind-the-ears Air Force briefing officer makes the innocent suggestion that SNOWJOB should interview noted UFO experts, many of whom have appeared on Larry King so tracking them down is no problem and the CIA has files on them anyway, not to mention some alien abductees. It is quickly pointed out that the UFO "experts" are uncredentialed amateurs and the alien abductees are, as a group, idiots. The briefing officer's feeble objection that some UFO nuts have Ph.D.'s, even in Physics, is quickly shot down with the unchallengeable observation that anyone who was any good would not have gotten involved in something as flaky as ufology and, in any case, all the good people went into superstrings. SNOWJOB insists on a better briefing officer, preferably with a Ph.D. in Physics, maybe a former string theorist. DARPA accedes to the request.

Phase II. Reinvent the Wheel Badly

After a heated debate, SNOWJOB decides they should take a look at the data and figure out what is going on. Ed Witten objects that data

isn't really necessary anymore, the UFOs are obviously using superstrings based technology, and his postdocs can figure it all out from first principles. Burton Richter, however, carries the day with his impassioned defense of the scientific method: "We ought to at least examine the data". Inquiries are made to see if NORAD can send over any computer files with radar tracking data from any alien incursions from the last sixty years. NORAD however explains that the Air Force policy is there are no UFOs, NORAD has never tracked any UFOs, and if by some chance they had tracked any UFOs, these files would be classified ABOVE TOP SECRET and have been transferred long ago to the CIA. The CIA responds that they can neither confirm nor deny that they have any files related to UFOs and that disclosing any files that might exist would endanger their sources and methods. In desperation, the physicists turn to watching Larry King's live coverage of the alien invasion on CNN.

The physicists watch the silvery-gray flying saucers on HDTV obliterating Burbank as they work their way south toward Hollywood and the defense/aerospace contractors of scenic Torrance. In one particularly horrifying shot, a flying saucer flies over a fleeing school bus which crumples as if struck by an invisible force field radiating from the bottom of the flying saucer. Larry King, for once, is visibly upset: "That's inhuman!" Freeman Dyson leans forward and observes, "I think there is a propulsive field radiating from the bottom of the craft, possibly a form of antigravity. They fly like a helicopter except the propulsive field takes the place of the air flow generated by the rotor."

The physicists watch in fascination as car engines fail as the flying saucers approach forcing people to flee on foot -- which does not work very well since the flying saucers fly rather fast. Steven Weinberg is mystified: "How could they do that? They seem to be disabling the car engines. Possibly a very powerful magnetic field?"

"That's possible, " agrees Freeman Dyson. "Possibly they generate a negative gravity field using some sort of ... oscillating magnetic field?"

"Superstring theory says that couldn't work!" objects Ed Witten, scribbling on a napkin. "It has to be some sort of nuclear energy."

"Could it be a tokamak?" asks Richter, looking puzzled.

"I don't see how they could fit a tokamak inside of such a small craft," comments Freeman Dyson.

"You know," pipes up Lee Smolin. "I've been looking on some UFO web sites and a lot of people think that they generate some sort of ionization in the atmosphere that shorts out the high voltage ignition system in gasoline powered automobiles. It doesn't work for diesel engines -- see that truck that is still fleeing...yeah, that one that they just blew up...that's a diesel truck! It's not a superpowerful magnetic field."

Everyone turns and looks sourly at Smolin. "Ahem," says Weinberg. "We are doing real physics here, not flaky UFO nut pseudo-science."

With a scowl, Weinberg turns to Richter. "We need to establish an emergency working group to build a tokamak magnetic gravitic propulsion and power system to combat the aliens. We will need at least \$10 billion dollars and a new national laboratory. Judging from how rapidly they are destroying LA, we need an underground laboratory."

"But, but," protests Smolin, gesturing wildly at his computer screen, "some engineer at NASA figured out the car engine thing twenty years ago and it's not what we think! You can order his book on Amazon."

"I've discovered a new magneto-gravitic field theory!" shouts Witten, holding up several napkins covered with mathematical symbols. "It is yet another solution of the field equations of M-theory."

"Thank God," says Weinberg. "Thank God! God has saved... excuse me, we have figured out the answer. I'm an atheist. It don't believe in God. I...I have to admit that under the pressure I momentarily reverted to a childish myth that I have outgrown. It won't happen again. Our genius has saved the day."

"Let's call the President," suggests Freeman Dyson.

"Can we get \$100 billion?" asks Witten.

Phase III. The Screwup

In a frantic mad rush, one of the few remaining tokamaks is dismantled into several pieces and flown by military transports to LA in an attempt to implement the new M-theory based magneto-gravitic field generator. The idea is that the tokamak will -- after appropriate

modifications being worked out by Witten's post-docs -- generate a magneto-gravitic field that will interfere with the propulsive fields of the flying saucers, causing them to crash. The members of SNOWJOB continue to watch Larry King who alternates between live coverage of the flying saucers, now incinerating North Hollywood, and interviews with UFO nuts.

"Why is he wasting our time with these idiots!" gripes Larry Krauss. "I mean it is ridiculous. I have debunked these fools dozens of times. They don't know anything about physics. This last guy believes in cold fusion!"

Weinberg shakes his head in disgust.

The situation goes from bad to worse. With North Hollywood largely cleared of pesky humans, the flying saucers land and begin unloading armies of alien-human hybrids, considerably larger than the frail looking little gray creatures that appear to be giving the orders. Many of the hybrids look like extras for Baywatch. The hybrids begin slaughtering the few remaining survivors and occupying the buildings that the aliens have left standing.

"I'm wondering if it might be a sort of War of the Worlds scenario," theorizes Smolin. "You know in that old movie the Martians are susceptible to some disease, like the common cold, that doesn't hurt humans. So they create hybrids that can handle our diseases and breathe our atmosphere."

"You've been watching the X-Files too much," sneers Krauss, pointing sarcastically at an alien abductee on Larry King. "Listen to this idiot."

"Well, Larry," says the abductee, his face blurred out. "I know this is hard to say with all those people being killed in LA, but some of the hybrid soldiers in Hollywood could be my children. I...I'm really upset."

"It's just awful," says Larry.

The tokamak is reassembled at the LA International Airport as the flying saucers approach, humming softly as LA burns. The Air Force and DARPA personnel manage to make the modifications based on the new magnetic gravitation field theory just in time. The tokamak is turned on as the flying saucers blast the LAX airport terminal buildings into rubble. The flying saucers keep coming as Larry King narrates.

"Oh my God," shouts Larry. "They are wiping out those brave troops. The tokamak is in ruins. It didn't work. Ladies and gentleman, God help us all!"

Phase IV. The Buck Pass

"Those idiots," says Witten, losing his usual savoir-faire for a moment.

"Absolute morons," snorts Weinberg in disgust.

Richter shakes his head.

"We should have sent a post-doc," says Krauss.

"This is terrible," says Freeman Dyson. "There are only three more tokamaks in the entire world that we can modify on such short notice."

"That was the best one," mourns Witten.

"Obviously, the military failed to implement our instructions correctly," says Dyson. "It is just like that electronic barrier fiasco in Viet Nam. If they had only listened to us then."

"Next time, we need to send a team of physicists," says Richter scowling. "Look we need to get the President on the line immediately."

"I've got him on the line," says Dyson, holding up the phone.

"Mr. President, we need more manpower," says Richter, speaking into the handset.

"Tell him we need more money too," chimes in Witten.

Phase V. The Screwup II

With the aliens advancing south toward San Diego, toward Salt Lake City from their base in the Uintah basin, and north along the Eastern seaboard from Gulf Breeze, SNOWJOB frantically puts together a second attempt to repel the alien invaders. By this time, alien abductees, both real and imaginary, who have made the mistake of going public are being dragged from their homes, stoned, and burned alive in a few cases. Larry King makes a futile attempt to stop the

slaughter:

"My fellow Americans, attacking these people is not going to help defeat the aliens. Many of them, at great personal cost, tried to warn us about the menace. We should be thanking these people for their courage in coming forward despite years of ridicule."

King starts getting death threats and CNN demands a retraction. Meanwhile, FOX begins airing interviews with top conservative leaders calling for the immediate internment of all alien abductees, UFO witnesses who may have been abducted, and anyone else who seems odd. Neoconservative pundit William Kristol suggests arresting anyone who may have had contact with the UFOs and shipping them to Guantanamo Bay for immediate water-boarding.

The Wall Street Journal publishes an on-line editorial denouncing liberals for ignoring the alien menace for years and practicing a policy of craven alien appeasement in the tradition of Neville Chamberlain. Former CIA Director Roscoe Hillenkoetter, Major Donald Keyhoe, and Sen. Barry Goldwater are pressed into service as ignored conservative Winston Churchills for their UFO views. It is pointed out that physicist Edward Condon, author of the now discredited Condon Report ridiculing UFOs, was a namby-pamby leftist and if only his security clearance had been revoked as Richard Nixon wanted the entire alien invasion could have been avoided somehow. The Journal adds that the New York Times science journalist Walter Sullivan wrote the introduction for the Condon Report that sabotaged the fight against the UFOs. The Journal also cites Carl Sagan and a long series of liberal scientists (several of whom are members of SNOWJOB) who ridiculed UFOs as proof of liberal responsibility for the UFO invasion. The Journal also detects evidence of a dark conspiracy in the unwillingness of most abductees to come forward with their stories: "What did they have to hide?" The Journal enthusiastically endorses Kristol's water-boarding proposal.

The New York Times posts an on-line rebuttal holding up Jimmy Carter and Dennis Kucinich's UFO sightings as evidence of the stellar liberal record on the UFO problem. The Times points out that in ridiculing UFO reports the Times, Condon, Sagan, and liberal scientists were only repeating what the right wing nut jobs at the Air Force and the CIA told them. Certainly there was no reason for the liberals to suspect that the Air Force or the CIA would lie to them. The Times avers that if only the right wing yahoos at the Air Force and CIA had admitted the UFO problem instead of covering it up, the invasion could have been

avoided somehow. While pointing out to the paranoid right wingers at the Journal that several abductees have appeared on talk shows and published books, the Times also expresses dismay at the unwillingness of hundreds, maybe even thousands of abductees to go public: "What could they have been afraid of?" The Times argues that only people who claim to have been abducted should be shipped to Guantanamo. It is clearly a hysterical conservative overreaction to ship all UFO witnesses to Guantanamo.

The Wall Street Journal posts a reply to the New York Times on their web site asserting that it is all Condon's fault. The Air Force and the CIA were counting on Condon to give them an unbiased, objective, professional scientific assessment of the situation. Condon obviously ignored the evidence because of his craven liberal desire to appease the aliens. In the unlikely event that the CIA did cover up the UFO problem, this was undoubtedly the work of un-American, pinko, Arabist, pro-Muslim CIA agents such as Valerie Plame and State Department fellow travelers like her husband the odious Ambassador Joseph Wilson. The Journal also points out that the CIA had to protect its sources and methods from exposure and that it is unpatriotic and defeatist in time of war to suggest that the CIA or the Air Force are anything other than patriotic organizations of patriotic professionals. The Journal ends the editorial with a call to support the troops. "Patriot", "patriotic", "flag", and "troops" are each used twenty times in the editorial.

The Nation posts an on-line editorial denouncing both the Journal and the Times editorials as CIA-inspired rubbish, and cites ufologist Rich Dolan as representative of the proud left-wing UFO tradition. The Nation, cribbing heavily from Dolan's book, darkly traces the UFO invasion fiasco back to the 1953 CIA panel headed by prominent physicist H.P. Robertson and subsequent CIA-inspired ridicule of UFOs and UFO groups. Both Robertson and Condon are fingered as obvious CIA lackeys. The Nation concludes that the invasion is the CIA's fault and hints that the agency may have made a secret deal with the aliens to sell out the rest of humanity.

The Nation is also concerned about the failure of most abductees to go public: "Their secretiveness and unwillingness to warn their fellow humans reminds us of Nazi collaborators during World War II." The Nation stakes out the extreme left wing position that only confirmed alien abductees should be shipped to Guantanamo. The Nation disdainfully points out to hysterical conservatives that true abductees can be detected by odd markings inflicted by the aliens that resemble

birthmarks, scars, and other common skin conditions but can be reliably identified by experts such as Budd Hopkins. The Nation loftily repudiates Larry King's irresponsible fringe position that persecuting the abductees is unconstitutional and pointless (Larry has started to call it a "witch-hunt" on the air): "The craven words of corporate hireling Larry King notwithstanding, we are fighting for our survival here. FDR did not hesitate to intern the Japanese-Americans and Nazi sympathizers during World War II and we should do the same in this crisis." The controversy spreads rapidly through the conservative and liberal blogospheres. Several bloggers complain that the debate is not solving the problem at hand.

A second tokamak is flown to the San Diego airport on board surviving hypersonic Aurora aircraft. The Aurora is also pressed into service to fly top physics post-docs and graduate students from Stanford and Princeton to San Diego to oversee the modifications of the tokamak, with Witten and Richter on the phone giving step by step instructions to the post-docs.

Hundreds of flying saucers in advance of the hybrid ground troops armed with death rays push quickly down the California coast toward San Diego as millions flee in their SUV's, sub-compacts, and a few electric cars. The Air Force and the physicists frantically attempt to assemble the second tokamak at the San Diego airport. The culture clashes are immediately a problem. Witten's theorists and Richter's experimentalists refuse to work together. The Air Force personnel keep asking who is in charge and waiting for orders.

The alien blitzkrieg continues rolling down the Pacific Coast. Larry King somehow manages to get live video as each town and city along the coast falls to the flying saucers. FOX and NBC are now in competition with Larry however. The Internet is nearly brought to its knees as people download videos of the flying saucers on the attack.

"This is absolutely awful," says Larry King to his spellbound international audience, now swelled to over four billion as most of the world realizes he has been right about flying saucers all along. "We seem completely overmatched by the alien technology. I need to put out a call to the entire world, my audience, if there is anyone who knows anything, anyone or anything for that matter, who could do something. Kooks, weirdos, aliens living anonymously among us, Bigfoot...I don't care. We need your help! Perhaps there has been some terrible misunderstanding. Can anyone do something?"

Somehow, the physicists and Air Force manage to assemble the tokamak on the air field at the San Diego Airport as the flying saucers begin their savage push into San Diego. Gleaming suburb after gleaming suburb is crushed and burned as the flying saucers advance.

The flying saucers close in on the airport. The tokamak is turned on. The flying saucers glide across the runway toward the tokamak, humming softly and gleaming in the bright Southern California sun. The Air Force personnel and the physicists flee. The flying saucers obliterate the tokamak by flying over it. It is not even clear if they notice the gigantic donut shaped device crumpling and exploding beneath them. One of the Aurora aircraft manages to escape with the young physicists on board.

Phase VI. The Buck Pass II

"I'm very disappointed," says Witten.

"Me too," says Richter. "It is just like SLC!"

Witten and Richter shake their heads. Witten drops his head in his hands.

"The American educational system is so bad," says Witten.

"It was better when I was a kid," says Richter. "If we survive, I am going to have to write another Wall Street Journal editorial on America's Ph.D. deficit. This situation is absolutely intolerable. I had the best post-docs and grad students from Stanford there and they couldn't cut it!"

"I had the best from Princeton!" says Witten.

"Britain, in the old days, had a better system," says Dyson, shaking his head. "A few years in a good public school in England would have caned this sort of shoddy performance out of any student. A 'public' school in England is what you Americans would call a prep school. In the good old days, we toughened our upper class students up with years of physical and psychological abuse in preparation for war and empire. Look how well the British Empire turned out."

"I'm not sure it's the students," says Smolin. "I think maybe our idea could be wrong. I've been reading another one of those UFO web sites about possible alien propulsion systems. They have some concepts

based on Bohm's pilot wave theory...."

Everyone turns and glares at Smolin. "Lee," says Weinberg. "We are having a serious discussion here. Save the pilot wave nonsense for your next book."

"Listen to this crap!" interjects Krauss, pointing angrily at Larry King live on the phone with an unidentified caller.

Unidentified Caller: "Hi, Larry. I've been watching your show all day. This is great coverage! You're the best!"

Larry: "Yes, yes, thank you! I understand you want to be known only as Ms. X, is that right?"

Ms. X: "Well, yes, you know I would like to give my name -- I'm at a pay phone by the way -- but with all those stonings and burnings and, like you know, talk about shipping people to Guantanamo Bay, I don't think that's a good idea."

Larry: "Yes, yes! Look, you told my assistant some really fascinating things about the aliens. You seem to know exactly where they are going to attack next. How is that possible? Just tell our audience what you told my assistant."

Ms. X: "Well, like you know, I was abducted by these little gray dudes about ten years ago and I've been in continuous contact with them telepathically ever since. They're kind of cute once you get over being scared."

"Telepathy!" snorts Krauss. "What pseudoscientific nonsense!"

Larry: "Do you know why they are trying to wipe us out?"

Ms. X: "Well, like you know, they don't like us."

Larry: "That's it?"

Ms. X: "Like, yeah. They don't like us."

Larry: "Do you have any idea how their incredible weapons work? Is there any way to fight them?"

Ms. X: "I think they've figured out the hidden variables behind

quantum mechanics. They've worked out a sort of modified Maxwell's equations with additional non-linear terms so that you get both relativity and a version of the deBroglie-Bohm pilot wave theory of quantum mechanics."

Larry looks puzzled.

"Listen to this pseudoscientific nonsense!" scoffs Krauss, shaking his head. "Every one of these crackpots seems to work Bohm's nitwit pilot wave theory into their delusion."

"Einstein thought it was a good idea," says Smolin. Weinberg silences him with a cold stare.

Ms. X (continuing): "It's really fascinating -- if you make the right substitutions in the modified Maxwell's equations, you get the physics behind their warp drive and yoga. Like, wow, yoga!"

Larry looks totally lost. The physicists scowl except for Smolin who is frantically typing notes into his laptop.

Larry: "Well, is there anything you can do?"

Ms. X: "Well, I could...look I need to hang up. The CIA will have traced my call by now. I have to run. I'll see what I can do."

Krauss cracks up. "Some valley girl is going to save us! Larry King! Do you think they made the whole thing up or some kook who thinks the aliens are talking to her actually called?"

"I don't know why I took on that post-doc," moans Witten. "I trusted him with the entire project. People warned me about his limited intellect. I feel betrayed."

"Me too," agrees Richter. "I actually thought my guy knew what he was doing."

"You'd better call the President," says Dyson. "We need to get some new students to replace these idiots."

Richter picks up the phone. "Mr. President. I have some bad news."

"Can we get some more money?" asks Witten.

Phase VII. The New Project

The flying saucers suddenly stop their advance and take off into deep space while Richter is talking with the President.

"Look Mr. President, with another ten billion dollars and another tokamak, we can make it work," Richter is explaining as Weinberg jostles his arm, pointing him to Larry King's live coverage of the alien withdrawal.

Richter looks at Weinberg who makes some hand gestures.

"Mr. President," says Richter. "It looks like the aliens have realized the danger from our tokamaks. They have retreated in fear. Look, we need to start a crash \$100 billion program to build dozens of tokamaks as a permanent deterrent against future alien attacks."

There is a long delay. The members of SNOWJOB watch Richter expectantly.

"Yes, Mr. President," says Richter, hanging up. He turns to SNOWJOB. "He bought it. We got \$100 billion!"

"Couldn't you have asked for \$1 Trillion?" asks Witten. "I mean we did save the world."

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Suggested Reading

The Physicists

Disciplined Minds, by Jeff Schmidt, Rowman and Littlefield Publishers, Inc., 2001 (also a web site: <http://disciplinedminds.tripod.com/>)

The Jasons: The Secret History of Science's Postwar Elite, Ann Finkbeiner, Viking Adult, 2006

The Trouble With Physics: The Rise of String Theory, The Fall of a

Science, and What Comes Next, Lee Smolin, Mariner Books, 2007

Imaginary Weapons: A Journey Through the Pentagon's Scientific Underworld, Sharon Weinberger, Nation Books, 2006

Hiding in the Mirror: The Mysterious Allure of Extra Dimensions, from Plato to String Theory and Beyond, Lawrence M. Krauss, Viking Adult, 2005

Nobel Dreams: Power, Deceit and the Ultimate Experiment, Gary Taubes, Microsoft Press, 1988 (Microsoft is not the original publisher in 1988)

Beamtimes and Lifetimes: The World of High Energy Physicists, Sharon Traweek, Harvard University Press, 1992

Infinite Potential: The Life and Times of David Bohm, F. David Peat, Helix Books, Addison-Wesley Publishing Company, Inc., October 1996

The Undivided Universe, David Bohm, Routledge, 1995 Warning: This is a very technical book with lots of math.

Quantum Dialogue: The Making of a Revolution, Mara Beller, University of Chicago Press, 2001

The Quantum Ten: A Story of Passion, Tragedy, Ambition, and Science, Sheilla Jones, Oxford University Press, 2008

Edward Condon et al, Scientific Study of Unidentified Flying Objects, Bantam Books, 1969

"Our Ph.D. Deficit", Norman Augustine and Burton Richter, Wall Street Journal (editorial page), May 4, 2005

The Flying Saucers

The UFO Experience: A Scientific Inquiry, J. Allen Hynek, Ballantine Books, 1972

Unconventional Flying Objects: A Scientific Analysis, Paul Hill, Hampton Roads Publishing Company, Inc., 1995

The UFO Enigma: A New Review of the Physical Evidence, Peter A. Sturrock, Grand Central Publishing, 1999

The UFO Evidence, Volume II: A Thirty Year Report, Richard H. Hall, The Scarecrow Press Inc., Lanham, Maryland, and London, 2000

UFOs and the National Security State: Chronology of a Coverup, 1941-1973, Richard M. Dolan, Hampton Roads Publishing Company, Revised Edition, 2002

Alien Discussions: Proceedings of the Abduction Study Conference Held at M.I.T. Cambridge, Ma., Abduction Study Conference, David Pritchard, Andrea Pritchard (authors/editors), North Cambridge Press, 1995

Missing Time, Budd Hopkins, Ballantine Books, 1988