911:

4p+ ---> 1He+2 + 2e+ + 2ne + energy

AMERICA WAS NUKED

The Final Word On 911

we'll be exploring a seemingly complex and convoluted chemical stew of both rare and common elements with an unseen, carefully hidden and well organized choreography of human culpability just below the surface of the brew – and casings, radars, altimeters, boost-gas delivery systems, neutron generators, detonators, batteries, integrated circuits, fuzing systems, arming systems and permissive action links have all been reduced to miniature scale with nano-tech

featuring open source data reproduced for educational purposes from:

The Delta Group, UC Davis & the United States Geologic Survey
(With Dozens Of High Quality Previously Unpublished Images)

Jeff Prager

the truth won't set you free but it sure beats ignorance

It's clearly impossible to explain the deuterium-tritium fusion reaction in detail because the evidence is severely suppressed. However, I'll do my best to familiarize you with the technical aspects of nuclear explosive deuterium-tritium fusion triggered fission devices based on the available data. This is an extraordinarily complex, elaborate and complex issue and this book will attempt to succeed in familiarizing you with the basic concepts, the technology, advancements and the science that supports it. I've added dozens and dozens of supporting, working links.

A fusion or fission reactor is no different than a fusion or fission bomb. One is a controlled fusion or fission reaction and the other is simply an uncontrolled fusion or fission reaction. Same.

Nano-technology is a child of the nuclear industry born in the 1950s. The nuclear industry works with atoms. It's critical to remember this when discussing energetic compounds, the Twin Towers and the demolition that happened on September 11th. Nano technology was invented by, started by and funded with vast resources for the US nuclear industry.

nano started with nuclear

remember that

A Quote From First Responder Nurse Shirley Hoofard:

"Several victims told me they saw people engulfed in a fireball and disintegrating. One man said he was at work when he heard a loud noise and at the far end of the cubicles he saw a man running toward him with a fireball coming after him. The running man just exploded, flying into pieces… I heard stories like that from people from both towers…"

neutrons are attracted to metal and water, steel and humans (97% water)

they pass right through paper

The Images In This Magazine:

This eMagazine is a large download because it's filled with high resolution very large never before published images from Ground Zero. These were hard to find. These images can be zoomed multiple times and should be examined carefully, closely. That's why they're here. Please share the links to this book if you like it.

most, but not all Ground Zero images are huge • use zoom

A Quote From 1964:

"Live loads on these [perimeter] columns can be increased more than 2,000% before failure occurs. One could cut away all the first-story columns on one side of the building, and part way from the corners of the perpendicular sides, and the building could still withstand design loads and a 100-mph wind force from any direction."
from Engineering News-Record, April 2, 1964

only nuclear energy could have demolished these towers

“And interestingly enough, and also connected to this, is the fact that we know from various papers that have been published that the Gulf War veterans, the US Gulf War veterans, have also had a very high and statistically significant increase in congenital malformations in their children. But the uranium source of this has been excluded on the basis of urine tests which show that there is no depleted uranium. But of course, what we have discovered is that there wouldn’t be depleted uranium because it is ***enriched uranium.***”

~ Dr. Christopher Busby ~
from his published report

The European Committee
on Radiation Risk (ECRR) concludes:

“The present cancer epidemic is a consequence of exposure to global atmospheric weapons fallout in the periods 1959-1963 and that more recent releases of radioisotopes to the environment from the operation of nuclear fuel cycle will result in significant increases in cancer and other types of ill health.”
(ISBN# 1-897761-24-4 - C. Busby)

Enriched uranium is used in nuclear bombs and if nuclear bombs were used in Fallujah
they would have been considered safe to use for civilians and the soldiers deploying them
based on practical military cost-benefit analysis which would include a certain number of acceptable
deaths and future birth defects. We now know they were definitely used thanks to Dr. Christopher Busby.
They were very small. They were predetermined by computer modeling to be safe based on military/political/banking
standards as applied to large civilian populations during analysis of various military strategies,
actuary and statistical analysis spreadsheets and their corresponding agendas.
Like NYC.

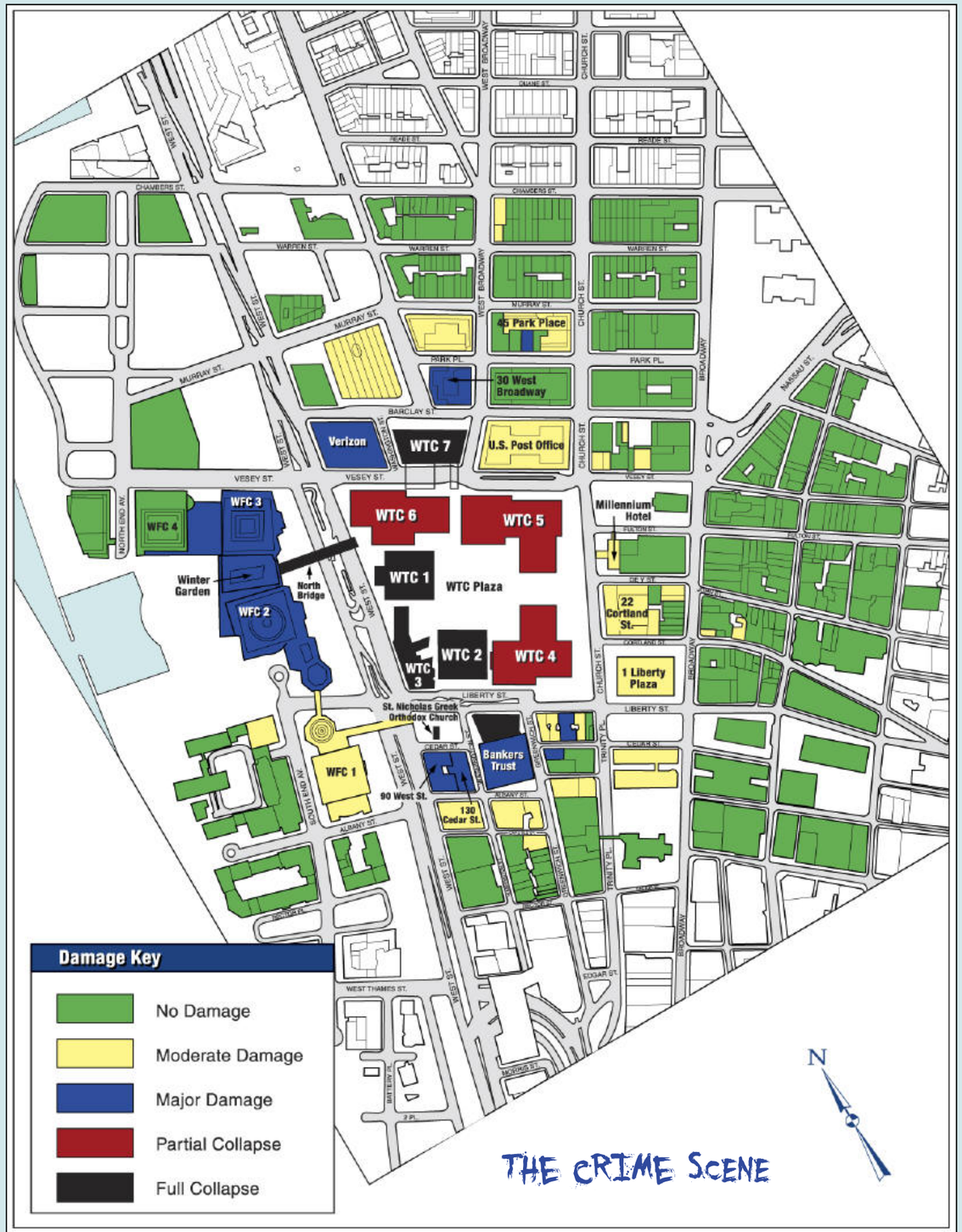


Figure 7-1 New York City DDC/DoB Cooperative Building Damage Assessment Map of November 7, 2001 (based on SEAoNY inspections of September and October 2001).

"The latest week 30 mortality statistics (through July 30, 2011)

issued by the Centers for Disease Control and Prevention now indicate that the number of

excess deaths in the U.S. since the Fukushima nuclear power plant disaster now stands at:

27,752

"...You may think a professor at a university must actually know something about their subject.

But this is not so. Nearly all of these experts who appear and pontificate have

not actually done any research on the issue of radiation and health.

Or if they have, they seem to have missed all the key studies and references..."

~ Dr. Christopher Busby

PRIMARY DATA SETS

USGS Open-File Report #01-0429
Environmental Studies Of The World Trade Center Area
The September 11, 2001 Attack
Version 1.1

Roger N. Clark [1], Robert O. Green [2], Gregg A. Swayze [1], Greg Meeker [1], Steve Sutley [1], Todd M. Hoefen [1], K. Eric Livo[1], Geoff Plumlee [1], Betina Pavri [2], Chuck Sarture [2], Steve Wilson [1], Phil Hageman [1], Paul Lamothe [1], J. Sam Vance [3], Joe Boardman [4], Isabelle Brownfield [1], Carol Gent [1], Laurie C. Morath [1], Joseph Taggart [1], Peter M. Theodorakos [1] and Monique Adams [1].

1. U. S. Geological Survey, Denver, Colorado
2. Jet Propulsion Lab Pasadena, California
3. U.S. Environmental Protection Agency, Region 8 Denver, Colorado
4. Analytical Imaging and Geophysics, LLC Boulder, Colorado

Published November 27th, 2001.

Free public access - full text at this link (last accessed March 1, 2012):
http://pubs.usgs.gov/of/2001/ofr-01-0429/

Aerosol Science and Technology • Volume 38, Issue 2, 2004
Analysis of Aerosols From The World Trade Center Collapse Site, New York
Detection and Evaluation of Long-Range Transport of Aerosols - (DELTA Group)
October 2 to October 30, 2001

The Delta Group, Department of Applied Science, University of California, Davis, California, Department of Meteorology, University of Utah, Salt Lake City, Utah, Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, California, Department of Chemical Engineering and Materials Science, UC Davis, Davis, California, Department of Chemistry, UC Davis, Davis, California, Redlands University, Redlands, California and the Environmental Measurement Laboratory (EML), Department of Energy New York, New York.

*Professor Thomas A. Cahill, Steven S. Cliff, Kevin D. Perry, Michael Jimenez-Cruz, Graham Bench, Patrick Grant, Dawn Ueda, James F. Shackelford, Michael Dunlap, Michael Meier, Peter B. Kelly, Sarah Riddle, Jodye Selco & Robert Leifer.

Available online: August 17th, 2010.

Free public access - full text at this link (last accessed March 1, 2012):
http://www.tandfonline.com/doi/abs/10.1080/02786820490250836

Theory of Low-Energy Deuterium Fusion in Micro/Nano-Scale Metal Grains and Particles
ICCF-14 • International Conference on Condensed Matter Nuclear Science • 2008 • Washington, DC • Yeong E. Kim

Purdue Nuclear and Many-Body Theory Group (PNMBTG)
Department of Physics, Purdue University
West Lafayette, IN, USA

Free public access - full text at this link (last accessed March 1, 2012:
http://lenr-canr.org/acrobat/KimYEtheoryoflo.pdf

Additional mainstream media sources whether they be internet web sites like Acronym.org.uk, the New York Times and/or Trade Publications among others have been used for certain credibly sourced quotes, for example a quote from Dr. Thomas Cahill, Delta Group, UC Davis, (*above*) and many others, for supporting statements they've confirmed in print, on video or in audio interview recordings.

Both images (this page) picture the 'spire,' well known because it turns to dust in just seconds in video circulating freely across the internet.
On the left it's still standing looking whole and on the right it's turning to dust. Surely you've seen the videos?

this book is not endorsed by the Department of Homeland Security

this book is not endorsed by the IAEA

An absolutely crucial component of this discussion, any analysis of the 911 phenomenon, is psychological warfare carried on always, daily, consistently and constantly by all developed governments at a level never before seen in human history. With television, print news media and most importantly, the internet, psychological warfare is all pervasive, immediately deployed and more sophisticated than a neutron bomb.

proclamations, executive orders, creeds, doctrines, maxims, fines, restitutions, dictums and dictates.

Don't be fooled. PsyWar uses every possible weapon and tool to influence and impact the will of the enemy, *you*. It's designed to inundate you with data such that decision-making becomes tedious, cumbersome and often times mundane. Such "*weapons*" are labeled "*psychological*" because of their effect and not because of their own nature.

AN EXPLANATION OF PSYCHOLOGICAL WARFARE

WHAT IS PSYCHOLOGICAL WARFARE?

Psychological Warfare (*PsyWar or PsyOps*) has been described as a number of actions ranging from radio, television and print propaganda (*media*) to education, cultural indoctrination and music. That they all require comprehensive information on the "*Targeted Population*" is a foregone conclusion. In a document written in 1948, American ground forces defined "*psychological warfare*" as follows:

"*It [psychological warfare] is based on moral and physical means different from those upon which orthodox military techniques are based on.*"

PSYCHOLOGICAL WARFARE PURPOSE

1. To destroy the will and the fighting spirit of the "*Enemy*" and avoid its allies' support and,
2. To encourage our "*Troops*" and our allies' will of being victorious.

PSYCHOLOGICAL WARFARE DEFINITIONS

The "*Targeted Population*" is you and everyone else.
The "*Enemy*" is you, everyone you know and everyone you don't know.
The "*Troops*" are the military and law enforcement, city, state, county and federal court employees, elected and unelected appointed officials, statutes (*yup, they're troops too*), meaning so are laws, decrees, edicts, resolutions, orders, taxes, regulations, acts, bills, bylaws, rulings, ordinances, directives,

THE GAME IS PLAYED FOR KEEPS

This is the reason why open propaganda and secret or gray/black propaganda – subversion of reality by frequently, daily, repeated yet planted news stories, sabotage, murders, rapes, robberies, special operations, guerrilla warfare, espionage, political, economic, racial, ethnic, military and especially, most importantly, financial pressures – are all considered useful PsyWar weapons. I promise, they (*whoever you may think 'they' are*) are using *ALL* of these weapons and more. *Much more.*

To implement such programs, the intelligence services recruits extraordinary and highly qualified specialists in specific fields such as behavioral sciences, sociology, psychology, psychiatry, anthropology, genetics, human development, social function, actuaries and analysts; even geographers, physicists and engineers of every specialty all capable of inventing the "*simple, clear and repetitive*" propaganda aimed at

provoking "*apathy, disorder, confusion, self-gratification and the urge for personal pleasure; hedonism, purchasing things. And even, sometimes they provoke ... terror*" within the enemy. That would be *YOU, once again* and everyone else you know and everyone you don't know also ...

THE TELEVISION

I've warned of this medium of information transmission before. I don't use video for analysis of anything, ever. I use it to watch movies without commercials with the known, quiet, sublime background caveat of noise that I'm seeing nothing more than Hollywood fantasy. Have you seen the two "*Kill Bill*" movies? Parts One and Two? They rock. They're fantasy.

Propaganda films in that they propagate and promote nothing but hedonism, revenge and murder for murder; an eye for an eye which always leaves us partially blind, yet the movies kick proverbial sweet ass! I own them both and I watch both parts once every year or two and I enjoy them more and more every time I watch them, with organic chips and dip of course. I also shoot bad guys in first-person shooters on my Playstation 3 and my favorite games are the Modern Warfare series but for driving at speeds exceeding 150mph I like the Need For Speed series.

Still, I do suggest, strongly, that the beginning of this journey includes; must have the initial component of turning off the television. That means no more cable. I'm opposed to large corporate usurpers but Netflix and other sources are available for watching movies. The TV generated series, whatever they might be named from '*Weeds*' to '*Dancing With Arnold*," are designed to mesmerize and cause an alpha state and they're a highly sophisticated form of warfare propaganda specifically fabricated to instill apathy.

They make you forget. They take you away. But they also carefully, insidiously and covertly alter your perception of what the real world is. Movies? Watch them knowing they're commercial-free fantasy and get back to the work of self-education after your well deserved leisure.

BRIAN JONES

I had an assistant in 1985 and his name was Brian Jones. I managed a 50 desk telemarketing office and Brian had a saying; a phrase he used frequently. This was in reference to sales but it applies equally to valid, verifiable, variously supported data. Brian used to say, "*They're out there folks, you just gotta find 'em!*" and he said it with gusto. And he said it every day. And it's true. Turn off the TV, explore real data, the Lawrence Livermore, Sandia and Oak Ridge Labs, the Jet Propulsion Lab, physics departments at universities. Enter terms found within this text, for example enter a comma, and type "peer reviewed," after an entry such as "nuclear electromechanical" or any other new term you'll find in this eMagazine. Explore. Be an explorer. Read a little. Venture out ... teach yourself to search by repeated attempts with slightly different terminology. Brian made sure I earned a 5 figure weekly income as my assistant. Be a Brian Jones. That's what I had to do. I learned to be Brian Jones and I examined everything; every single piece of data verifiable at more than one or two sources. Data that's repeatedly verifiable by highly credible sources and can be termed as 'fact'. By learning to be Brian Jones I learned to like this tedious and, as I said, sometimes and often boring investigation. It was that, once, but it's not anymore. It's more than exciting. It's indescribable.

"They're out there folks, you just gotta find 'em!"

Start by throwing away the TV, or the cable at the very least ...

PREFACE

1950 Chevrolet Deluxe (above)

1946 Farnsworth model ET-066 AM Radio in wood (below)

We got the set (at left) in late 1952 or early 1953; the photo is probably from the same time and was taken in Eugene, Oregon. Until a local station started broadcasting, we only got a very fuzzy picture from a UHF station in Portland.

A Crosley telephone (right) is a 1950's origianl style desk phone converted to touch tone with original bell ring and volume buttons. Works without using electrical power. Available on the internet for $165.

The Davy Crockett (*above*), 11 inches in circumference at its widest point and just 17" inches long (*31" total length end to end with parts not related to the bomb itself*) was a nuclear bomb fired from a 3-man tripod in 1961. Yet the 911 truth community discusses nuclear technology as though it came to a dead stop in 1945. But they love to discuss nano-technology as it applies to energetic compounds as though it were the greatest invention since sliced bread. Energetic compounds have been with us since the 1940s. They've been used in the mining industry for decades. I've read over 50 patents from the 1940s through 2000 and beyond on the internet. Nuclear power and nuclear demolition have been with us since the 1940s also. There aren't a great many patents on the internet to choose from in this area. Yet there is a great deal of complex physics which has forced me to, literally, learn a new language. My assertions herein are my own but they are also the result of personal relationships with physicists whose names will remain, in most cases, unknown and they're based on volumes of very good data.

Which industry has had the most money to advance its technology within the military industrial complex? Nuclear? Nano-Tech? Both? Nano started with nuclear technology, of course.

Wake up. Apple-sized nuclear devices, maybe smaller, do exist. I believe we can prove that here. In fact I believe we can prove that they were used.

ABOUT THIS EMAGAZINE

Some of the information in this report is complex and much of it will be new. It was *all* new to me at one time. This is not a re-hash of my older publications. It also contains dozens of never-before published Ground Zero images.

This book provides 5 basic reports: The Cancers, The Science, The Demolition, The Technology and Energetic Nano Compound Technology (*mislabeled as thermite*).

I prefer the term Metastable Intermolecular Compounds (MIC) or explosive Sol Gels at nano-scale but we'll discuss them as they relate to the newest incendiary advances, explosive technologies and practices directly as they might apply to the destruction of the Twin Towers.

This includes thermite use since the 1940s in an historic view of nano-technology beginning in 1959 and covering through 2000 and beyond including advances in theoretical technologies we now know were available in 2001. We also cover certain little known nuclear technologies unknown to most; technologies that leave little to no normally detectable radiation. Newer nuclear explosive technologies that have patterns of blast sequence, debris fields, radiation paths or lack thereof and illnesses that mimic what we've seen at Ground Zero in New York City as of January, 2012.

Certain well known and tested nuclear reactions leave little to no radiation and can produce radiation requiring only very specialized and highly sophisticated equipment to detect. Decay is complete in just a matter of days and then it's virtually undetectable.

The military industrial complex; companies such as Raytheon, Boeing, SAIC and many, many others, the military itself included, should be expected to have developed advanced technologies in the field of nano-explosive demolition by the year 2001 in both nano-energetics and nano-nuclear devices; especially triggering and staging components. Miniaturization in the nuclear field would have been on the forefront of technology and, in fact, it was. Dr. Stephen Jones' experiments in the field of muon catalyzed nuclear fusion reactions was just that: the latest in fusion technology.

The simplest, least expensive and least time consuming method in terms of manpower to rig two enormous buildings for demolition would have been to use numerous easily manufactured and disguised micro-nuclear devices the size of an apple or a grapefruit, as described by Dr. Christopher Busby in a radio interview transcript within this text and as described in my public internet post to the CDC and NIOSH web sites for commentary regarding the Zadroga Bill and whether it should cover cancer. Cancer coverage was not included in the bill. Just a few individuals could have placed such easily disguised devices within the buildings in just a few days at the most. This explains the continued anomalous discussion regarding 'wiring' the buildings and how dozens of technicians would have been required, ad nauseam. Micronuclear electronic detonation in rapid sequence means two men could have prepared the buildings in a day or two at the most and the same two could have detonated the explosive sequence.

This becomes especially apparent after Dr. Neils Harrit (Jones, et al.) was asked to estimate the quantity of his iron oxide and aluminum energetic compound found in his dust samples or how much weight
he thought
would have
been used to demolish the towers based on those samples. Dr. Harrit's low estimate in an email reply to T. Mark Hightower and others was a low of 29,000 metric tons and his high estimate was 144,000 metric tons. (He's made lower estimates in reports he's submitted. The low estimate of 29,000 metric tons would have required over 1,500 tractor trailer loads with crews working 100 days straight, 24/7, just to unload the delivery of 29,000 one metric ton crates. Non-stop. 24/7. 100 days. That's if they could unload a one ton crate from inside the trailer at the loading dock to its final destination every 15 minutes. Working regular daily eight-hour shifts this process would have consumed over 300 days. Just to unload the materials. The manpower alone makes it less then likely. 29,000 metric tons seems wholly implausible if not impossible when even 10 tons becomes severely intractable and difficult to explain.

Some of the research equipment used:

scanning electron microscopy (SEM) at USGS and Delta Group
scanning transmission ion microscopy (STIM) at USGS and Delta Group
high temporal resolution aerosol mass profiles (Mass STIM)
(in vacuum) AT the Center for Accelerator Mass Spectrometry, at
Lawrence Livermore National Laboratory
proton elastic scattering analysis (PESA) (in vacuum) at LLNL
Na-U, synchrotron x-ray fluorescence (in vacuum) (S-XRF) and
digital Si (Li) analysis at Advanced Light Source, Lawrence Berkeley National Laboratory
laser desorption ionization time-of-flight mass spectrometry (LDITOF/MS) (in vacuum)
and synchrotron-induced X-Ray Fluorescence (S-XRF) at University of California

This report asserts its theories based on advances in nuclear technology, miniaturization and nanotechnology between the late 1940s and 2000 and the elements discovered in the atmospheric dust by the Delta Group and Dr. Thomas Cahill, nuclear atmospheric physicist, along with the United States Geologic Survey and their scanning electron microscopy (SEM) analysis of 35 dust samples mapped and retrieved from Ground Zero. Also considered are the opinions of nuclear physicists whose names will remain unknown for now. These dust samples are simply the best data available for an independent analysis by civilians like myself. With help.

The Delta Group and USGS data combined provide the largest total data-set on atmospheric samples and ground samples of dust ever conducted at Ground Zero, perhaps even anywhere in the world. Using a variety of advanced technologies including scanning electron microscopy (SEM), scanning transmission ion microscopy (STIM), to measure high temporal resolution aerosol mass profiles (Mass STIM) (in vacuum) at the Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory (LLNL), Proton elastic scattering analysis (PESA) (in vacuum) at LLNL, Na-U, synchrotron x-ray fluorescence (in vacuum) (S-XRF), digital Si (Li) analysis at Advanced Light Source, Lawrence Berkeley National Laboratory (LBNL), laser desorption ionization time-of-flight mass spectrometry (LDITOF/MS) (in vacuum) at UCD and Synchrotron-induced X-Ray Fluorescence (S-XRF) these groups, together, provide a critical dust analysis. The work of dozens of people doesn't need to be questioned. Especially once that work becomes expressly revealing and enters the realm of criminal evidence. These samples provide parts per million interpretations of over 40 elements of World Trade Center Ground Zero *ground* dust on a rather complete and complex scale. The *atmospheric* dust analysis is in the nano-scale range and described in microns with 100s of elements tested. With this data we know virtually everything there is to know about the dust from the destruction of the Twin Towers on 911 in New York City. AVARIS samples, other satellite photography and additional accepted scientific data are also included in this analysis where noted. The dust tells a very certain and credible story as one would expect from the dust related to any spectacular explosive event.

Would you care to know the content of Sodium, Potassium, Lanthanum, Cerium, Uranium, Yttrium, Beryllium, Zinc, Copper, Lead, Thorium, Molybdenum or any other element found in the dust? Or the size of those elements? Or where exactly they were dispersed and in what quantities across lower Manhattan?

Would you be interested in why it matters?

The parts per million dispersal of these elements as they appear across dozens of locations and how the amounts they appear in as they vary from place to place, increase and decrease, and correlate to one another and interact in a seemingly complex chemical stew with a carefully hidden and well organized human choreography seen only after and under difficult, tedious and very close human scrutiny is what we investigate.

For anyone with a serious interest in how the Twin Towers were destroyed this book and the numerous links within it are required reading for an accurate final analysis of what took place that day regardless of what your own final analysis might be. We know. We know because the dust weeps a tale ... yet people seem to want to exclude miniaturization and advances within the field of nuclear development as though nuclear technology dead stopped in the 1960s. Even 911 truth discussions about nuclear technology are steeped in 1960s rhetoric because that's when nuclear technology stopped being published, for the most part. But nuclear technological advances and the science of physics as it applies to explosives didn't stop by any means. This science kept right on moving along, perhaps even faster then most other technologies.

The advertising in this book is parody with the free positive economic benefit of exposure that any controversial advertising would provide for those lucky advertisers. As regards parody, I sometimes just can't help myself.

It's occasionally funny, non-routine and humorous and a little humor helps with the gloomy picture this book often paints. I do have a sense of humor. In the end, it's all in the 911 dust ... the answers are there too, hidden in the dust.

When you've tried everything ...

and you have a **nuclear** *zit*

get OXY 7it B-litz PADS

Zit Blitz Pads

provided in all sizes for:

Mini-Zits
Small Zits
Medium Zits
Large Zits
X-tra Large Zits
XX-tra Large Zits
XXX-tra Large Zits
And King Size Full Face Zit Compresses
with Optional Neck, Shoulder and Upper Arm Pads

In accordance with Title 17 U.S.C. Section 107, the materials in this eMagazine are distributed for their included information without any profit and for research and/or educational purposes only. This eMagazine, it's authors and designers have no affiliation whatsoever with the original sources of the material herein nor are we sponsored or endorsed by any of the original sources of the material herein. This makes sense. We're using a tremendous amount of public domain, open source government and professional corporate data and we don't expect our conclusions or assertions to be supported in the mainstream. They may not be largely supported in the small streams or any streams at all. These are issues far more complex than people seem to understand.

barquant le plus souvent du fameux panier à salade, et personne, avant qu'on nous les amène, n'a pu dire en fin de compte s'ils ressortissent à la médecine ou à la psychiatrie. Il faut, d'abord, qu'ils soient examinés par un médecin, parce qu'on ne peut pas dire ce qui leur arrive. Ce n'est pas aux flics de faire le diagnostic ; ils nous les amènent et c'est à nous de dire quelque chose. Et puis il y a une dernière catégorie de malades, peut-être la plus importante, qui relève à la fois de la médecine et de la psychiatrie. Ils ont à la fois une maladie ou des troubles organiques et — en plus — un gros trouble mental. C'est le cas des gens qui viennent de faire une tentative de suicide.

P.D. : *Alors, que faites-vous dans ces trois cas-là ?*

Dr H.G. : Les choses n'ont pas toujours cette clarté et ces catégories se chevauchent bien souvent. Cependant, pour les malades psychiatriques vrais, qui ne font que garde peu de temps, on les dirige vers des dispensaires ou des services psychiatriques qui peuvent les prendre en charge.

P.D. : *Et pour les « paumés » ?*

Dr H.G. : Là, il faut aussi examiner chaque cas particulier. Je vous ai dit que pour la moitié à peu près, ils arrivent amenés par la police. Mais les motifs sont très divers. La police, c'est à la fois le panier à salade et Police-secours...

P.D. : *Parlons d'abord du panier à salade. Quand je le vois passer, je me demande toujours qui est dedans...*

Dr H.G. : En ce qui nous concerne, vous devez réaliser plusieurs choses. D'une part, nous sommes au centre de Paris, au centre d'un groupe de quartiers très vivants qui restent animés une partie de la nuit, les Grands Boulevards, les cafés qui restent ouverts tard, les théâtres, les cinémas, le quartier Latin qui est tout proche, je dirais même une station de métro, comme la station Châtelet, qui est, à elle seule, comme une espèce de ville en réduction. Or le centre d'une mégapole fait qu'il y a une densité de drames plus ou moins importants qui sont le propre de la voie publique et des lieux publics. Or les gens n'aiment pas que quelque chose qui se passe sur la voie publique, même si c'est anodin, les gêne. Alors ils appellent les flics, ou les flics, prévenant leur démarche, interviennent. Vous savez, à onze heures du soir, par exemple, quand un type déambule sur le boulevard de Sébastopol un peu éméché, il gêne beaucoup de monde à la fois : des passants qu'il importune, des centaines d'automobilistes qui doivent l'éviter, etc. Il y a tout de suite

New York via Pakistan International. Une des quelques compagnies desservant directement New York. Départ d'Orly Sud, offrant les meilleures correspondances avec les villes de province. Une nouvelle preuve de l'efficacité PIA.

PIA est une compagnie internationale au développement spectaculaire : 3 000 000 de passagers cette année, un décollage toutes les 6 minutes.

Un succès soigneusement construit sur la satisfaction des passagers.

Pour un vol réussi, vers New York ou 60 autres grandes métropoles dans le monde, partez via PIA.

PIA Pakistan International

Great people to fly with.

I've said before that
I'm not a fan of symbolism
and my perspective is that
some unknown graphic artist
somewhere thought this looked cool
and so did others and it turned into an ad.

But for those of you that do believe in symbolism, well, ...

• this is not an endorsement of Pakistan International Airlines or any other airline. They're all nothing less than a criminal cartel • • this is not an endorsement of Pakistan International Airlines or any other airline. They're all nothing less than a criminal cartel •

etymology

noun (pl. -gies)
the study of the origin of words and the way in
which their meanings have changed throughout history.
the origin of a word and the historical development of its meaning.

THE ETYMOLOGY OF "GROUND ZERO"

The term “Ground Zero” always designated the precise center of an explosive nuclear detonation in every dictionary ever published, from the early 1940s until the year 2000 or so. From third grade elementary school when we hid under our desks after watching nuclear propaganda films in semi-serious almost frightening ‘drills,’ through adulthood when the thought of a nuclear war never entered my mind, the words had one singular meaning.

Newer dictionaries now have much broader definitions. At one time the definition was limited to, “*the point on the earth’s surface directly above or below an exploding nuclear bomb.*” The standard, conventional and customary dictionary definition has been changing over a rather short period of time in our very recent past. Why on earth would the entire population of the USA believe that the words suddenly and literally overnight took on a completely different meaning? People discuss symbolism with me all the time and I’m happy to admit that I’m not a big believer in symbolism when we discuss these issues but “Ground Zero?” Are you kidding me? It is, was and always has been used to describe the center of a nuclear explosion.

I suspect the word came from or was coined by; I mean the etymology of the term Ground Zero as it applies to the center of the tragic meltdown of the Twin Towers, came to us through people very closely related to the event that had every reason to use the term, perhaps a bit prematurely, certainly and genuinely unfortunate yet easily manageable. It caught on perfectly very early on to describe the site. Let’s face it, a site where almost 3,000 Americans perished (*over 1,000 more First Responders since but we won’t discuss Iraq, Libya, Yemen, Congo and 75 other countries we have an armed military presence in today*) desperately needed a name.

Someone, somewhere or someones somewhere with the power and wealth to control the message gave us the terms Ground Zero to describe Buildings One through Seven at the World Trade Center in lower Manhattan, New York City, New York.

It describes the site accurately:
Ground Zero is and always has been the center of a nuclear event.

ground′ ze′ro, the point on the surface of the earth or water directly below, directly above, or at which an atomic or hydrogen bomb explodes.

ground ze•ro /ˌ../ *n.* [U] the place where a NUCLEAR bomb explodes, where the most severe damage happens

ground zero The point on the ground vertically beneath or above the point of detonation of an atomic or thermonuclear bomb.

unit; **ground zero** = point on the ground directly under the explosion of a nuclear weapon; **dead ground** = area of ground

Any part or portion of this eMagazine can be reprinted without permission, as it should be. © none

IN THE BEGINNING ... FINE TUNING GEOPOLITICS USING DEAD CIVILIANS

Unlike aristocrats capitalists are not tied to a country or to the maintenance of a country. Capital is disloyal and mobile – it flows to where the most growth can be found, as it flowed from Holland to Britain, then from Britain to the USA, and most recently from everywhere to China. Just as a copper mine might be exploited and then abandoned, so under capitalism a whole nation can be exploited and then abandoned, as we see in the rusting industrial areas of dying America and already dead Britain. And we see capital flowing to Africa, Iraq, Kazakhstan and many other countries in the form of resource extraction; oil, gases, minerals, water, agricultural, manufacturing – even human resources are usurped for capital gains.

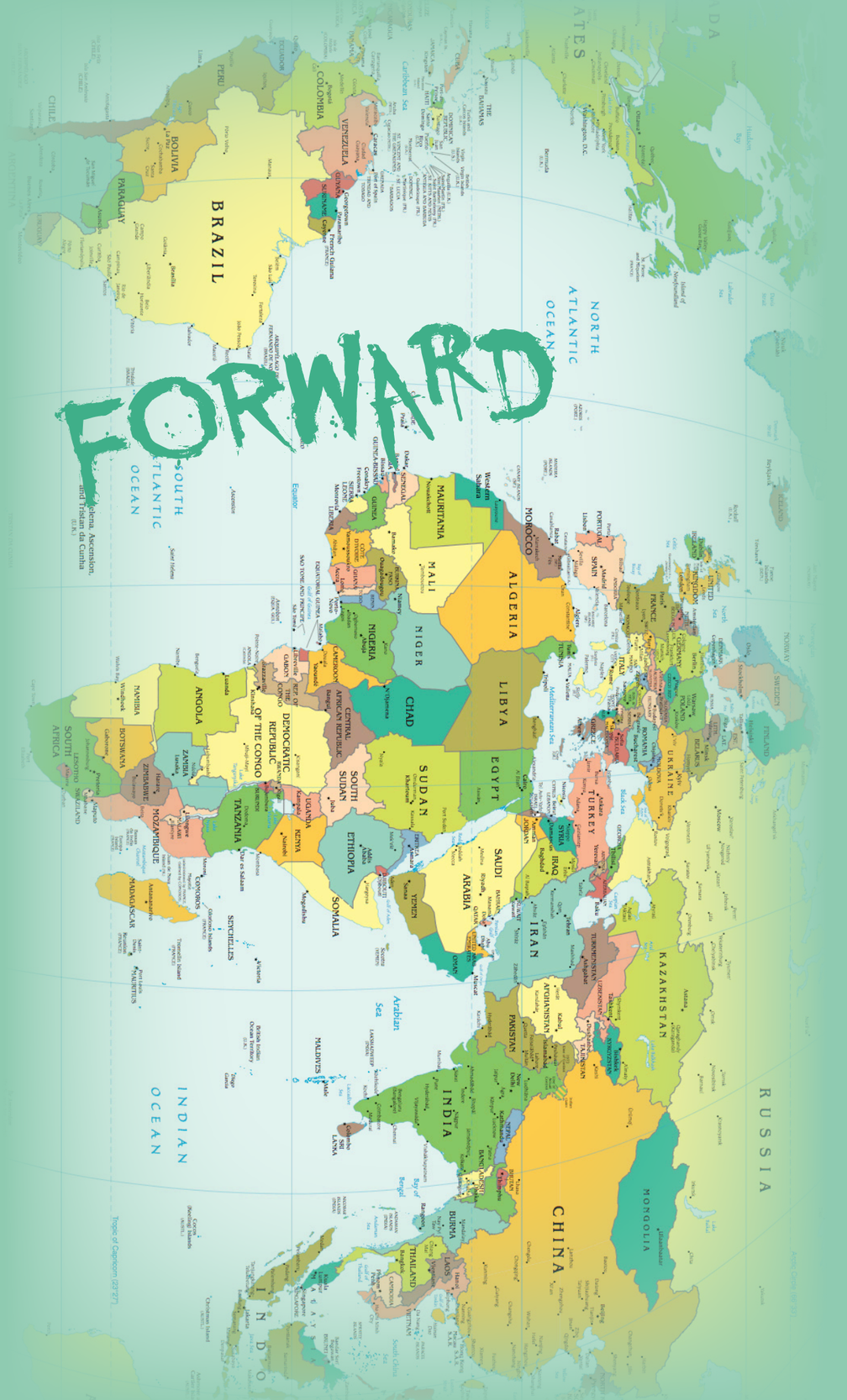
This detachment from country and people leads to a different kind of geopolitics under capitalism, as compared to aristocracy. A king goes to war when he sees an advantage to his nation in doing so. Historians can 'explain' the wars of pre-capitalist days, in terms of the aggrandizement of monarchs and nations.

A capitalist stirs up a war in order to make profits, and in fact our elite banking families have financed both sides of most military conflicts since at least World War One and before. Hence historians have a hard time 'explaining' World War 1 in terms of national motivations and objectives. Explaining it and any other wars since means admitting the mass murder of millions under the disguise of war. Propaganda still works, even in the alleged enlightened, intellectual and learned 20th and 21st centuries.

In pre-capitalist days warfare was like chess, each side trying to win. Under capitalism warfare is more like a casino, where the players battle it out as long as they can get credit for more chips, and the real winner always turns out to be the house – the bankers who finance both sides of the war (*with the corporations that make the bullets and bombs*) and they decide who will be the last man standing. Not only are wars the most profitable of all capitalist ventures; the most profitable of all human endeavors, but by choosing the winners, and managing the reconstruction, the elite banking families are able, over time, to tune the geopolitical configuration to suit their own interests and gobble up even more currencies and resources. Gold, silver, oil, gas, timber, minerals, agriculture, water, cheap labor (*humans*) ... these are their currencies.

Nations and populations are but pawns in their games. Millions die in wars, infrastructures are destroyed, and while the world mourns, the bankers are counting their winnings and making plans for their postwar reconstruction investments. It doesn't really matter who wins although that's decided well in advance. What matters is how much money is loaned to whom and what the price for those loans really is in terms of lost lives; murders for capitalism, essentially. The spoils matter.

From their position of power, as the financiers of governments, the banking elite have over time perfected their methods of control. Staying always behind the scenes, they pull the strings controlling the media, the political parties, the intelligence agencies, the stock markets, and the offices of government. And perhaps their greatest lever of power is their control over currencies. By means of their central-bank scam, they engineer boom and bust cycles, and they print money from nothing and then loan it at interest to governments. The power of the banking elites is both absolute and wholly concealed ... much like the explosives in the Twin Towers ... wholly concealed.



“At last!! ... after two thousand years of relentless research, burning the candles ‘til midnight, countless late-night Domino’s Delivery with bags of chitos and coke we have the Illudium Q-3^{16} ^{1}H, ^{2}H + ^{3}H Silversteinium, ^{137m}Ba Chenium, ^{230}Th Busheryllium Explosive-Fusion-Fission Tall Tower Dustifier !!

It’s time to conquer the world!”

911: AMERICA WAS NUKED

Jeff Prager and No Copyrights Productions

presented by

ANARCHY BOOKS®

AND

RENEGADE PUBLISHING®

AN

INTERNET MAGAZINE FOR THE 21ST CENTURY™

A Cooperative Research Agency Of The Department Of No More War
• Anti-Genocide Unit •

American National Institute Of War-Making Crimes & Financial Offenses (ANIOWMCAFO)
and the United States 'How'd They Do It?' Civilian Peace Authority (USHTDICPA)

~ ANARCHY DIVISION ~

The Sound Track for this book is available for $2.43 with any certified organic food donation to:
Stop-Children-What's-That-Sound Music™ only with the coupons on the following three pages.
The sound track includes the world famous Buffalo Springfield and their 60s hit, "For What It's Worth,"
Thunderclap Newman's masterpiece, "Something In The Air" with Humble Pie belting out "30 Days In The Hole,"
and the unforgettable, honest, bold and forthright criticism of the government by Barry McGuire with "Eve Of Destruction".
A critical musical tour-de-force for anyone searching for the truth. All rights reserved through May, 2011.

I don't believe in Copyrights. I'm an Anarchist and I oppose all governments and their institutions
not completely and wholly managed by and for the people, honestly, openly. This eMagazine is not copyrighted and may be published, copied,
dispersed, posted, pasted and used to paper bird cages. Most people won't read it anyway.

Text Title Font Thanks To: YOU MURDERED BB!!

Published by "Expose The Bankers, LLC" ©℗™ and "Global Corruption 101, Inc." ®™©

Most images © No One At All, open source, copyright free, FEMA, and others legal to print under these circumstances. This book is free. No one was paid to create it or distribute it.

ON THE BROTHERS GRIMM

Bush and Cheney, the Brothers Grimm as I like to hear them called, have repeatedly been referred to as less than stellar performers. They're bad-press magnets of course. In fact Bush is frequently referred to in civilian commentary across the internet as mindless, empty-headed, vacuous, vapid, dim, moronic, dopey, bird-brained, ignorant and just plain stupid.

In fact these men were brilliant and that they fooled many of us as regards their brilliance is a significant characteristic of their brilliance-in-action. They're master social, financial, global currency, commodity and population manipulators capable of amassing fortunes which they use to amass more fortune. The longer they do it the better they get. Like anything.

To call them less-than-brilliant, considering the master military operation that 911 was is to short sell the complexities of the event itself.

It short sells the complexity of the manipulations and propaganda dividing the post-911 truth movement right up until today which was surely pre-planned with the same or even greater vigor, exactitude and perfection than that used to plan 911 itself.

It makes sense. Highly sophisticated planning, strategy, social modeling potentials, societal considerations, sociology, human psychology and manipulation schemes were deployed post-911. Confuse us all.

Just Brilliant.

Ladies and Gentleman, synchronize your watches ...

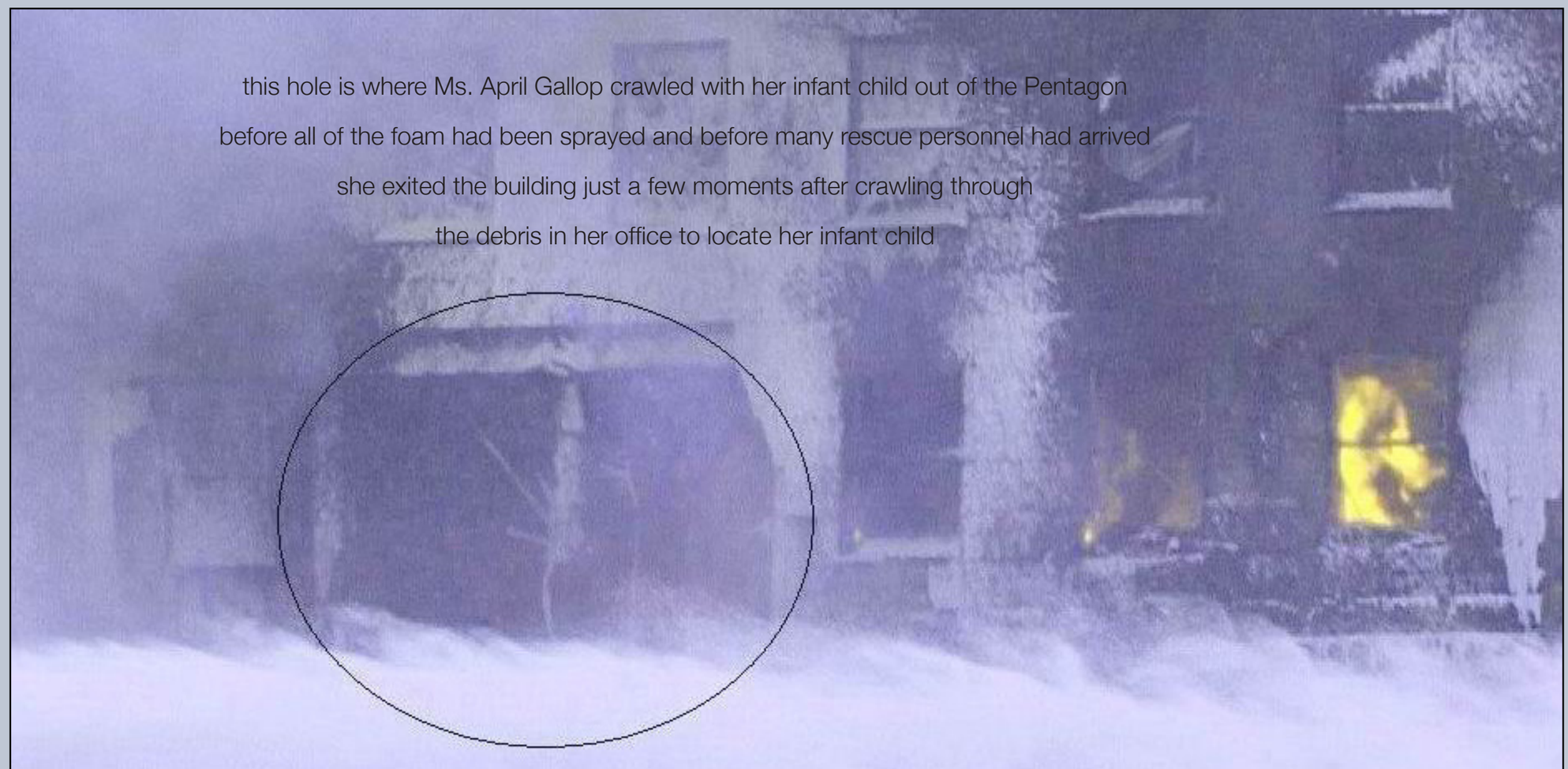
SYNCHRONIZE YOUR WATCHES...

JUST ONE LAST WORD ON THE PENTAGON, OR TWO...

This book seeks to cover only the Twin Towers but the Pentagon is important and we need a final word. The Pentagon was not hit by a Boeing commercial jet. If you've read this far you probably already know or suspect that. There isn't a lot more to say about the issue. The mainstream media, all of them, parrot the same mantra that a Boeing 757 or 767 hit the Pentagon early on the morning of September 11th, 2001 and of course this is patently absurd and clearly impossible. No large Boeing commercial jet of any kind hit the Pentagon.

Pictured below (*left*) in a rarely reprinted photo is an enhanced enlargement of the initial alleged impact site which shows clearly and unequivocally that a Boeing 757 or any other commercial aircraft did not hit the building. What did hit the Pentagon remains a mystery still today and the damage is suggestive of internal detonations combined with the possibility of a small external missile of some type. Explosives within the building, as outlined perfectly by Barbara Honegger, make it clear there were bombs pre-planted inside the Pentagon. Only the military industrial (*corporate political, financial banking, pharmaceutical health care, petroleum and in-ground resources, commodities, McBuyMeNow and ConsumerMart*) complex could accomplish such a feat.

The circled hole is where Ms. April Gallop walked out of the Pentagon carrying her young child. She saw absolutely no evidence of an aircraft strike or crash. No bodies. No plane parts. With attorney William Veale she sued Dick Cheney, a US military general and one other person related to the events of 911 in federal court. I exchanged a couple of emails with Mr. Veale. The case was dismissed; thrown out would be more accurate, notwithstanding that the un-honorable Judge Walker, cousin to George Bush, was one of the three-panel federal judges refusing to even examine any evidence. Veale was eventually fined $10,000 as punishment for filing the suit.



The lack of aircraft parts, seats, bodies, other expected debris from a 757 along with a pristine Pentagon lawn, yada, yada, yada, doesn't compare to the initial impact sight seen in the image at left. A Boeing 757 did not hit this building. That is as obvious as the sun rising.

Even the glass windows above the alleged impact sight are still unbroken meaning even this crime was poorly choreographed and executed when scrutinized closely. There were bombs in the building, like Ms. Honegger says.

Source:

http://www.datafilehost.com/download-0c99b14c.html

and

http://www.datafilehost.com/download-b498239d.html

It's my understanding that an anonymous benefactor is offering a 1 million dollar reward for anyone that can find the Boeing on the following three pages. Contact me for more info.

PENTAGON ANOMALIES

– this image can be zoomed repeatedly –

Notice that the facade, the components that make up the facade, are sheared off of the building from the force of the demolition. Just imagine the force of microscopic debris that impacted this building to cause the damage you see to the facade pictured, as though it were sand-papered away (*use zoom and closely examine the dark impact spots on the lower left facade and the exposed construction adhesive with loose bricks behind it on the upper facade. Look at the car, the undamaged right rear tire, the sheet metal to the left and the cracked window sill on the right and study the details*). This building is the Pentagon and this building experienced severe exterior structural damage *of this strange and unusual nature* from a Boeing? Look at the dark pock marks on the lower left facade. Those are the obvious remnants of an explosive force not of Boeing commercial jet style.

Look at the car tire at the far left or what would be the right rear tire. It's wholly unburned. Now carefully examine the car. You can see right through it out the rear bumper and tail-light assembly. The entire car is burned to a hulk yet the right rear tire sustained no damage. That tells me this car was engulfed for just seconds by super-heated neutrons attracted to metal. Look closely at the cracked window sill at the bottom right and think about the impact pressure, imagine the force involved required to produce that damage and look closely at the rust ... it's everywhere even here at the pentagon because the dust had a pH of 12, as caustic and corrosive as drain cleaner, all in less than ten seconds. Rapid rust everywhere. Just like we see at the towers in lower Manhattan.

DAVID MARRA AND TIME MAGAZINE TELL A LIE

David Marra, 23, an information-technology specialist, had turned his BMW off an I-395 exit to the highway just west of the Pentagon when he saw an American Airlines jet swooping in, its wings wobbly, looking like it was going to slam right into the Pentagon: "*It was 50 feet off the deck when he came in. It sounded like the pilot had the throttle completely floored. The plane rolled left and then rolled right. Then he caught an edge of his wing on the ground. There is a helicopter pad right in front of the side of the Pentagon. The wing touched there, then the plane cart-wheeled into the building.*"

RALPH WILEY AT ESPN TELLS LIES

"What — or who — caused Flight 77 to hit ground first, diffusing most of its destructive energy before it slammed into the Pentagon? If Flight 77 hits the Pentagon flush, like Flight 175 out of Boston hit World Trade Center tower No. 2 at 9:08 a.m., then we woiuldn't have a Pentagon anymore."

CBS LIES

"The jetliner disappeared from radar at 9:37 and less than a minute later it clipped the tops of street lights and plowed into the Pentagon at 460 mph. Some eyewitnesses believe the plane actually hit the ground at the base of the Pentagon first, and then skidded into the building."

THEY ALL LIED...

UNUSUAL BOEING FACTS

The planes used that day have an average or similar configuration in a number or areas particularly passenger and cargo capacity. Let's not forget four critical and *rarely discussed* issues related to all of these planes and not just the '*alleged*' plane that hit the Pentagon.

1. All planes had the lightest passenger lists seen for those same routes on those same days; in other words none of these planes had many passengers aboard that day.

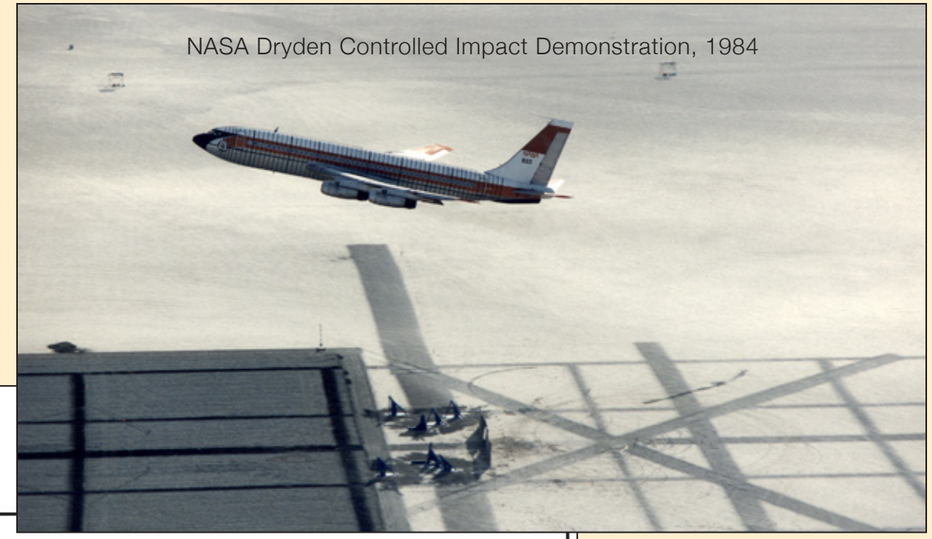
2. They all had ample cargo space and each could easily have been fitted with Smacsonic® Smactane from nose to tail. To quote Captain Field McConnel, commercial pilot of Boeings and many other commercial planes as well as Air Force Top Gun record holder:

"*SMACSONIC® can be installed in aircraft insulation because it looks like regular insulation and it can be used as a thermal, a vibrational or a sound insulation, but also, if you hit it with a certain type of electro-magnetic energy or electronic trigger, you can cause the entire fuselage of the aircraft that's surrounded by the insulation to reach fifty-eight hundred degrees Fahrenheit; literally instantaneously which blows the tail off the airplane like it did the seven fifty-seven at Shanksville. It turns what's left of the aircraft into a missile that burns up and turns into plasma before any of the big parts hit the ground.*"

3. On three separate flights on the same day the Raytheon corporation lost 7 top executives that worked directly in the field of commercial jet remote flight* and the chances of 7 top executives from the same corporation working in the same sophisticated and top secret area of remote aircraft flight all dying on September 11th, 2001, in three of the allegedly hijacked planes is in the billions to one. All seven men, their positions and their work areas and reasons for flight are explained in the link below. We'd all have a better chance of winning the lottery or getting struck by lightening at a backyard BBQ.

4. Boeing commercial jets (*See: NASA Dryden Controlled Impact Demonstration, 1984, below, and remember, this isn't the only time this was done*) have been successfully flown by remote control since 1984 or before with dozens of taxis, take-offs, flights and landings with no pilot, passengers or humans on the plane. They've even crashed them purposely. In fact in 1984 we could fly numerous Boeing commercial aircraft by remote from a single laptop computer. The link below has huge images and great video but you'll need to look around a little.

1. (http://911research.wtc7.net/planes/evidence/passengers.html)
2. Murdering Liberty Killing Hope, page 83 (http://www.datafilehost.com/download-0c99b14c.html)
3. Murdering Liberty Killing Hope, page 51 (http://www.datafilehost.com/download-0c99b14c.html)
4. NASA Dryden Controlled Impact Demonstration (http://www.dfrc.nasa.gov/gallery/photo/CID/index.html)


NASA Dryden Controlled Impact Demonstration, 1984

Boeing 767-200ER

General Specifications

Passengers	
Typical 3-class configuration	181
Typical 2-class configuration	224
Typical 1-class configuration	up to 255
Cargo	2,875 cubic feet (81.4 cubic meters)
Engines' Maximum Thrust	
Pratt & Whitney PW4062	63,300 pounds (28,713 kilograms)
General Electric CF6-80C2B7F	62,100 pounds (28,169 kilograms)
Maximum Fuel Capacity	23,980 U.S. gallons (90,770 liters)
Maximum Takeoff Weight	395,000 pounds (179,170 kilograms)
Maximum Range	6,600 nautical miles
Typical city pairs: New York-Beijing	12,200 kilometers
Typical Cruise Speed at 35,000 feet	0.80 Mach 530 mph (850 km/h)
Basic Dimensions	
Wing Span	156 feet 1 inch (47.6 meters)
Overall Length	159 feet 2 inches (48.5 meters)
Tail Height	52 feet (15.8 meters)
Interior Cabin Width	15 feet 6 inches (4.7 meters)

The Remainder Of This eMagazine Is About the Twin Towers

WHY THE TRUTH MATTERS

The truth matters, in and of itself — and inherently includes an infinite number of plausible and often personal reasons, some known and some unknown at any given time.

The truth matters in the legal sense, as this is also a legal matter of mass murder and high treason, and war-making crimes against humanity. And actual criminal details are part of catching and trying the perpetrators — even if the trials are in other countries or carried out by regular citizens groups here in the US.

The truth matters to the World Trade Center First Responders (*and their families*) who are dead (*1,003 as of March 1, 2011*) and dying of rare cancers. We might also expect others living and working in New York City will be experiencing higher rates of rare cancers well into the future. If my theories are correct, they are dying from cancers caused by exposure to nuclear radiation – in particular a newer and very short-lived radiation resulting from fusion of Deuterium and Tritium and which results in high levels of Uranium and Tritium, both of which were, indeed, found in high levels at Ground Zero. The truth matters for the medical treatment and prevention of disease. The truth matters so we can prevent this from happening again.

The truth matters because the latest technology in nuclear bombs being used on innocent American citizens will outrage Americans more than anything else. Much more than learning about energetic compounds in the dust. Is not the most important goal in this to cause the people to wake up and act, before it's too late? Nuclear annihilation and radiation are perhaps the most odious things conceivable. This is precisely why the regime put out so many disinfo agents and theories! The pancakes, thermite, and DEW theories were all put out to keep the people from finding out that the World Trade Center and its thousands of human inhabitants were nuked — vaporized, irradiated — like they were worthless pieces of less than nothing at all. Skin bags.

The Powers That Be fear that we, the masses, will find out the truth and we'll realize that we have nothing to lose with regimes like this in power. Every 911 truther is only helping these regimes, these mass murderers, by failing to comprehensively investigate the nuclear component of the World Trade Center demolition on 911 in New York City while accepting unproven or impossible theories [29,000 metric tons (Harrit 2011)], or in many cases by saying let's not dwell on this because it's too complex. And it is. That's what makes it so intriguing. The more I explore this complex material and the more I learn about fusion, fission, ionizing radiation, thermal capacity, disease and illness and the effects of various nuclear devices the more I realize and confirm that the nuclear component to the events of 911 is the only real truth we seem to be missing, still. Yet it's true. Here in these pages we'll prove it to your satisfaction.

ONCE UPON A TIME ...

It was precisely 9:59 a.m. on Tuesday, September 11th, 2001, when someone somewhere pressed a button that sent a single coded radio signal to a small receiver inside the worlds smallest and most sophisticated explosive device ever invented; a neutron bomb the size of an apple located on the 80th floor of the North Tower of the World Trade Center in the largest financial center in the world – lower Manhattan exploded.

An unseen circuit closed and a primer fired, then one-millionth of a single second later, a terrible fireball formed on the 80th floor of the Tower. The fireball was small.

Less than six inches in diameter and burning at a staggering 10 million+ degrees, the fireball was a perfect shimmering sphere, unseen, made possible by a fusion reaction between Tritium and Deuterium leading to a very short lived fission reaction. Just 6 inches across, this was the latest technology we've developed. Micro Nuclear Devices. All in 5-10 milliseconds.

Five microseconds passed while this fusion monster from hell expanded, then the already-cooling fireball sent it's searing, invisible and angry radioactive heat throughout the structural steel, hot neutrons vaporizing everything in their path including all of the human victims standing within 100 feet while simultaneously spreading tons of deadly microscopic building shrapnel in a lethal arc throughout several floors of the Tower.

Less than ten-millionths of a second after the monster achieved critical mass, its searing thermal wave turned everything to plasma, dust, their base elements, in the immediate area of floors 75 through 85 (approximate). This was repeated sequentially 10 to 15 more times per building with just fractions of a second between detonations on every tenth floor. A total of less than 10 seconds. It spontaneously ignited automobiles parked blocks away from Ground Zero. Witnesses describe people vaporized yet neutrons pass right through paper thus we had un-burned paper all over NYC. But as you will read later in this report, no ordinary Geiger counter from any nation could detect radiation from this weapon.

First tested in 1961, this weapon reduced radioactivity by 97% and newer technologies assist to produce short-lived radioactivity that can't be detected by a Geiger counter; it requires sophisticated equipment few people possess. Detectable radioactivity that might last just 5 or 6 days ...

It won't pass through dead skin or paper but when it's inhaled it's deadly.

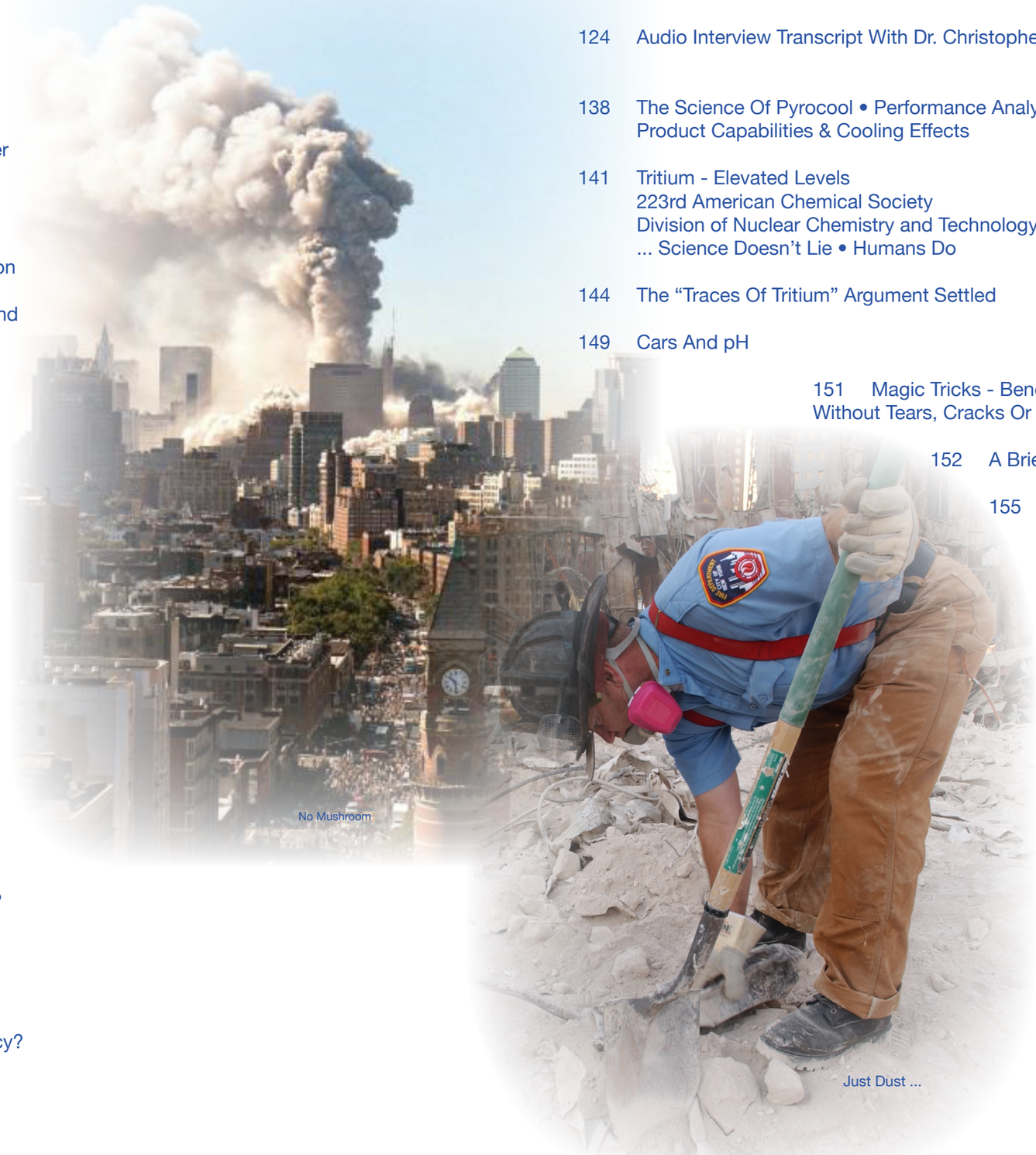
lower Manhattan, New York City, NY, September 11, 2001, 9:59am

TABLE OF CONTENTS

(THIS TABLE OF CONTENTS ONLY WORKS IF YOU HAVE THE ENTIRE BOOK IN ONE SINGLE PDF FILE)

No Mushroom

PART THREE – DEMOLITION



No Mushroom

Just Dust ...

PART FOUR - NANO-TECHNOLOGY

PART FIVE - DEUTERIUM TRITIUM

PART SIX - THERMITE

PART SEVEN - FRAGMENTS

PART EIGHT
EVERYTHING TOWERS

END NOTES - PARTING SHOTS


RSA
REPORT SUSPICIOUS ACTIVITY
DESTROY ALL EVIDENCE
Site 2

PART ONE

THE CANCERS

BUT FIRST...

STILL BIRTHS, SPONTANEOUS ABORTIONS AND NON-BIRTH PREGNANCIES INCREASE IN NYC DRAMATICALLY!

Data Source

Summary Of Vital Statistics 2010
The City Of New York
NYC Department of Health and Mental Hygiene
Division of Epidemiology • Bureau of Vital Statistics
http://www.nyc.gov/vitalstats

SEARCHING FOR THE DATA

It took a few weeks of diligence but I finally found someone in the NYC Department of Vital Statistics that knew everything. You know, one of those government employees pushing paper and then some, much like you or me, that actually cared enough to understand the data they're charged with compiling and also know exactly where to find it. Waiting a couple of weeks was well worth the effort I didn't have to make to find the information I was searching for.

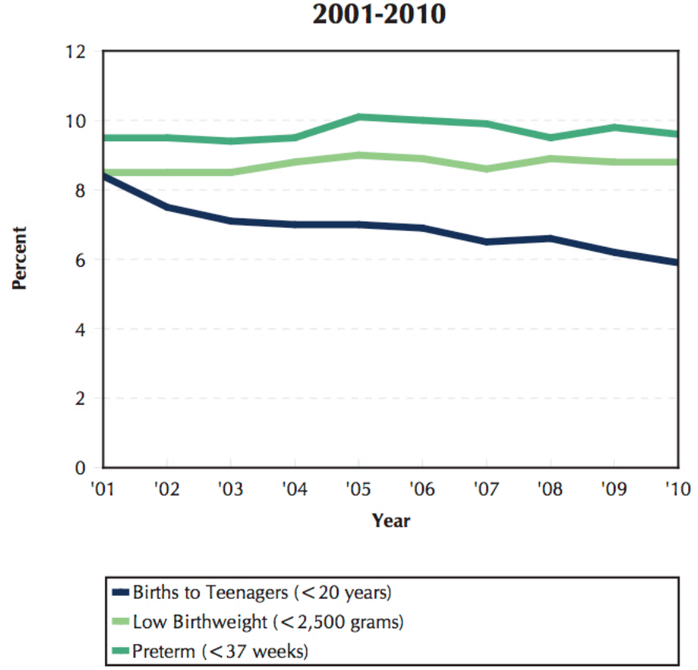
A NUCLEAR EVENT MEANS REDUCED BIRTH NUMBERS

In New York City, Manhattan specifically, we see a 29.8% *decline in live births* across all age groups totalled between 2001 and 2010 and we see renal disease death rates increase 11.3% since 2009 and 33.3% since 2001, the greatest percent increase of all leading causes of death in the last 10 years. While this can be explained by a number of theories and the mainstream media coordinated opposition can be counted on to proffer them in abundance it can also be explained by an age old *science* (*not theory*) in the 20th and 21st centuries; a science not only that we know well but one we've been studying intimately for more than 50 years. The effects of ionizing radiation and the physics of nuclear demolition science.

This data is represented by 20 PDFs that I downloaded through the link above and represents a comprehensive and complex birth/death statistical analysis between 1895 and 2010. There are notable, measurable and significant anomalies between 2001 and 2010 in the area of still births, non-birth pregnancies, spontaneous abortions and similar conditions that are always, historically, associated with exposure to ionizing radiation even for the briefest period at the lowest levels of dosage. Inhaling or ingesting a radioactive particle; a single molecule, is a '*night and day, oranges and apples*' difference than having a layer of dead skin repel a radioactive alpha particle as it would. Inhalation or ingestion is a solid, verifiable and a certain pathway to lower birth rates and anomalous birth statistics based on all low level radiation data wherever you might search. LNLL, Chernobyl, Nagasaki, Hiroshima; the data is the same, certain and conclusive. It's inarguable. We call it science, physics and chemistry and the non-birth statistics are alarming and that's a conservative assertion and perspective.

This data needs to be examined more carefully and you're encouraged to do just that.

Figure PO4. Percent of Live Births With Specified Characteristics, New York City, 2001-2010



JAPANESE ACTIVISTS CLAIM THAT 911 RELATED CANCERS ARE SIMILAR TO THE ILLNESSES IN HIROSHIMA AND NAGASAKI AFTER THE DROPPING OF NUCLEAR BOMBS IN WORLD WAR II

New York City's mainstream media reported in June 2006 nearly 300 WTC responders including cops, fire fighters and construction workers have been diagnosed with cancer, and 33 of them have already died of cancer. Many of them are diagnosed with Blood Cell cancer such as Leukemia and Plasma cancer or Multiple Myeloma. Earlier in April the same NY media also reported 6 police officers died of brain cancer. Americans who know nothing about Hiroshima and Nagasaki would instantly attribute this to airplane fuel's Benzene contents.

Meanwhile many of the mainstream doctors and specialists have given their seal of approval that WTC dust carcinogen poses a *very small* cancer risk. Numerous different rare cancers only associated with radiation exposure would be mathematically impossible. These several types of cancer are very familiar to we, Japanese, who once experienced the disastrous effect of two different types of nuclear bomb ionizing radiation. A Plutonium bomb and a Uranium bomb. What kind was yours? (*See: Ionizing Radiation 911 link on following page*)

Neutron ray exposure can evoke such disease 5 -10 years after exposure to radiation. The same thing is happening among WTC responders 5 years after their services at Ground Zero. Furthermore, it seems many of the responders are also suffering from heart disease. And we had the same clinical records among Hiroshima patients. It also indicates what the real cause of WTC syndrome is.

Environmental radiation induced non-Hodgkin lymphoma

According to sources who worked with the Federal Emergency Management Agency (FEMA) at Ground Zero on and after 911, residents of southern Manhattan and rescue and clean-up workers involved in the recovery operations at the site of the former World Trade Center are experiencing an unusually high rate of non-Hodgkin lymphoma and Multiple Myeloma – rare cancers that are common among individuals who have been exposed to extremely high levels of ionizing radiation, such as that from nuclear blasts and major nuclear reactor leaks. In addition to the respiratory problems among rescue workers at Ground Zero who breathed toxic "*pulverized*" concrete and other debris into their lungs, the radiation cancer is of extreme interest to researchers who suspect that the World Trade Center towers and Building 7 were brought down with the help of high energy releases. Wayne Madsen Report (WMR) spoke to a number of individuals who were at Ground Zero on 911 who are now experiencing symptoms resulting from severe damage to their immune systems – a condition that is common among those exposed to high levels of radiation.

Sources close to FEMA in New York confirmed to WMR that the lymphoma cases are believed to be the result of a release of extremely high levels of radiation from a series of nuclear events on the morning of 911. They believe that explains the reason for the "*pulverization*" of concrete, molten metals, pyroclastic surges and fallout, and other anomalies resulting from the catastrophe. It was also pointed out that some vehicles parked on the west side of the World Trade Center were "*fused*" on the sides facing the towers -- the doors being melted into the body frames. Other cars parked nearby were not similarly affected. There is also evidence of explosions and fires on top of the Woolworth Building, three blocks away from the World Trade Center, during the attack on the towers.

Fascist oppression of the critical collection and review of evidence

FEMA officials from Washington, DC were quick to ban any unofficial photography in southern Manhattan in the weeks following 911. Any photographers who had not received prior permission from FEMA to be in southern Manhattan found their photographic and filming equipment confiscated by the government.

The famous "Spire" is seen on the right in this image from September 11th, 2001

~ RADIATION CONTAMINATES THE WORLD TRADE CENTER TOWERS ~

911 SICKNESS IS CONSISTENT WITH ENVIRONMENTAL RADIATION CONTAMINATION

A group of 9/11 responders has contracted blood cancers at an unusually young age, and top doctors suspect the disease was triggered by an unprecedented "*synergistic mix*" of toxins at the World Trade Center site. The growth of these cancers among Ground Zero workers, and others, are also consistent with exposure to environmental radiation contamination associated with the destruction of the 911 targets.

The WTC Medical Monitoring Program is now studying a group of Ground Zero workers, including cops, construction workers and volunteers, suffering from cancers such as leukemia, lymphoma and multiple myeloma.

"*The kind of thing that worries us is that we have a handful of cases of multiple myeloma in very young individuals… a condition that almost always presents late in life*," said Dr. Robin Herbert, co-director of the program at Mount Sinai Hospital. He also stated:

"*That's the kind of odd, unusual and troubling finding…*"

The Deuterium-Tritium fusion reaction could be developed to cause minimal and virtually undetectable neutron radiation, especially with any standard radiation testing equipment, which may even last for a maximum of five or six days, possibly less.

The base clouds developed rapidly, advancing through the streets, even emanating from subway exits

Ionizing Radiation 911

Part 1:
http://www.box.net/shared/9ilkg3pkfs

Part 2:
http://www.box.net/shared/h5gvyev9q8

Part 3:
http://www.box.net/shared/ctdmz7la4j

FIREFIGHTERS RADIATION CANCERS "OFF THE SCALE"

Firefighters who recovered bodies at Ground Zero are developing cancer at a faster rate than those who worked before the atrocity, medical officials have revealed.

A seven-year study by the New York Fire Department has claimed that there are 'unusual rises' in the number of cancer cases among firefighters who worked in the aftermath of 9/11.

Some types of cancer among 9/11 firefighters are even '*bizarrely off the charts*', according to sources who have seen the as-yet-undisclosed federal-funded study.

Dr. David Prezant, the Fire Department's chief medical officer, has reportedly said that cancer cases across '*all ranks*' of the FDNY who worked at Ground Zero are '*up significantly*'.

It is thought that the report – due to be officially disclosed in time for the 10th anniversary of the terror attacks in September – cites unusual rises in leukemia, non-Hodgkin's lymphoma and multiple myeloma; three cancers known to increase together in people exposed to radiation.

The report also states increases in esophageal, prostate and thyroid cancers. These cancers also increase in people exposed to radiation.

Although officials have yet to confirm the increase, sources who attended a recent steering-committee meeting said Dr. Prezant's report will document the cancer increase.

One source told the New York Post: '*The only conclusion that could have been reached was that there was an increase in the cancer rate for firefighters after 9/11*.'

Minutes of the meeting quote Prezant as saying that '*we have completed our seven-year cancer study*' and that he planned to present it to the fire unions.

A doctor from the National Institute for Occupational Safety and Health is said to have asked Dr. Prezant: '*In the past, you mentioned about the rates before being somewhat similar — what led to the change that you noted the increase?*'

Prezant said researchers have compiled medical records for three years and had access to state cancer registries, though New York's is three years behind.

Dr. Prezant reportedly told the group: "*Those things keep adding cases. The report would be the first to document a cancer-rate increase among rescue and recovery workers*".

The city recently settled lawsuits by 10,000 WTC workers, more than 600 of whom have developed cancer. But officials have so far insisted there is no scientific proof that Ground Zero smoke and dust caused cancer.

An FDNY spokesman gave a statement for Dr. Prezant, saying: '*The study is ongoing, and no conclusions have been reached on whether cancer rates have increased for firefighters*.'

But fire union bosses in New York have expressed their concern about the findings.

Al Hagan, head of the fire-officers union, told the New York Post: '*I'm led to believe that the numbers for those cancers across all ranks in the Fire Department of people who worked at Ground Zero is up significantly, and we're all very concerned about it, as are our families.*'

Steve Cassidy, president of the firefighters union, said Ground Zero's '*toxic stew*' has proven lethal.

He said: '*It's a fact that New York City firefighters are dying of cancer in record numbers*."

"*We have buried 10 firefighters in just the last 15 weeks, seven with cancer. On Sept. 10, 2001, they were young, healthy firefighters.*"

In 2007, doctors at Mt. Sinai Medical Center, which monitors World Trade Center rescue workers, noted blood cancers like multiple myeloma, which normally strikes in the 60s or 70s, were being found in relatively young officers. The New York state Health Department has confirmed that 345 Ground Zero workers have died of various cancers as of June 2010.

The New York State Health Department has confirmed that 345 Ground Zero First Responders have died of various cancers as of June 2010.

HUNDREDS OF 911 FIRST RESPONDERS RAPIDLY DIE OF CANCER

New York's emergency services were among the first on the scene of the 911 disaster but put their personal safety in jeopardy. Those involved in the rescue and clean-up operation quickly became national heroes.

But now 85 per cent of them are suffering from rare cancers, sometimes more than one, and lung diseases which they say were caused by the huge clouds of dust. Those people are now calling on the state for medical support. So far the US government has refused to help, as might be expected based on past performance.

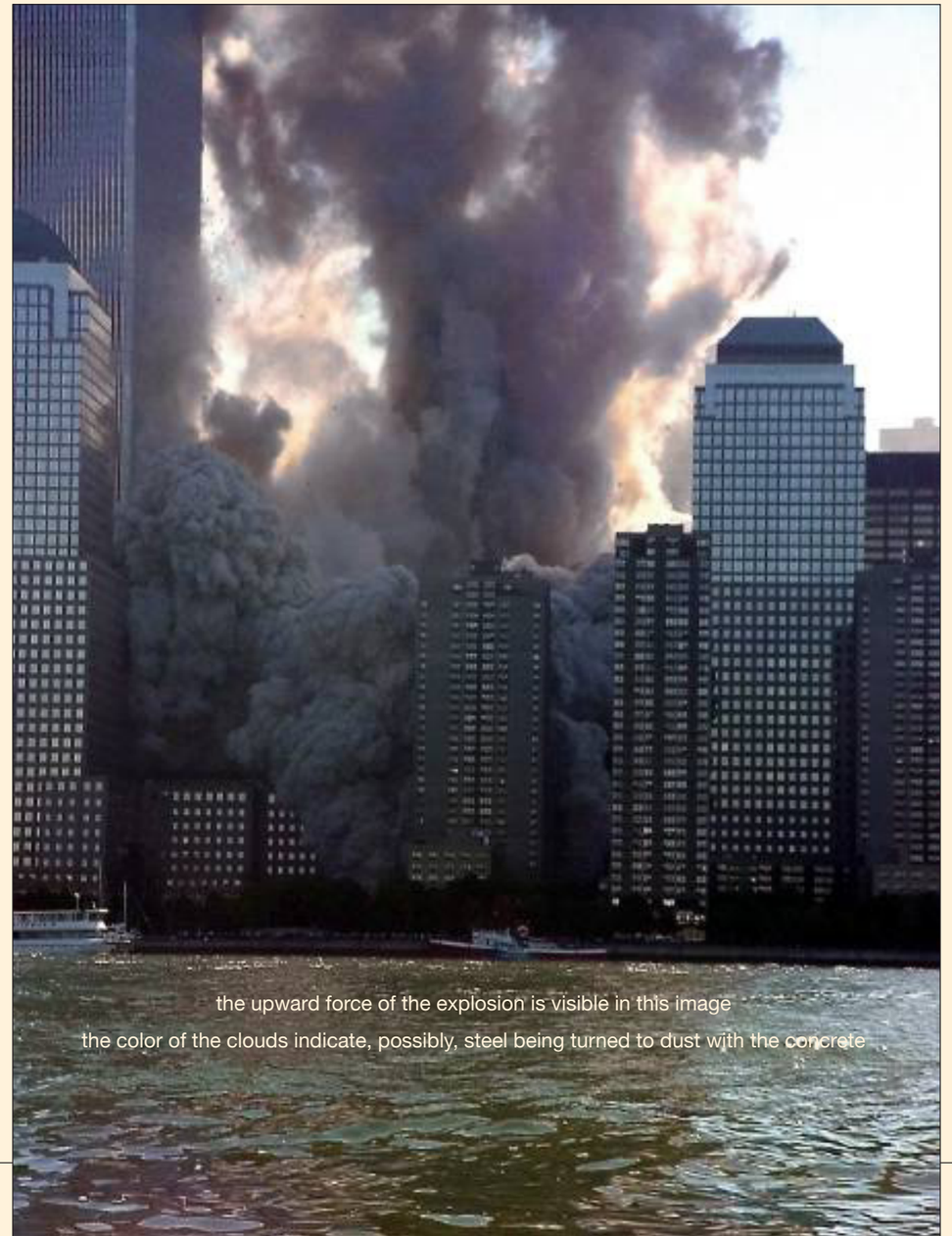
John McNamara is the most recent ground zero first responder to die from cancer. He battled to save lives that day but lost his own battle at aged just 44 – a victim of his own bravery. His courage was commemorated at St. Patrick's cathedral, where McNamara's funeral took place.

Today his son Jack McNamara is still too young to understand his father's actions that day. All he knows is that dad was a firefighter and he's dead.

"*I and the other families of the victims are so devastated that so many of these valiant firefighters who struggled to find my son and to save others are now paying the price*," says Sally Reigenhardt whose son died in the 911 attacks.

City, state and federal officials have not acknowledged a direct link between the cancer cases and ground zero toxins. They will not discuss radiation. Ever. Congress has yet to approve 911 health legislation calling for federal financial coverage of health costs for rescue workers.

John McNamara spent about 500 hours at ground zero aiding in rescue and recovery. Nearly eight years later, the scene here is all about rebuilding. But as the hole in the ground grows smaller the list of 911 related deaths is growing longer and longer.



the upward force of the explosion is visible in this image
the color of the clouds indicate, possibly, steel being turned to dust with the concrete

"*The government pays for these and I pay for these*"

Retired police officer Mike Valentin has had four biopsies for a precancerous tumor in his throat and has to take 15 pills a day. He calls 911 America's Chernobyl.

"*The people that will die from illnesses will surpass the number of people that were killed on 911. I am talking about thousands, tens of thousands of people that will come down with cancers,*" forecasts 911 first responder Valentin.

Valentin says he spent four months digging through debris at ground zero, after US officials announced the air was safe. The father of three, says he spends $15,000 a year on medication the government won't cover and that the US leaders have turned their backs on the heroes they promised never to forget.

"*Our families are not looking to put Mercedes Benz on the front yard. We're not looking to take European trips,*" says Valentin, "*We're looking to take care of our families when we die*."

With the time he has left, Mike Valentin vows to continue fighting for the compensation he believes 911 first responders deserve. Valentin founded a 911 police foundation to help retired first responders in need of medical assistance – among them Patrick Triola who spent months searching the ground zero and then became a victim of kidney cancer.

During those days, Stephen Grossman's son Robert was also aiding in rescue and recovery. He was diagnosed with terminal brain cancer in 2006, at just 39 years old. Today, he remains in a coma.

Cancer deaths, rapid onset rare and various cancers are off the charts. Cancers specific to radiation exposure and the mainstream still fails to acknowledge the most obvious well-known, documented cause for these various rare cancers.

TERMINAL BRAIN CANCER COMA KIDNEY CANCER DEATH FUNERAL TOXINS PLASMA CANCER TUMOR BIOPSY TURN THEIR BACKS ON HEROES CRIMES MURDER

MULTIPLE MYELOMA IN THE GENERAL POPULATION
MULTIPLE MYELOMA IN FIRST RESPONDERS

In the general population Myeloma occurs at the rate of 3-9 incidents per 100,000 people. That rate also occurs 99% of the time in people over 65. Just 1% are under the age of 65 in the general population and the average age of those afflicted is 71.

See: Multiple Myeloma - A CDC Study of K-25 Workers
http://www.cdc.gov/niosh/oerp/pdfs/k25_7-06-09.pdf

In the population of 40,000 First Responders the rate is 1 in 534 people. This means 75 First Responders *(Source: John Feel, Feelgood Foundation, March 1, 2010**) have died from Myeloma. What's more, they have all been between 37 and 60 years of age with most under 55. These are extraordinary figures, unprecedented, and this report confirms why this is happening. Worse, there are approximately 10,000 sick First Responders today and many that have already died have succumbed to not one, not two, but sometimes 3 different rare cancers.

*As of March 1st, 2011, according to a telephone conversation I had with John Feel of the Feelgood Foundation for First Responders there were 1,003 dead First Responders.[JP.]

Multiple Myeloma in First Responders
occurs at an unprecedented rate of over 180 people per 100,000.

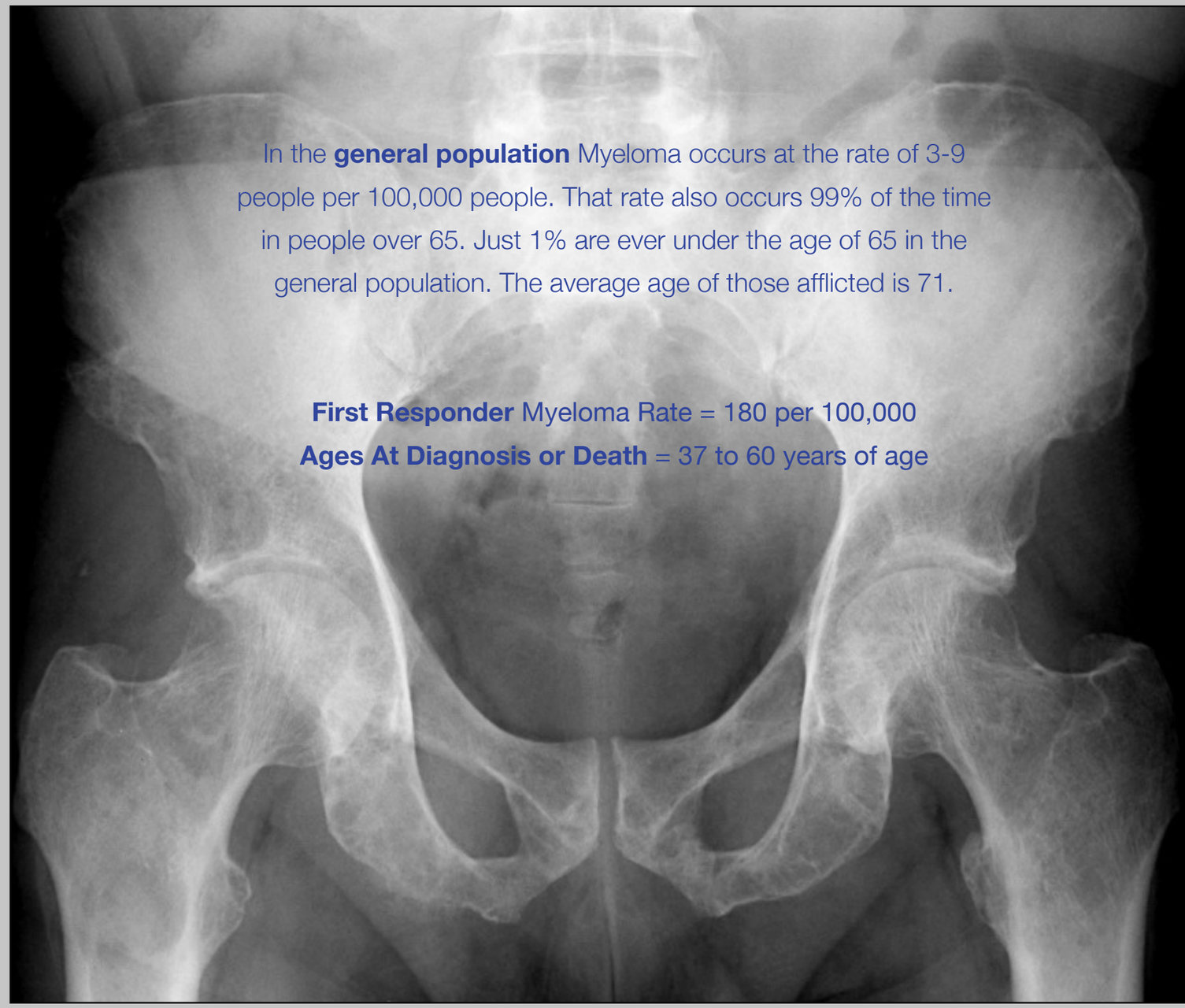
The pelvis (right) contains numerous lytic lesions without reactive sclerosis which have an almost "soap-bubbly" appearance in the ischia. There are also lytic lesions in both proximal femora. This is Multiple Myeloma.

According to the CDC and the Mayo Clinic Staff the exact cause isn't known but doctors do know that multiple myeloma begins with one abnormal plasma cell in your bone marrow — the soft, blood-producing tissue that fills in the center of most of your bones. This abnormal cell then starts to multiply.

We also know that radiation exposure causes a measurable increase in even minimally dosed nuclear workers based on a CDC nuclear industry study on Multiple Myeloma and nuclear workers who were briefly exposed to almost negligible doses, provided with immediate clean-up and/or quarantine and the best care and analysis because they worked within the nuclear industry. Even under these conditions Multiple Myeloma increased a measurable four percent. We also know from vast comprehensive studies of Chernobyl, Hiroshima and Nagasaki.

Because abnormal cancerous cells don't mature and then die as normal cells do, they accumulate, eventually overwhelming the production of healthy cells. In healthy bone marrow, less than 5 percent of the cells are plasma cells. But in people with multiple myeloma, more than 10 percent of the cells may be plasma cells. Because myeloma cells may circulate in low numbers in your blood, they can populate bone marrow in other parts of your body, even far from where they began. That's why the disease is called multiple myeloma. Uncontrolled plasma cell growth can damage bones and surrounding tissue. It can also interfere with your immune system's ability to fight infections by inhibiting your body's production of normal antibodies.

Researchers are studying the DNA of plasma cells to try to understand what changes occur that cause these cells to become cancer cells. Though they haven't yet discovered the cause of these changes, they have found that almost all people with multiple myeloma have genetic abnormalities in their plasma cells that probably contributed to the cancer. Maybe.



Total US Cancer Deaths Per Year = 5.71 per 100,000 people per YEAR

First Responder Cancer Deaths = 862 per 100,000 people in just 6 YEARS

First Responder Cancer Deaths = **86.2** per 100,000 people per YEAR*

The genetic abnormalities associated with multiple myeloma include:

- A defect related to chromosome 14 in which a piece of one chromosome moves to a different chromosome (translocation)
- Extra copies of certain chromosomes (hyperdiploidy)
- An abnormality in which part or all of chromosome 13 is missing

A connection with MGUS

Multiple myeloma (deteriorated “soap-bubbly” appearance in the bones, above and left) almost always starts out as a relatively benign condition called monoclonal gammopathy of undetermined significance (MGUS). In the United States, about 3 percent of people older than age 50 have MGUS. Each year, about 1 percent of people with MGUS develop multiple myeloma or a related cancer. MGUS, like multiple myeloma, is marked by the presence of M proteins — produced by abnormal plasma cells — in your blood. However, in MGUS, no damage to the body occurs.

** The authors use a cohort of 40,000 total First Responders, a total of 345 cancer deaths found printed in multiple credible mainstream sources to reach a total cancer death rate in a cohort of 100,000 (2.5 x 345 = Deaths Per 100k) of 862.5 total deaths rounded to the lowest 100th or 862 even. Over a ten year span that equates to a rate of 86.2 cancer deaths per 100,000 adults which is, considering some of the short periods of rapid cancer growth, unprecedented in any cohort or similarly selected population. The authors use the more conservative estimate based on 40,000 First Responders as opposed to the mainstream’s erroneous use of ‘10,000’ when describing the First Responders. While our use of 40,000 as the First Responder cohort produces more conservative results, the results are unprecedented nevertheless. * Based on a 6 year period of a 40,000 cohort.

This Is What First Responders Experience:

A building (left) impaled by a massive ejection of Twin Tower structure

Possible causes of multiple myeloma in first responders

We do not know what causes Multiple Myeloma except that we do know, based on CDC studies, that radiation increases the risk and does cause Multiple Myeloma in even minimally irradiated Nuclear Industry employees. Multiple myeloma is not contagious. Most people who develop multiple myeloma have no clearly identifiable risk factors for the disease except for nuclear industry workers exposed to radiation. *First Responders that have died from Multiple Myeloma were between 37 and 60 years of age.

See: Multiple Myeloma - A study of K-25 workers - http://www.cdc.gov/niosh/oerp/pdfs/k25_7-06-09.pdf

Some factors that may increase your risk of multiple myeloma include:

• Age. *The majority of people who develop multiple myeloma are **older than 50, with most diagnosed in their mid-60s. Few cases occur in people younger than 40.**
• Sex. Men are more likely to develop the disease than are women.
• Race. Blacks are about twice as likely to develop multiple myeloma as are whites.
• History of a monoclonal gammopathy of undetermined significance (MGUS). Every year 1 percent of the people with MGUS in the United States develop multiple myeloma.
• Obesity. Your risk of multiple myeloma is increased if you're overweight or obese.

Other factors that may increase your risk of developing multiple myeloma include **exposure to radiation** and working in petroleum-related industries. Multiple myeloma is cancer of the plasma cells in bone marrow

Possible causes, incidence, and risk factors

Plasma cells help your body fight infection by producing proteins called antibodies. In multiple myeloma, plasma cells grow out of control in the bone marrow and form tumors in the areas of solid bone. The growth of these bone tumors makes it harder for the bone marrow to make healthy blood cells and platelets. Multiple myeloma mainly affects older adults. Past treatment with radiation therapy raises your risk for this type of cancer.

First responder symptoms

Multiple myeloma causes anemia, which makes a person more likely to get infections and have abnormal bleeding. As the cancer cells grow in the bone marrow, bone or back pain, most often in the ribs or back.

If the bones in the spine are affected, it can put pressure on the nerves, resulting in numbness or weakness of the arms or legs.

Other symptoms include:

• Bleeding problems
• Fatigue due to anemia
• Fevers without any other cause
• Shortness of breath due to anemia
• Unexplained broken bones

First responder signs and tests

Blood tests can help diagnose this disease. They may include:

• Blood tests to check calcium level, total protein level, and kidney function
• Complete blood count (CBC)
• Blood and urine tests to check to identify proteins, or antibodies (immunofixation)
• Blood tests to quickly and accurately measure the specific level of certain proteins called immunoglobulins (nephelometry)
• Bone x-rays may show fractures or hollowed out areas of bone.
If your doctor suspects this type of cancer, a bone marrow biopsy will be performed.
• Bone density testing may show bone loss.

First responder treatment

The goal of treatment is to relieve symptoms, avoid complications, and prolong life.
People who have mild disease or where the diagnosis is not certain are usually carefully watched without treatment. Some people have a slow-developing form of multiple myeloma that takes years to cause symptoms. **First Responders** are experiencing rapid onset.

Medications for the treatment of multiple myeloma include:

• Dexamethasone, melphalan, cyclophosphamide, doxil, thalidomide, lenalidomide (Revlimid), and bortezomib
• (Velcade) can be used alone or combined together.
• Bisphosphonates (pamidronate) to reduce bone pain and prevent fractures.
• Radiation therapy may be done to relieve bone pain or treat a bone tumor.

Two types of bone marrow transplantation may be tried:

• Autologous bone marrow or stem cell transplantation makes use of one's own stem cells. In younger patients, it has been shown to increase survival.
• Allogeneic transplant makes use of someone else's stem cells. This treatment carries serious risks but offers the chance of a cure.
• People with multiple myeloma should drink plenty of fluids to prevent dehydration and help maintain proper kidney function. They should also be cautious when having x-ray tests that use contrast dye.

First responder expectations (prognosis)

Survival of people with multiple myeloma depends on the patient's age and the stage of disease. Some cases are very aggressive, while others take years to get worse. Over 75 First Responders have died from Multiple Myeloma. Chemotherapy and transplants rarely lead to a permanent cure.

Normal complications

• Kidney failure is a frequent complication. Other complications may include:
• Bone fractures
• High levels of calcium in the blood, which can be very dangerous
• Increased chances for infection (especially pneumonia)
• Paralysis from tumor or spinal cord compression

FDNY STUDY CONFIRMS RAPID RISE IN CANCER AFTER 911

A city official for the first time is revealing a rise in cancer among firefighters who served at Ground Zero. Dr. David Prezant, the Fire Department's chief medical officer, has found that firefighters who dug for victims at the World Trade Center are getting cancer at a higher rate than firefighters before 911 – and some types of cancer are "***bizarrely off the charts***," say sources briefed on the seven-year, federally funded study. Prezant discussed the findings with members of a WTC medical-monitoring committee last month, several attendees said. He has not yet disclosed the data, but sources say he has cited unusual rises in three blood cancers – leukemia, non-Hodgkin's lymphoma and multiple myeloma – as well as esophageal, prostate and thyroid cancers.

The bombshell report, planned for publication around the 10th anniversary of 911, would be the first to document a cancer-rate increase among rescue and recovery workers.

The city recently settled lawsuits by 10,000 WTC workers, more than 600 with cancer.

But officials have so far insisted there is no scientific proof that Ground Zero smoke and dust caused cancer. An FDNY spokesman gave a statement for Prezant, saying, "*The study is ongoing, and no conclusions have been reached on whether cancer rates have increased for firefighters.*"

But three who attended the March 2 steering-committee meeting told The Post that Prezant reported otherwise.

"*The only conclusion that could have been reached was that there was an increase in the cancer rate for firefighters after 911*," one said.

Minutes of the meeting quote Prezant as saying that "*we have completed our seven-year cancer study*" and that he planned to present it to the fire unions, FDNY brass and Mayor Bloomberg's office. A doctor from the National Institute for Occupational Safety and Health asked Prezant, "*In the past, you mentioned about the rates before being somewhat similar – what led to the change that you noted the increase?*" Prezant said researchers have compiled medical records for three years and had access to state cancer registries, though New York's is three years behind. "*Those things keep adding cases*," he told the group.

Al Hagan, head of the fire-officers union, said he's alarmed.

"*I'm led to believe that the numbers for those cancers across all ranks in the Fire Department of people who worked at Ground Zero is up significantly, and we're all very concerned about it, as are our families*," he said.

Steve Cassidy, president of the firefighters union, said Ground Zero's "*toxic stew*" has proven lethal.

"It's a fact that New York City firefighters are dying of cancer in record numbers," he said. "*We have buried 10 firefighters in just the last 15 weeks, seven with cancer. On Sept. 10, 2001, they were young, healthy firefighters*."

FDNY Lt. Randy Wiebicke of Ladder Co. 1, who raced to the Twin Towers after the attacks, died March 2 from an aggressive form of multiple myeloma.

"*I've seen so many firemen and cops at the hospital,*" said his widow, Madeline. She said Wiebicke worked nonstop the first few days on the WTC pile and at least two 24-hour shifts a week for months. "*He came home with his gear, car and everything covered in gray dust,*" she recalled. The answers are in the dust.

In 2007, doctors at Mt. Sinai Medical Center, which monitors WTC responders other than FDNY, noted blood cancers like multiple myeloma, which normally strikes in the 60s or 70s, among relatively young cops.

The state Health Department has confirmed that 345 Ground Zero workers have died of various cancers as of June, 2010, almost two years ago.

THE GRIM TOLL

The following figures are under-reported and have increased measurably since June, 2010

The state Health Department is studying 345 cancer deaths of 911 responders as of June 2010. A breakdown of the most common cancers and the number of deaths attributed to them according to the State Health Department, which are almost 2 years old as of this writing, are what we have for now:

• Digestive organs (esophageal, stomach, colon, liver, pancreas):	97 deaths
• Respiratory (lung, larynx):	96 deaths
• Blood cell (non-Hodgkin's lymphoma, multiple myeloma, leukemia):	49 deaths
• Urinary tract:	19 deaths
• Brain:	18 deaths
• *Cancers Not Listed*	*66 deaths*
• Total Cancer Deaths studied June 2010	345 deaths

The
State Health Department
is studying

345 cancer deaths
of
911 FIRST RESPONDERS
as of
June 2010
(as of two years ago)

and
there were
and there are
many more to come

Building 6 - The One That's Never Discussed

THE MAINSTREAM INVESTIGATES THYROID CANCER

(New York, NY) – Health officials are investigating whether toxic conditions at Ground Zero may have triggered a wave of thyroid cancer cases among 911 rescue and recovery workers. The disease affects the thyroid gland at the base of the neck.

The "*New York Post*" reports the WTC Medical Monitoring and Treatment Program has started contacting 911 responders who have been diagnosed with thyroid cancer.

Doctors are already looking into the high incidence of certain blood cancers in patients who worked at the former World Trade Center site, but it's believed this is the first such probe to focus on a tumor cancer. Court papers filed in February 2009 as part of a case brought against New York City by ten-thousand rescue and recovery workers cited 51 cases of thyroid cancer, making it the seventh most common type of cancer claimed by 911 responders.

From Susan Edelman at the New York Post

Doctors have begun probing whether 911 rescue and recovery work at toxic Ground Zero triggered thyroid cancer – apparently the first tumor cancer to come under close scrutiny, The Post has learned. The WTC Medical Monitoring and Treatment Program is contacting Ground Zero responders who came down with the disease. The thyroid is a gland at the base of the neck. NYPD cop Reggie Hilaire, 39, and retired FDNY firefighter Kenny Specht, 41, both diagnosed with thyroid cancer, hailed the study, saying the cases among WTC workers are alarming. "*It's a small victory*," Hilaire said.

Reggie Hilaire *(right)* stands outside the Memorial Sloan Kettering Cancer Center in Manhattan. Hilaire, who clocked hundreds of hours at Fresh Kills and Ground Zero as a rookie cop in the months following 911,

has been diagnosed with multiple myeloma after recovering from thyroid cancer last year.

Thyroid cancer is the seventh most common of cancers claimed by 10,000 cops, firefighters, hard hats and others suing the city, according to a court report in February 2009. It listed 51 cases. It strikes mostly women. The National Cancer Institute puts the incidence rate at 4.3 per 100,000 men. City defense lawyer James Tyrrell urged caution. "*Based on the current medical literature, we do not know of a connection between 911 exposure and thyroid cancer. We hope they consider all relevant factors, including prior medical history,*" he said.

A spokesman for the WTC program said, "*We are closely monitoring the health of all the 911 responders using state-of-the art statistical instruments for all forms of disease, including cancer and thyroid cancer.*"

In 2007, doctors noted blood cancers like multiple myeloma among unusually young 911 responders, including Hilaire, who suffered it after thyroid cancer. But no discussion about radiation. none.

10,000 First Responders*

Cited

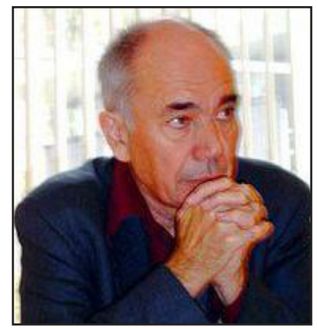
51 Cases

Of Thyroid Cancer

Equivalent To A Rate Of

510 per 100,000*

Keith Baverstock (*right*), long-time head of the Department for Radiation and Health of the World Health Organization states on Chernobyl:



"*My main criticism is that the study claims to close the case on Chernobyl. But only 20 years have passed so far. This period of time is much too short to make final conclusions. Just consider that twenty years after the atomic bombing of Japan, we only knew that leukemia was a consequence of radiation. 24 years later we saw the rise in other types of cancer and 45 years later we saw the non-cancer diseases (heart disease, etc.) appear.*"

At this point the reader should consider very seriously the numbers of unexplained and rapid increases of very rare cancers and deaths in our First Responders, all of which are normally associated with radiation exposure when taken ***together***.

* The publishers of this report prefer to use the high estimate 40,000 cohort of First Responders in all studies, as opposed to the 10,000 quoted here, so our analysis concludes that the equivalent of 127 per 100,000, not 510 per 100,000 cases, are still seen as far in excess of what would be normal. The statistics above are based on mainstream reporting using the approximately 10,000 currently sick First Responders that were associated with the Zadroga Bill when it was being debated. The true total cohort of First Responders is closer to 40,000 and that's the estimate we prefer to use. It still, nevertheless, produces an unprecedented incidence of rare cancers including lymphomas, leukemias and myelomas along with organ and various system cancers.

CANCER-STRICKEN WTC WORKER GETS $0 SETTLEMENT CHECK

No, OI didn't believe this. But it's true. Cancer-stricken Ground Zero worker Edgar Galvis has finally received a compensation check -- for zero dollars. They don't care about the dead and dying. Don't you get it yet?

The 51-year-old Queens man, who suffered sinus problems and then throat cancer after months of removing toxic debris from the World Financial Center, was relieved to get a check in the mail for his court settlement with Merrill Lynch, whose offices he had cleaned. But he was stunned when he saw the amount: $0.00.

His award had been $10,005, but his lawyers at the firm Worby, Groner, Edelman & Napoli Bern lopped off $2,579 for un-itemized legal expenses. Then they took a 33.3 percent fee of $2,124. They also subtracted $352, a fee to the lawyer who referred him. The remaining $4,950 was withheld for unspecified and unexplained "*liens,*" the letter says. Galvis thinks this was repayment of workers' compensation for aid.

"*I have hit rock bottom*," said Galvis, who is jobless and $30,000 in debt. "*I was expecting a check, and you can imagine how I felt when I opened it. I couldn't believe it. I thought it was a joke*."

The father of two, who lives in Glendale with his fiancée and her two kids, said he had to sell his car and relies on relatives for rent. "*I get collection agencies whenever I open the mail. What little credit I had I don't have anymore,*" he said. Bleed 'em dry.

Galvis said he arrived in New York from Bogota, Colombia, in February 2001. Hired by contractors clearing dust and rubble from Merrill Lynch offices next to Ground Zero, Galvis said he toiled 16 hours a day for six months in a jumpsuit and paper mask that would tear when he sweated. At $8 an hour, he made close to $800 a week.

In May 2005, a friend gave him a business card passed out by the law firm. A representative came to his home.

"*The man told me that more than likely I will get sick and I would get 60 percent of whatever he won*," Galvis said. "*He even mentioned the words 'millions of dollars.'* "

In April 2010, he got a $10,000 offer. A letter from the law firm said he could expect about $5,000 after expenses and fees. It warned that if his case went to trial and he lost, he could owe the firm up to $100,000 in costs. He took the settlement.

His claim cited chronic rhinosinusitis and sleep disorders. He was diagnosed with throat cancer last August and began chemotherapy and radiation. But it was "*too late*" to adjust his claim. "*It was our pleasure to represent you in this matter*," the law firm says in a note that arrived with the zero-dollar check. It was no pleasure for Galvis.

"*I think they are taking advantage of the ignorance of people such as myself,*" he said. The total Merrill settlement came to $18 million for about 400 clients, documents show. Galvis is one of nearly 10,000 Ground Zero workers represented by Napoli Bern, which led talks for a separate settlement with the city for $712 million. Anger is also stirring among those clients, who have started getting checks for 40 percent of their total awards. Several told The Post the payouts were less than those estimated by Napoli Bern. Some said they felt duped. Attorney Paul Napoli wrote in an e-mail that Edgar Galvis had already received "*tens of thousands of dollars*" in other claims involving his work at the Merrill Lynch offices in the World Financial Center.

Galvis "*is also eligible for settlements from other buildings [near the trade center] that he worked in that have not even begun to roll in,*" Napoli added. But Galvis said that "*never in my life, ever, have I gotten any money from Napoli" —* other than a check that started at $10,005 but that was made out for $0.00 after various deductions. "*This is the only check I've gotten from them*," he said. "*I never got a single dollar.*"

Cancer Type - *Chart Does Not Include All Cancers*	Firefighters At Ground Zero	Firefighters Not At Ground Zero
CANCER	ACTUAL CASES	ACTUAL CASES
All types	263	135
Prostate	90	45
Melanoma	33	15
Colon	21	9
Non-Hodgkin lymphoma	21	9
Lung	9	8

In Pink are Firefighters that spent at least one day at Ground Zero between September 11th, 2001 and July 25th, 2002 when the site officially closed and in Green are Firefighters that did not spend any time at all at Ground Zero. The chart covers a period of seven years from the end of 2001 through 2008.

EDGAR GALVIS GETS TO $0 (ZERO, NADA, NOTHING):

I Thought It Was A Joke ...

Edgar Galvis, a Ground Zero worker who has throat cancer, holds the settlement check he got from a law firm. This is how we take care of our First Responders that have been stricken with deadly cancers. "*I have hit rock bottom,*" said Galvis, who is jobless and $30,000 in debt. "*I was expecting a check, and you can imagine how I felt when I opened it. I couldn't believe it. I thought it was a joke*."

911 First Responders Death Toll Passes 1,000

March 1st, 2011 – As the death toll of first responders surpasses 1,000 (*1,003 as of March 1st, 2011 according to John Feel at the FeelGood Foundation in NYC. This may differ from official figures*), local politicians are demanding that autopsy standards be developed to pinpoint the causes. The number of Ground Zero first responders has risen past 1,000 to date, yet oddly no one knows what really killed them, or no one is willing to say.

A film documentary, Dust To Dust—The health effects of 9/11, made by Heidi Dehncke-Fisher, provides the backdrop and necessary data to understand the second round of the ongoing 911 slaughter-fest.

Here's a "*short list*" of some of the 2,500 deadly contaminants that erupted from the explosion of the World Trade Center Towers, that is, all of the towers; being towers 1, 2, 3, 4, 5, 6, 7, plus two fuel-laden jetliners that all turned into a toxic gray dust that hung in the air, as well as settled in people's lungs, on area streets, vehicles, buildings, residences, both outside and inside the city for months ... from the film:

- Over 400 tons of asbestos, which once inhaled in any quantity cannot be expelled by the lungs.
- 90,000 liters of jet fuel containing benzene, toluene and other carcinogens that suppresses the immune system and causes leukemia.
- Mercury from over 500,000 fluorescent lights that is toxic to the nervous system, and damaging especially to the kidneys.
- 200,000 pounds of lead and cadmium from personal computers, toxic to the respiratory system and especially damaging to kidneys.
- Polycystic aromatic hydrocarbons (plastics burning) that cause lung, laryngeal and throat cancers from 1000s of tons of various types of petroleum based plastics.
- 130,000 gallons of transformer oil with PCBs, causing serious skin rashes and liver damage.
- Crystalline Silica from 420,000 tons of concrete, sheetrock and glass (tiny particulates that lodge in the heart, causing ischemic heart disease).
- An unknown amount of vaporized structural steel and other metal components.
- 4 Acres of Marble.
- And then there's the highly elevated uranium, tritium, zinc, vanadium, thorium, beryllium, and dozens of other harmful elements in anomalous amounts.

Chemist Kevin Ryan cites energetic materials as a potential cause of 911 First Responders' Illnesses. Dr. Neils Harrit posits that a minimum of 29,000 metric tons to a maximum of 144,000 metric tons were used to reduce the towers to dust centered on his analysis of the dust found by Dr. Stephen Jones. This will be discussed in more detail later but the calculation for a low of 29,000 one metric ton boxes loaded and unloaded comes to 1,500 tractor trailer loads with a crew working 24 hours a day, seven days a week, unloading a one-ton crate every 15 minutes from truck to final destination = 97 days. Working a normal eight-hour day would require almost 300 days. JUST to unload the material. This energetic compound theory presents inadequacies and frailties.

Is it surprising to anyone that the this toxic brew could trigger nearly 1,000 deaths? Look at the list of illnesses and organs they affect: the lungs, the immune system, the respiratory system, the kidneys, laryngeal and throat areas, the skin, the heart, the vital organs and most of all, our blood and our plasma. It's important, also, to remember we've had people exposed to almost all of these elements before and many in combination so we also understand that none of these chemicals could lead to *rapid cancer* onsets in the particular cancer groups we see accompanied by swift deaths in such short spans of time. Sometimes they die from two or three deadly cancers at the same time. One First Responder finally rid his body of Thyroid cancer only to come down with Multiple Myeloma.

"*The air is safe to breathe*" is one of the 21st centuries most famous outright criminal frauds on American society.

Dr. David Prezant,

NYC the Fire Department's

chief medical officer has cited

Unusual rises

in **three RARE blood cancers**

- leukemia,
- non-Hodgkin's Lymphoma
- multiple myeloma

as well as esophageal, prostate & thyroid cancers

they've been described as,

"bizarrely off the charts"

It didn't help either that then-Mayor Giuliani rushed the GZ crews to work round the clock with only paper masks, not real respirators. In fact, there was no encouragement to use either, and the first responders often worked without either. Despite the fact that Giuliani had two and a half years to get this project done, it was completed in eight months, and at what cost: to destroy the most important crime scene of the greatest crime committed in global history; and to help sicken thousands of First Responders while dooming them all to an early death and to also kill a thousand or more with great immediacy. Get Wall Street open at all costs!

Add to that, Christine Todd Whitman, the EPA administrator, at the time constantly told New York and the world there was "*no reason for the general public to be concerned.*" Perhaps now she realizes there was a great deal of reason to be concerned. Of course, warnings had come from Dr. Stephen Levin, head of the Mount Sinai Center for Occupational and Environmental Medicine. He had told of how he and his colleagues could see early on that these people were being exposed to cancer-causing materials that would end in disaster, even as Whitman reassured everyone that we were "*Not getting elevated levels causing concern.*"

In fact, by September 13, 2001, the inadequate ambient air samples led the EPA to claim the air was "*Below levels of concern*." Yet, many contaminants had simply not been tested for. The EPA ombudsman, said, "*You can't find what you don't look for*." So we know where the EPA stands, old news as we pass the tenth anniversary of 911 and the living survivors are battling for their lives while over 1,000 of them have lost that misery filled battle. And that same misery *never* ends for the fatherless families left behind.

Also, Michael Brown, who was deputy director of FEMA at the time, consistently told New York and the world there was "*No reason for the general public to be concerned.*" Of course, former President Bush, V.P. Dick Cheney, and Secretary of State Colin Powell appeared without facemasks, briefly, to make sure no one asked for one. Talk about role models. Former President Bush's head of the White House Environmental Council, James Connaugton, previously represented large corporations like ARCO in disputes about cleaning up toxic waste sites. Adding insult to injury, he had formerly worked against the EPA, such as it was.

But as early as September 14, 2001, the EPA started reading out "*samples [that] showed levels of asbestos ranging from 2.1% to 3.3% ...*" The EPA had already conceded back then that a 1 percent level could be defined as an asbestos-contaminating material. The difference between 1 percent and 3.3 percent was serious enough, as time has shown, to hurt or kill people, especially given repeated exposure. So any numbers games here were criminal.

In contrast, the first responders working at the Pentagon site in Washington, D.C., had to wear respirators to go to work at the disaster site, absolutely, no questions asked. But in NYC, we had to get Wall Street working again, so the money came first. Lives were expendable.

"*It was heart-rending*," said Joe Zadroga, who watched his NYPD officer son, James, for whom the bill is named, slowly deteriorate from his scarred lungs until he died in 2007.

Relatives and friends know in their hearts what really killed the hero in their family - even if health officials refuse to recognize it. The city later relented, but Zadroga is one of only a handful of people whose death has been officially linked to the toxins of the ruined twin towers. "*I mean, we knew what he died from. We dealt with it for four years,*" Zadroga added.

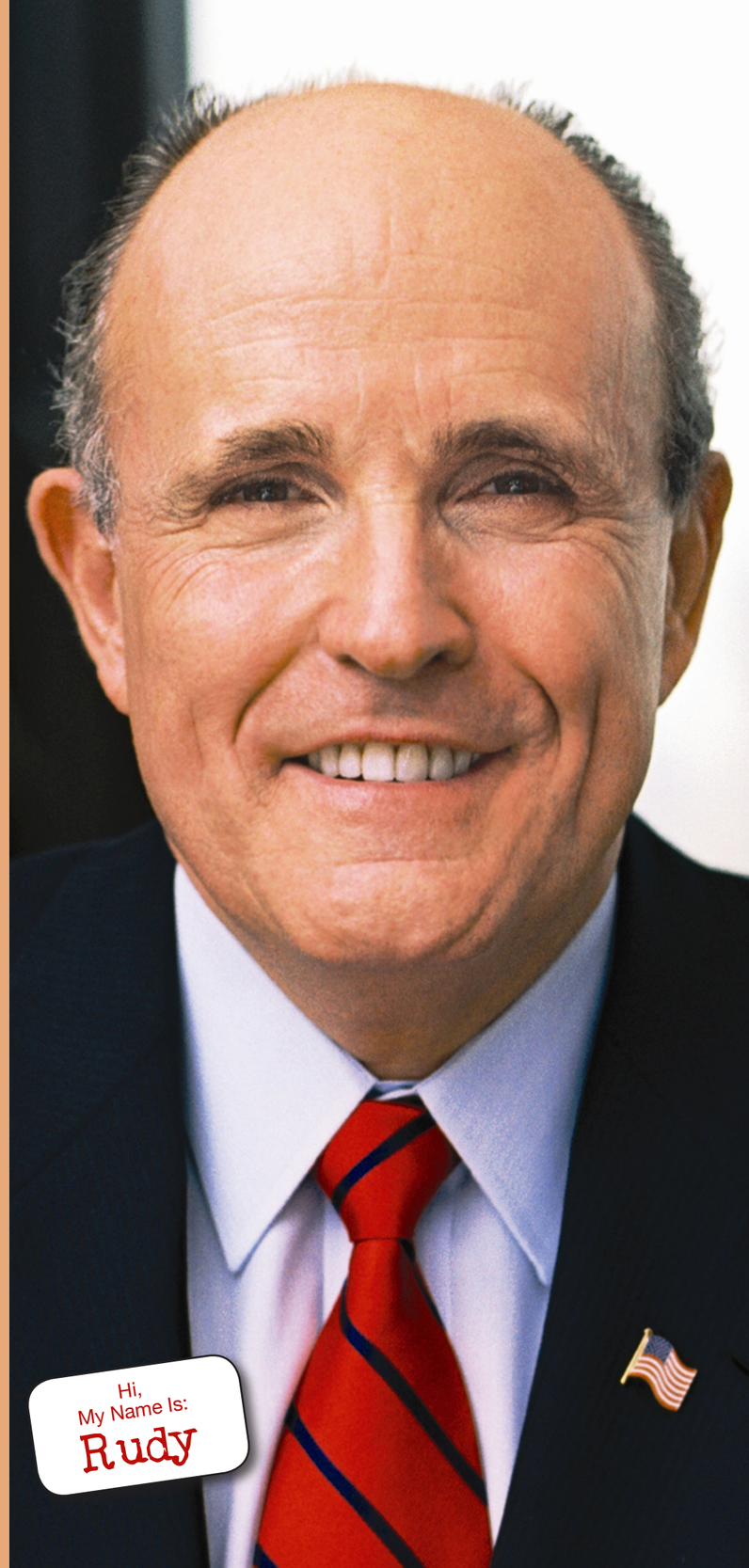
A medical examiner in New Jersey had ruled James Zadroga died from 911 exposure, only to have the city declare - for a time - that drug abuse killed him.

Reps. Jerry Naddler (D-Manhattan), (Pete King, R-L.I.) and Carolyn Malone (D-Manhattan) wrote in a letter to the feds, "*In a study released in June last year, state officials identified 836 responders who have died since 911. Advocates know of at least 80 more, and doctors believe the total will be well over 1,000 in the next survey this year.*"

"*We do not know to what extent WTC exposures contributed to their deaths, or whether their deaths were unrelated,*" the lawmakers wrote, seeking a set of guidelines. Frankly, unless those responders were hit by a bus, or obviously playing sick, I don't see how WTC exposures could be unrelated. So let's be real. If autopsies can help doctors understand Ground Zero illnesses in any way, they should be undertaken. Let's not worry about the so-called, cost-cutting Congress. Let them cut their expense accounts, their limos, or their health care.

Zadroga added, "*Most of these guys who are dying are dying from lung conditions and cancers. My son's lungs were like leather*."

And so it goes: always enough money for war, never enough for its victims. The Zadroga bill was originally budgeted at $7.4 billion for the 10,000 or more currently sick victims of the 40,000 total potential victim First Responders. Of course it does not cover cancer.



GIULIANI WARNED

Mayor Giuliani Had Privileged Warning Of Collapse

Warnings of the imminent collapse of the South Tower are inherently suspicious given how unexpected that entire event was. Three buildings experienced total failure and collapse on the same day.

- No skyscraper in the world had ever collapsed for any reason, other than controlled demolition.
- Later revisions notwithstanding, the collapse took almost everyone by surprise.
- Firefighters and emergency workers did not receive warnings.

Such warnings indicate foreknowledge, whether or not one believes any of the official theories of the collapses of the Twin Towers.

RUDY'S WARNING

Rudolph Giuliani, mayor of New York City on 911, has stated that he was at the base of the Twin Towers just minutes before the explosive collapse of the South Tower and then went to 75 Barclay Street where he had a makeshift command center.

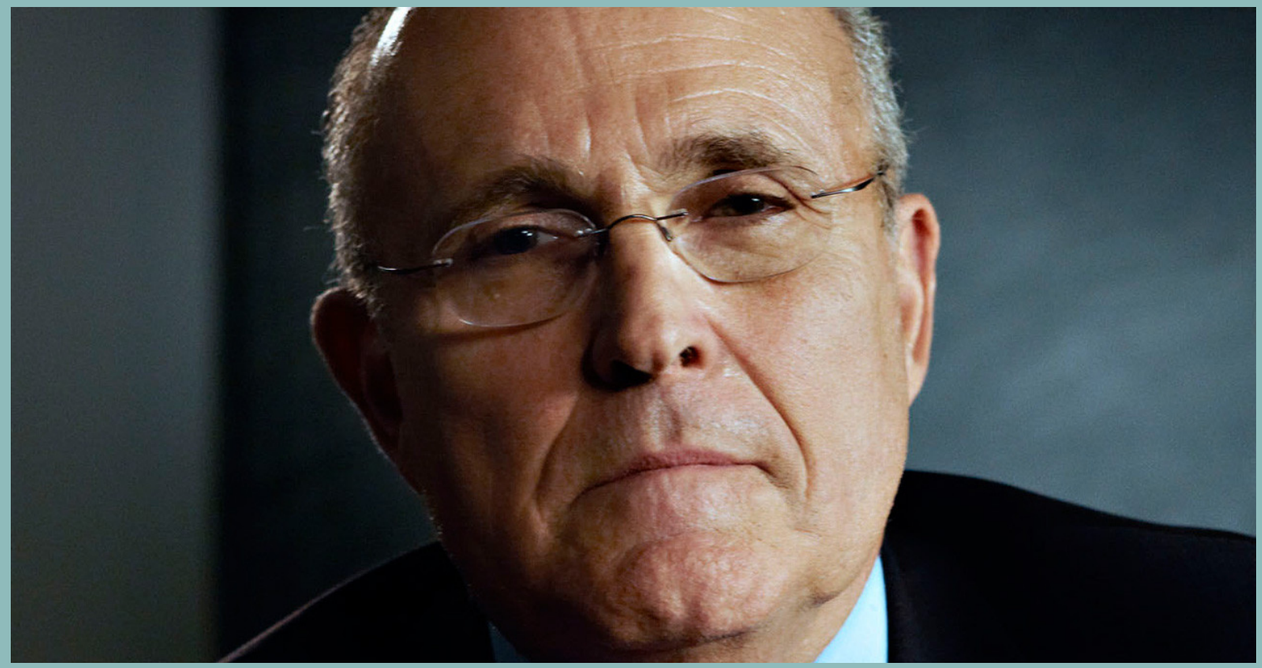
QUESTION: *Mr. Mayor, just to clarify something that Mr. Kerik said you were about 10 minutes past when you were standing with several of the high ranking officers who you lost and then you went to Barkley [sic] Street, have you thought about that 10 minute gap, how you were 10 minutes from being in a horrible situation?*

GIULIANI: *I haven't had a chance to think about it.*

QUESTION: *Then that could of evacuate the 10--you would have been with them 10 minutes earlier before the building collapsed?*

GIULIANI: *Some of the people that we lost we saw like Father Judge and Chief Gansy and Bill Fehan, we saw them about 10 minutes before - before we went over to 75 Barkley [sic] street. And I talked to their families and I explained to them that they were working very hard and they were working at what they loved to do. And I'm sure their efforts will end up having saved other lives and their families can be very proud of them.*

In an ABC News interview, Giuliani states that he was "*told that the World Trade Center was gonna' collapse*," and that it did collapse, referring to the 9:59 destruction of the South Towers, and implies that the warning was not well in advance of the event. "*I ... I went down to the scene and we set up a headquarters at 75 Barkley Street, which was right there with the Police Commissioner, the Fire Commissioner, the Head of Emergency Management, and we were operating out of there when we were told that the World Trade Center was gonna' collapse. And it did collapse before we could actually get out of the building, so we were trapped in the building for 10, 15 minutes, and finally found an exit, got out, walked north, and took a lot of people with us.*"



THE OEM

Who warned Giuliani? To my knowledge, no reporter working for any mainstream media organization has put that question to Giuliani. However there are passages from the Oral Histories of emergency responders that shed light on the question. The account of Richard Zarillo contains the following:

"*As I was walking towards the Fire command post, I found Steve Mosiello. I said, Steve, where's the boss? I have to give him a message. He said, well, what's the message? I said the buildings are going to collapse; we need to evac everybody out. With a very confused look he said who told you that? I said I was just with John at OEM. OEM says the buildings are going to collapse; we need to get out.*"

"*He escorted me over to Chief Ganci. He said, hey, Pete, we got a message that the buildings are going to collapse. His reply was who the fuck told you that? Then Steve brought me in and with Chief Ganci, Commissioner Feehan, Steve, I believe Chief Turi was initially there, I said, listen, I was just at OEM. The message I was given was that the buildings are going to collapse; we need to get our people out. At that moment, this thunderous, rolling roar came down and that's when the building came down, the first tower came down.*"

Although Zarillo describes being directly questioned, both by Fire Marshal Steven Mosiello and by Chief Peter Ganci, about who told him that the buildings were going to collapse, he does not clarify the source of the message beyond the OEM (Office of Emergency Management), where he was "*just with John.*"

Steven Mosiello's account corroborates Zarillo's:

"*At that point I don't know exactly when the Commissioner and Mayor had left. It was pretty soon after they had left that Richie Zarillo, who works with EMS -- I believe he's an OEM liaison -- came running up to me. I was not on the ramp at this time. I was like almost at the sidewalk location.*"

"*He said Steve, where's the Chief? I have to tell him, you know -- I said tell him what, Richie? These buildings are in imminent danger of collapse. I said how do you know that, you know? So he ran with me. I ran over and grabbed Chief Ganci and said Chief, these buildings are in imminent danger of collapse. He looked up at me.*"

Source:

Text: Giuliani on Rescue Efforts, WashingtonPost.com, 9/12/01 [cached]
World Trade Center Task Force Interview: EMT Richard Zarrillo, New York Times, 10/25/01
World Trade Center Task Force Interview: Fire Marshal Steven Mosiello, New York Times, 10/23/01

Thyroid Cancer

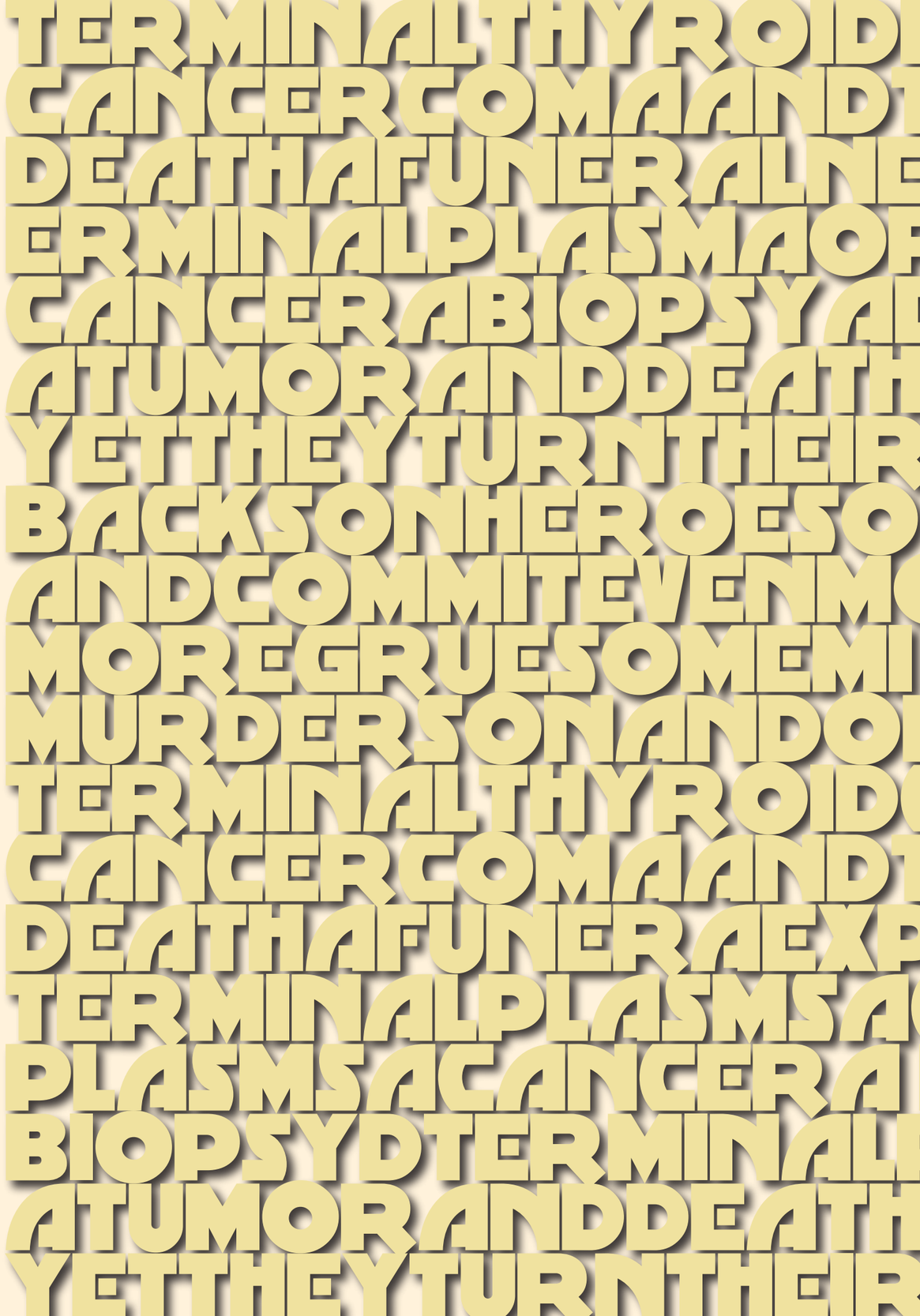
Lee, Hur and Ahn[1] stated that thyroid malignancy is said to be an infrequent occurrence found in 0.5 to 3 patients per 100,000 in the general population. They noted that in a subgroup of patients booked for mammography, a thyroid ultrasound was also performed. In this group, they found thyroid malignancy frequency was as high as 3 per 100,000. It is not known if their subgroup was at a higher risk for malignancy. Mittelstaedt[2] in the Globe and Mail states that thyroid malignancy was 15 per 100,000 yet the 40,000 cohort of First Responders cite 51 cases of thyroid cancer.

That's 127 cases per 100,000 people.

This could also be considered an increase to
20.32 cases per 100,000 per year based on the 6 year reporting period (2001-2007)

1. Lee HK, Hur MH, Ahn SM. Diagnosis Of Occult Thyroid Carcinoma By Ultrasonography – Yonsei Medical Journal, December, 2003.

2. Mittelstaedt, Martin. Globe and Mail, Toronto 2006 September 12 , quoting Cancer Care Ontario publication August 2001 Cancer in Ontario Young Adults (20-44 years old).



HARD EVIDENCE OF EPA KNOWN HEALTH EFFECTS AND THEIR ALREADY KNOWN CRIMINAL RESPONSE

As the events unfolded and as doctors and hospitals began seeing health effects in their patients, they began to see a need to mount studies. Unfortunately, though, many of these researchers had to delay their studies until funding could be secured, CRS notes. So there may have been missed opportunities for data, as a result.

According to Congressman Nadler, the agencies' lack of attention to indoor hazards loomed as a very real problem. Nadler claimed that it was absurd that the EPA claimed publicly that it didn't have the legal authority to do necessary environmental tests and remediation in response to the World Trade Center attacks when it has clearly done residential work throughout the country, said Congressman Nadler. "*Why is New York being treated differently?*"

His congressional hearings spurred an avalanche of new information about the Towers' collapse. Or did they? The EPA's Ombudsman's office launched an investigation into the actions and response of the agency around the World Trade Center. And the St. Louis Dispatch, in an article February 9, 2002, unleashed a bombshell when it reported that the U.S. Geological Survey had a "*team testing the particulate dust covering the immediate area [of the World Trade Center. They] found that some of the dust was as caustic as liquid drain cleaner and alerted all government agencies involved in the emergency response.*" The article reported that USGS officials are unclear as to why the EPA didn't release the information.
Source: http://pubs.usgs.gov/fs/fs-0050-02/fs-050-02_508.pdf

"*With its world-class laboratories and sensors that can detect minerals on a distant planet, the Denver-based team was already making arrangements to get NASA's infrared sensors and aircraft over ground zero as the EPA and the U.S. Public Health Service requested its help*," wrote Schneider. "*Responding to requests from the White House science office, the NASA team flew over Manhattan four times between Sept. 16 and Sept. 23, while USGS scientists collected samples of the dust from 35 locations below.*"

The towers' collapse spewed enormous amounts of potentially lethal, extremely tiny particles of crushed and incinerated computers, glass, furniture and other building debris, unrecognized by the EPA's air monitoring. So why didn't EPA make that information known to the public, Schneider asked? In February, too, scientists at the University of California, Davis, reported that dust and fumes from the smoldering rubble exposed lower Manhattan residents to some of the highest levels of air pollution ever recorded. Thomas Cahill, a physicist and expert on air pollution who led the study, said his laboratory analyses of air samples showed that the towers' collapse spewed enormous amounts of potentially lethal, extremely tiny particles of crushed and incinerated computers, glass, furniture and other building debris unrecognized by the EPA's air monitoring.

At the time, the researchers claimed months worth of government readings on post-September 11th air pollutants' risks were woefully incomplete. The atmospheric research group called DELTA, short for Detection and Evaluation of Long-range Transport of Aerosols, researches weather patterns and aerosols, the tiniest bits of pollution dispersed into air from a wide variety of sources. From Oct. 2 through mid-December, the group's rooftop air monitor clicked away on top of the Department of Energy office one mile north of Ground Zero. Their

equipment was registering unprecedented clouds of "*very fine particles*," according to UC Davis researcher Kevin Perry, recently hired by the University of Utah to work as an assistant professor in the meteorology department. That, Perry said, should be a red flag in the evaluation of rescue workers' and residents' exposure levels. There is no definitive proof of the ill health effects from breathing gunk smaller than the PM2.5 standard.

"*Everybody in our field knows ultra-fines are very likely to be hazardous to our health,*" Perry told a reporter for the Salt Lake Tribune. "*The EPA can't regulate such things until they have proof in hand or they'll get hammered in court*."

Perry said the importance of his group's very-fine pollution findings was not to prove the EPA lied or set out to deceive. Rather, it was useful to show that officials failed to take into account how much emergency workers, spending large amounts of time on-site, may have been breathing in known carcinogens. Perry said EPA's PM2.5 measurements of the area mirrored DELTA's pollution readings near the site: "*But a more thorough sampling protocol would catch all the ultra-fines his group found and offer a clearer picture of worker exposure and, possibly, what is behind the mysterious cough.*"

And the not-so-mysterious extremely high continuing cancer deaths ...

THE EPA KNEW

Heads should have rolled, people should have been jailed.

Congress of the United States
Washington, DC 20515

September 7, 2011

John Howard, MD
Director
National Institute for Occupational Safety and Health
395 E Street SW, Suite 9200
Patriots Plaza Building
Washington, DC 20201

Dear Dr. Howard:

As the sponsors of the *James Zadroga 9/11 Health and Compensation Act*, we write to file a petition pursuant to Sec. 3312(a)(6) of the Zadroga Act requesting that you conduct an immediate review of new medical evidence showing increased cancer rates among firefighters who served at ground zero and that you consider adding coverage for cancer under the Zadroga Act.

We read with great concern -as we are sure you must have done- the study conducted by the New York City Fire Department and published last week in *The Lancet* that indicated an elevated risk of melanoma, thyroid and prostate cancer, and non-Hodgkin's lymphoma among firefighters who served at ground zero, compared to the general population, and an overall increase in cancers among firefighters exposed to toxins at the World Trade Center site, compared to firefighters who were not exposed to those toxins. As you know, the only peer-reviewed study of possible 9/11-related cancers prior to this one was a small study showing a possible rise in multiple myeloma among 9/11 responders.

On August 8, 2011, we wrote to Health and Human Services Secretary Kathleen Sebelius requesting that she act quickly to form the Science/Technical Advisory Committee, as required by the Zadroga Act. A copy of that letter is enclosed. Since the Zadroga Act requires you to take action on our petition within sixty days, and since this committee is charged with reviewing scientific and medical evidence to make recommendations on adding coverage for additional health conditions, we once again respectfully urge the Secretary and you to set up this panel in the next few weeks.

We feel strongly that there must be a scientific basis for adding coverage for new conditions under the Zadroga Act. However, given the severity of the illnesses reported in *The Lancet*, we also want to make sure that this and other peer-reviewed studies linking cancers to the attacks are evaluated as expeditiously as possible.

PRINTED ON RECYCLED PAPER

Thank you for your attention to this petition, and thank you for your work to establish a strong World Trade Center Health Program.

Sincerely,

CAROLYN B. MALONEY
Member of Congress

JERROLD NADLER
Member of Congress

PETER T. KING
Member of Congress

CHARLES E. SCHUMER
United States Senator

KIRSTEN E. GILLIBRAND
United States Senator

CHARLES B. RANGEL
Member of Congress

NYDIA M. VELAZQUEZ
Member of Congress

MICHAEL G. GRIMM
Member of Congress

YVETTE D. CLARKE
Member of Congress

THE ZADROGA BILL
DOESN'T COVER CANCER
~ CONGRESS KNEW ~

ENRICHED URANIUM IN FALLUJAH – THE MILITARY KNEW

May 29 2008 (Press TV) - Families in Fallujah are calling for an investigation into the rise of birth defects after the US used unknown weapons over the Iraqi city in 2004.

They have raised concerns about the weapons used by American forces in 2004, including constant bombardment with uranium depleted artillery shells and other depleted uranium ammunition - when Fallujah suffered the heaviest blitze following the overthrow of the Saddam regime of the entire war in Iraq. Hikmat Tawfeeq, deputy chairman of the Fallujah-based human rights group Al-akhiyar said: “We have around 200 cases of deformities recorded by our society. Most of these cases are birth deformities which have arisen after the bombing of Fallujah.”

Campaigners say officials are reluctant to speak out publicly because of US pressure but at Fallujah’s children’s hospital one doctor told Sky News in the past month she has seen one or two cases of birth deformities every day. An opthalmologist said he deals with four or five cases of newborn babies every week suffering from some form of eye deformity. At one of the cemeteries in Fallujah, undertaker Mahmoud Hummadi said he usually buries four to five bodies of newborns every day and most of them are deformed.

Fallujah today still bears the scars of a time when it represented the backbone of the Sunni insurgency - a power-base America decided it had to break. April and November 2004 saw some of the heaviest bombardments of the war in Iraq, including the controversial use of depleted uranium*.

The families say doctors have raised concerns to them about what kinds of materials were used by the Americans in order to achieve their military goals. Fatima Ahmed is three years old. Small and lifeless she barely moves, burdened by two heads on her tiny frame. Her mother Shukriya says doctors have been unable to diagnose exactly what has caused Fatima’s condition. But her father Jassim, when asked who he held responsible for his daughter’s condition, said: “It’s because of the war - it’s the flagrant aggression they launched against us. What they dropped in Fallujah God knows.”

* Dr. Christopher Busby has published peer reviewed material on slightly enriched uranium, uranium enriched by human technology, in the hair of the residents of Fallujah. This is *not* depleted uranium.

See: [http://www.geopoliticalmonitor.com/war-related-birth-defects-in-fallujah-741]

THE BUILDING CODES
WERE THERE ANY?

THE BOTCHED RESCUE EFFORT YOU DIDN'T HEAR ABOUT

The scenes are explained in gripping and terrifying style, with hundreds of accounts of survivors and witnesses from which to choose. Painfully typical is the description of Judy Feeney, who receives a seemingly routine phone call from her son, Garth, and asks him what is new. He replies, "*Mom, I'm not calling to chat . . . . I'm in the World Trade Center and it's been hit by a plane.*" His mother, already watching the television coverage of the attack but not previously aware that her son was attending a meeting at Windows on the World, says, "*Please tell me you are below it,*" but Garth responds, "*No, I'm above it. I'm on the top floor.*" Even if Dwyer and Flynn had achieved nothing beyond personalizing and memorializing some of the victims their accomplishment would be noteworthy.

"*The people fighting the two worst building fires in the nation's history had no video monitors. No radio communications with other agencies. No way to get reports from police helicopters and only a limited ability to communicate among themselves.*" And although the Police Department "*had installed [radio] boosters in 350 locations across the city to amplify their signals,*" the FDNY "*had only a handful of boosters in place.*"

Interdepartmental rivalries and incompatibilities exacerbated these problems. The two groups of rescuers "*did not like each other.*" In the past, "*fistfights [had] broke[n] out at rescue scenes. . . . [The] two agencies didn't train together often or well. And they didn't share equipment.*" During the rescue effort, police helicopters took off without firefighters aboard, leaving the fire chiefs with little idea what was going on above them even as the police officers provided regular reports to their superiors. The last joint police-and-fire disaster drill at the World Trade Center had taken place in 1982, in response to an aircraft near-miss unrelated to terrorism. Fire dispatchers had to dial 911 if they wished to reach police dispatchers.

Deficiencies that before September 11 seemed to be little worse than technological glitches or turf wars may have cost as many as 200 firefighters their lives. The authors conclude that there were roughly that many firefighters in the lowest forty floors of the north tower when it fell. If these firefighters had immediately begun to evacuate the north tower when the south tower gave way, they would have had about half an hour "*to go down no more than thirty or forty flights of stairs, and many people did, including eighty-nine-year-old Moe Lipson.*" But poor communications prevented most of these rescuers from knowing that the other building had collapsed.

Surviving firefighters stated that they were unaware of the seriousness of the danger in these final minutes even though TWO police helicopter pilots broadcast at least four radio warnings predicting the building's imminent failure, with one describing a collapse as "*inevitable*" and another stating "*I don't think this has too much longer to go." For "twenty-nine minutes and twenty-six seconds . . . [the FDNY was on] notice that total calamity was not only possible but also imminent*." The firefighters, meanwhile, continued their rescue efforts in a doomed, nearly empty building from which almost all of the approximately 6,000 civilians below the crash zone had already escaped. Approximately 100 firefighters were seen resting and catching their breath on the nineteenth floor shortly before the second building fell.

Even more frustrating than their discussion of institutional failures among the various groups of rescuers is Dwyer and Flynn's acknowledgment of how construction and safety decisions made as far back as the 1960s had negative consequences that would not become fully apparent until the buildings were tested on September 11. To begin with, New York City's building code had been relaxed in 1968 at the insistence of the real estate industry and over the objections of the Fire Department.

Moreover, as a bi-state agency, the Port Authority of New York and New Jersey was not bound by even this weakened code when it built the World Trade Center, although it claimed to have complied voluntarily. This compliance must have been grudging, however, as the Port Authority did not abide by other New York City fire safety laws—also not binding on the Port Authority—until after an industry challenge to these other laws had failed. As a result, the towers nearly were constructed without fire sprinklers.

To be financially viable, the towers needed floors with large expanses of space that were not divided by support columns. This challenge was met with the innovative use of lightweight floors that both supported and were supported by the exterior walls of the building. The use of this new, untested construction method, however, meant that no one had experience in fireproofing a structure of this type, and "*[b]oth the architect and the structural engineer for the project refused to vouch for the ability of the floors to withstand fire.*" There is no evidence that anyone ever conducted tests to determine whether these elements of the structure were safe, even though such tests were required by the city codes with which the Port Authority claimed it would comply.

Shortly after the buildings opened, an arsonist set numerous small fires that caused several floors to buckle; no tests were conducted after this event either. There were other indications that the Port Authority and the Fire Department had reservations about the buildings' safety long before the 2001 attack. The Port Authority refused to allow Windows on the World to run a gas line up the North Tower, apparently out of concern for the effects that an uncontrolled gas fire might have on the structure of the building.

During the course of litigation between the Port Authority and one of its suppliers over the use of asbestos in the buildings, "*[e]xpert witnesses reported that hunks of the fireproofing, whether asbestos based or not, had fallen off the steel, leaving it exposed.*"

In some cases, they said, it appeared never to have been applied at all. "*Following the resolution of this asbestos litigation, the Port Authority decided to triple the thickness of the fireproofing that had been sprayed on initially, which had been arbitrarily set at one-half inch without testing and now was arbitrarily set at one-and-one-half inches without testing. To minimize disruption to tenants, however, this change was phased in only as tenants renovated their space.*" Just thirty-one of the floors in the two towers had been upgraded by September 11. When an employee of one of the Center's tenants, Terence McCormick, began working in the building, his father, then a chief in the FDNY, "*had implored him to find a job elsewhere. Chief McCormick believed that the towers were among the most dangerous buildings in the city*."

Those caught in the buildings confronted additional design problems. Occupants could descend from upper floors either by elevator or by stairs. Although each building contained ninety-nine elevators, only two—one for passengers and one for freight—ran from the top of the building to the bottom. The buildings lacked the special refuge elevators that had become standard in newer skyscrapers, designed to function even during emergencies to help rescuers ascend and disabled occupants descend. Safety resistors had been installed following the 1993 attack, to comply with updated code requirements that were sensibly designed to prevent the doors from opening if an elevator car stopped more than four inches from a landing. Elevator mechanics at the complex had found this feature, designed to avoid more routine accidents, to be too unforgiving.

Expert mechanics were needed to override these resistors, but on September 11, all of the buildings' mechanics quite reasonably evacuated after the second tower was attacked, leaving those rapped in the elevators to attempt to pry the doors open from the inside. The towers, like many lesser high-rises, were built under the assumption that there would never be an occasion in which all occupants would need to vacate at once. The theory was that the evacuation of such a huge complex would be more hazardous than having occupants remain on unimpaired floors, and the chaotic uncontrolled emptying of the buildings after the 1993 bombing supported that belief. As a result, the number, width, and placement of the emergency stairways were insufficient to evacuate full buildings, or even partly full buildings, in their entirety.

The Empire State Building, completed in 1931 under the more demanding standards required by an earlier code, has nine stairwells at its broad base and six that run the entire height of the building, one of which serves as an air-locked fire tower that is supposed to be more impervious to smoke.

Each of the 1,350-foot tall World Trade Center towers, with slightly greater height, nearly double the rentable square footage, and the capacity for about 33% more occupants, had only three stairwells throughout—the same number as would have been required for a seventy-five-foot building—and no fire tower. All three of these stairwells were bunched together in the least

rentable space in the core of the building. Two of the three stairwells in each building went only as far down as the mezzanine, a feature that one fire chief had described as "'*a major building design flaw*'" in a report commissioned after the 1993 bombing. Those leaving the building then had to reach street level by escalator.

New York adopted the nation's first building code in 1850. Several trade organizations began promulgating building codes during the first part of the twentieth century, and different codes garnered acceptance in different regions of the United States. The Building Officials Conference of America (BOCA) published its Basic Building Code in 1950, which was widely adopted in the Northeast and Midwest. But large cities, facing unique construction issues and distinctive political pressures, began to develop their own codes, an approach that New York City followed when it adopted its new code in 1968, the year in which construction of the World Trade Center began. The wisdom of a building code provision, like that of any other health and safety measure, involves balancing the costs of enacting and enforcing it against the benefits to be gained from it. The costs of a building code measure include both the expense of constructing or retrofitting a structure to comply with the law and the income that is lost over time as a result of implementing the law. For example, if a city were to increase the minimum required width for fire stairs in new buildings, the cost of this law to the builder of a new structure would be equal to the sum of the cost of constructing and maintaining wider fire stairs (minus the cost of constructing and maintaining whatever else would have occupied that space) and the discounted present value of all rental income lost because of the floor area that now must be dedicated to fire stairs rather than to rentable office space. The benefit of this change would be equal to the statistical value of all lives saved, injuries avoided, and property damage averted in that structure, multiplied by the likelihood of these tragedies occurring at all, plus the "reassurance factor" enjoyed by building occupants aware that they are working in a safer building.

For many possible building code provisions, it is far easier to calculate the costs than the benefits. A builder can determine the additional price of building wider fire stairs and estimate the price of maintaining them,99 and can calculate how much extra space will need to be devoted to these wider stairs and forecast the discounted present value of what that space might rent for over the useful life of the building. The benefits—harms avoided—are much harder to estimate. No one knows the likelihood of a natural or human-caused disaster, and planners can only guess how much death, personal injury, or property damage will result from any such

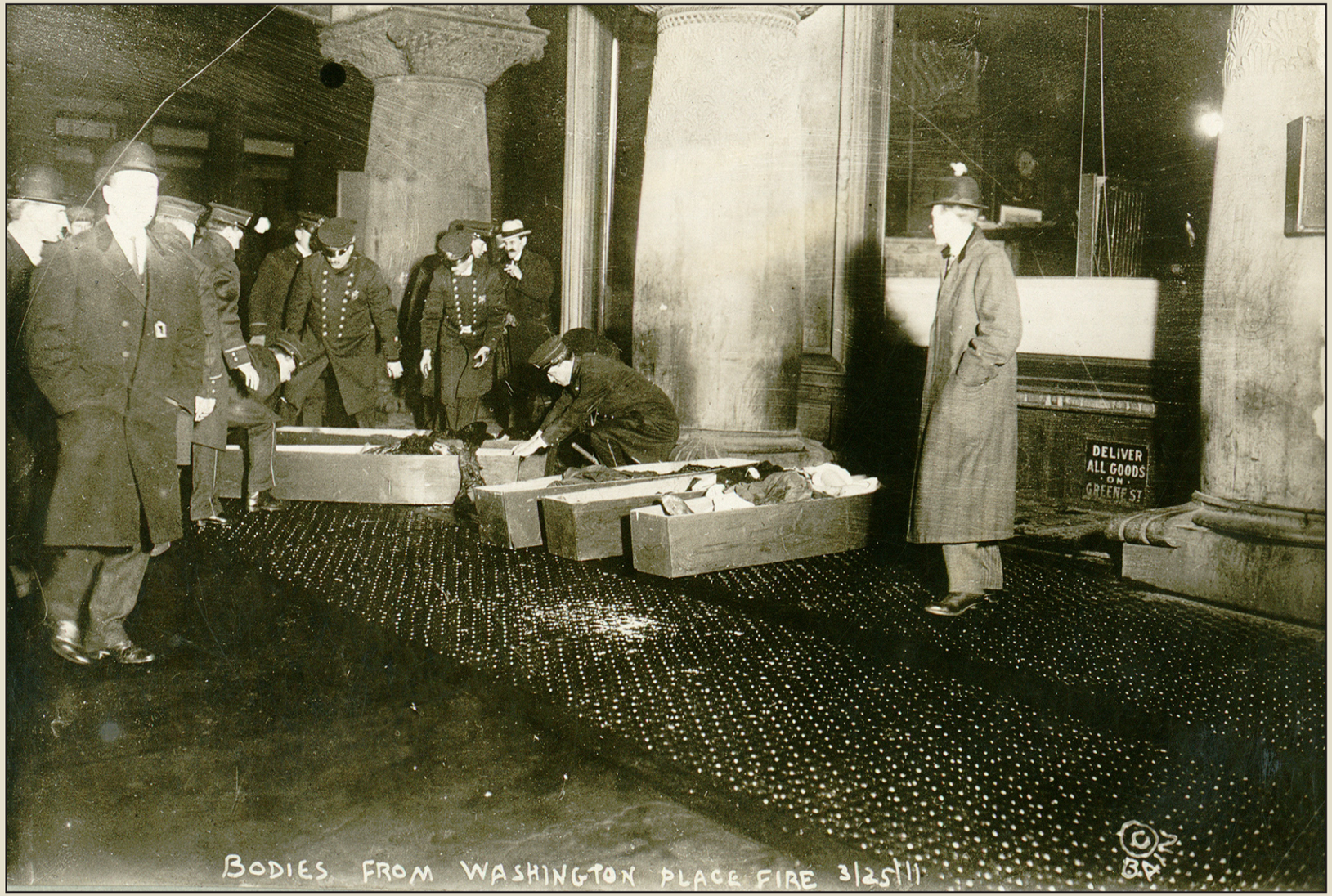
disaster. And these numbers are moving targets that we continuously update to factor in all events that have occurred in the past, particularly in the recent past. The odds of a major terrorist attack on an office building surely seemed higher on September 12, 2001 than they had forty-eight hours earlier. There also are intangible costs and benefits to consider, and these can be extremely difficult to quantify. A building that is markedly safer may give its occupants a greater sense of ease, as just noted, or it may constantly remind them of their vulnerability. It may be more or less comfortable, more or less attractive, more or less rentable. Costs and benefits do not exist independently and can affect each other synergistically. Terrorists might choose to attack poorly protected buildings because they are easy targets, or they might select heavily fortified structures—particularly iconic or symbolically significant ones such as embassies—in the belief that a successful attack on a fortress demonstrates their strength and will be more demoralizing to victims and to the general public. In addition, the cost-benefit calculus is constantly shifting. It is widely believed that the rash of airline hijackings several decades ago abated at least in part because airplanes were redesigned so that hijackers could no longer parachute safely from an airborne passenger plane. Building costs increase after natural disasters, as labor and materials become relatively scarce and people react—and sometimes overreact—to the hurricane or tsunami that is freshest in their minds. Similarly, as an event fades from memory, the temptation is to argue that some restrictions enacted in response to it should be relaxed, that the benefits of building code changes were overstated in the emotional aftermath of the tragedy. And different types of structures merit different levels of protection.

Remember also that building professionals usually are the only people who spend much time thinking about building codes. Unless there has been a recent disaster, it is unlikely that citizens will lobby their local government representatives to strengthen building codes for greater worker safety or that a candidate will run on a pro-building-code platform. Those in building-related trades, however, may well lobby those same representatives on a regular basis to weaken codes as a means of reducing construction and operating costs. Their efforts may be sufficient to outweigh counter-arguments from the small number of customary opponents, such as building and fire officials.

The combined effect of these factors suggests that the strength of building codes can be expected to swing like a pendulum, with local governments beefing up codes dramatically in response to the outcry that follows a major tragedy and then weakening them gradually as that disaster recedes in the rearview mirror. Immediately after a crisis, the perceived benefits of a strengthened code, which will have become newly evident to the general public, will exceed the perceived costs, which had always been apparent to those in the building industry. As time passes uneventfully, the public turns its focus elsewhere and the balance of pressure on public officials slowly shifts the other way. This pattern of reform and relaxation based on perceived costs in response to the Triangle fire.

The code amendments that were enacted in response to the Triangle fire meant that buildings would be more expensive to build, and they met with

TRIANGLE SHIRTWAIST



The Triangle Shirtwaist Factory fire in New York City on March 25, 1911, was the deadliest industrial disaster in the history of the city of New York and resulted in the fourth highest loss of life from an industrial accident in U.S. history. It was also the second deadliest disaster in New York City – after the burning of the General Slocum on June 15, 1904 – until the destruction of the World Trade Center 90 years later. The fire caused the deaths of 146 garment workers, who died from the fire, smoke inhalation, or falling to their deaths.

predictable objections from the real estate industry at the time. One Factory Investigating Commission member who represented real estate interests referred to the "*infinitesimal proportion of the population*" killed in factory fires. He was shouted down by a union representative who noted, "*They were human souls. It was a hundred percent for them*." The public reaction following this immense tragedy was sufficiently prolonged and deep that the reformers were able to see many of their recommended policies implemented.

But the same real estate interests that cannot block the passage of code amendments in the wake of a tragedy can attempt to undo them later. As time passes without further incidents, it begins to appear as though the initial response miscalculated the cost-benefit ratio. Building industry representatives may emphasize how excessively strong codes are leading to wasteful overspending on safety, while the earlier supporters of these stronger codes may cease to focus on this issue.

March 25, 1911
Triangle Shirtwaist Factory Fire

New York's code revision process, which began in 1962, came in response to building industry arguments that the 1938 code was obsolete. Why waste space—which is to say money—on "*outsize-seeming safety requirements*" or "*artifacts of an earlier, more plodding age*" that are "a*n imprudent and uneconomical regulation of business*" New York's 1968 building code was less protective of building tenants than some of the post-Triangle reforms it replaced because the perceptions of costs and benefits had changed since the Triangle fire.

Before the new code was even adopted, the Port Authority—which was not bound to follow city laws—announced that it nonetheless would abide by the revised rules. The Authority implied that this discretionary safety consciousness was innovative and forward-looking, but by volunteering to comply with the newer code rather than with the older one, it also was saving on construction costs. A councilman noted that if the Pan Am building had been built in accordance with the newer code, its owners "*would have had 2 percent more rentable space on each floor. That was worth about $1.8 million annually in 1968.*"

One of the reasons New York was able to build the world's two tallest buildings during the early 1970s was that new construction methods coupled with these relaxed code restrictions made structures of this type economically feasible for the first time ever. "*As it happened, the World Trade Center was planned at a moment of radical transformation in the construction of tall buildings, and its owner, the Port Authority, availed itself of those changes in spectacular fashion*." By the time New York City revised its building code, more than half a century had passed since the Triangle fire, and certain safety measures were viewed as "*the wasteful legacies of a bygone era that lacked modern fireproofing techniques*." These cost savings, of course, came with a hidden price tag of their own, in the form of reduced safety benefits. The new code relaxed fire protection measures on the theory that the old rules were overly safety-conscious. Under the new code, buildings would need fewer fire stairs and no fire towers, and the original plans for the World Trade Center, which included fire towers, were modified to eliminate them. The fire stairs that remained could be located closer together in the building core, far from the more valuable window space that tenants coveted. Fire ratings for columns and floors would be reduced. New, less costly materials could be used. Yet contrary to this entire theory we have:

From "Engineering News-Record" on April 2, 1964, regarding the construction of the Twin Towers: "*Live loads on these [perimeter] columns can be increased more than 2,000% before failure occurs. One could cut away all the first-story columns on one side of the building, and part way from the corners of the perpendicular sides, and the building could still withstand design loads and a 100-mph wind force from any direction.*" The buildings were sound, designed for aircraft strikes and more. Think.

RARELY SEEN FIRST RESPONDER TESTIMONY

Firefighter Edward Kennedy states that he thought a "nuclear bomb" had demolished a tower. "*We were on Liberty Street and we came out into there and it just look like something that -- it looked like a bomb, of course, had gone off, almost like a nuclear bomb...* "

Here we learn that NYFD Lt. George DeSimone similarly thought the heat--without fire--impinging on him was Hiroshima-like:

"*I thought it was some kind of thermal explosion where I'm either going to get burnt -- and I had kind of ideas that it was going to be something like Hiroshima where all this heat was coming at me and we were going to get burnt…*"

Several hours after both tower "collapses", and despite official regime claims of total military and civilian flight termination, he said:

"*...We saw jets overhead, commercial airliner, military jets, Air Force jets, and we didn't know what the hell was going on...*"

Recall I have detailed how a nuke's thermal rays go farthest out, well beyond its destructive blast radius. Here NYFD Chief Jerry Gumbo's testimony is one of several I have cited, to say he felt heat far away from any actual fire. He stated:

"*...At the time of the impact, we were able to feel heat that was generated from the explosion at the command post, which was across West Street, and West is a fairly large street with that island in there, and debris was showering all over West Street.*"

I believe this is again indication of the early basement nuclear detonation concomitant with the "plane crash" explosion above.

Another firefighter who thought the WTC destruction was nuclear is NYFD Lt Richard Smiouskas, whose statement is here. He was an official NYFD photographer, and has some startling testimony, regarding other matters, as well. It appears that with his telefoto lens, he witnessed people being pushed out of tower one. He said:

"*...I was photographing the fire from the roof. I had a long lens on the camera, and I had people in the windows. It looked like they were being -- they weren't actually jumping. One or two people I saw, they seemed like they were being forced out by the people behind them. There was half a dozen faces. In between the smoke you could see people... I guess they were all trying to get air, and this guy was actually standing in the window, standing in the frame with each hand on each frame and he kind of like got nudged out.*"

In the second sentence, it looks like he just stopped himself from saying "pushed". The last incident may even indicate the NON-jumper was trying to keep himself from being pushed out!

Lt. Smiouskas believed that a nuclear bomb went off, due to the magnitude of Earth shaking that he felt. As a tower is being destroyed he recalls:

"*It looked like an earthquake. The ground was shaking. I fell to the floor. My camera bag opened up. The cameras went skidding across the floor… I'm thinking maybe a bomb blew up. I'm thinking it could have been a nuclear….*"

Then he writes of seeing "glitter" through the black smoke, during tower destruction.

"*Everybody started running north, and this huge volume like ten stories high billowing, pushing black smoke and like a glitter. I guess it was glass that was glitter that was in the cloud of smoke.*"

I do not believe this "glitter" was glass in the black smoke. Perhaps it is more likely that gamma or neutron rays from nuclear explosions which could readily traverse the black smoke, impinged on his retina. This is like the astronauts in earth orbit seeing (retinal) flashes from cosmic rays when they tried to go to a higher earth orbit, and like medical x-rays that go through you and onto a photographic plate.

But note how Lt. Smiouskas found the ground shaking was intense enough that he surmised that a nuclear bomb went off. Now, I have been in 5.1 (Richter scale) Earthquakes, and in 2.3's. The latter I didn't feel at all, and the 5.1 sounds more like what Lt. Smiouskas (and I) experienced—at least a likely 4.0. At the World Trade Center six weeks after 911 we saw many cracked concrete sidewalks blocks away from the World Trade Center. I therefore make the following assertion. It is likely that the official 2.1 and 2.3 Richter scale recordings on 911 had their spikes adjusted down. NIST asked for a re-analysis of seismic data from one observatory before publishing their findings. I believe it's possible that the seismic recordings were likely doctored by this regime. And this fire-fighter's belief that the intense ground shaking was due to a nuclear bomb supports this.

The interview of Dr. Michael Guttenberg, of NYFD's Office of Medical Affairs, who may have witnessed EMP is here. Just after the second plane hit and before any tower collapse he noted the following two statements:

"*…on the EMS radio, there was absolute silence for probably 10 or 15 seconds, you know, which to me, it seemed like 10 to 15 seconds, but it was absolute radio silence for a few seconds…*"

He also stated:

"*We were told that the air was so thick with debris that radio waves weren't able to travel. That was after the towers came down*."

Note two things, the radios went dead—likely a sign of EMP, as I have previously described. The statement that radio waves would have been blocked by a conventional explosion, when they wouldn't have been, is a lie. And note also that this radio blackout occurred after the second "*plane hit*" explosion. My previous articles contained evidence, and my hypothesis, that the World Trade Center 1 "*plane hit*" explosion was used as cover for a nearly concomitant basement nuclear bomb explosion that vaporized a 50 ton steel press, and a garage level, and also caused phone outage. So we learn now that electronic communications also were affected after the second "plane hit", which may indicates that they also used nuclear devices in the basement of World Trade Center 2 at that time. I hypothesized that this was done in case the planned, subsequent, intricate, top-down demolition failed.

Guttenberg also provides more eyewitness testimony for early World Trade Center 7 explosions, as he went to the loading area of World Trade Center 7.

"*...We all stuffed ourselves into this hallway [near the loading dock of WTC7], pulled the door shut, and the noise just got very loud and the room filled with dust. The noise stopped, and we opened up the door, and everything was pitch black. The way we got into the loading dock was not the way we were getting out. It was obstructed*."

This appears to be a watered down way of saying the World Trade Center underwent internal explosions. This jives with one of my earlier books citing Deputy Director of the NYC Emergency Services Dept., Barry Jennings, that the World Trade Center 7 underwent attempted complete internal destruction at the same time that the first tower (and World Trade Center 3, 4, 5 and 6) were demolished.

NYFD Lt. Robert Larocco here also noted that tower destruction seemed "*nuclear*" to him. He said,

"*Of course the cloud was kind of like a nuclear winter thing. You're walking through fallout*."

Near the towers, but **BEFORE** either tower "collapse", he noted:

"*As I started walking onto the side street – actually as I stepped onto the side street, the strangest thing I noticed was there was like three inches of snow on the ground. The snow was probably pulverized concrete, sheetrock, loose tiles, insulation, asbestos or what-have-you*."

Now this fine ash or 3 inches of snow-like "pulverized concrete" as he called it would not occur from a "plane hit" or conventional explosives. Could this fine, 3 inches of "snow" be from the early basement nukes that I have written about in several other books? Like the World Trade Center 1 basement blast that vaporized a steel press, and a parking garage level that eyewitnesses said was just "*gone*."

During the commencement of World Trade Center 2 destruction, Lt. Larocco stated:

"*The next second I heard that loudest noise in the world that I was describing before getting louder and louder.... it was the loudest noise I've ever heard in my life. It was in both ears. Kind of like those rockets that they launch the space shuttles with, it was like I had one going off in each ear. When I thought it was the loudest noise I ever heard, every second it was just increasing, getting louder and louder and louder.*"

Lt. Larocco also describes very personal feelings of fear of death, and fellow firefighters "crying like babies" during and just after collapse. These revelations prove that the redactions in the published responders' statements were not because of wanting to hide the most personal of feelings.

Lt. Larocco also stated that hours after both towers were destroyed:

"*...I still really didn't believe that the second tower was hit by a second plane.*"

At this point, the interviewer, Monte Feiler, says, "*Stopping the interview at 1306*." Then, "*Resuming the tape at 1308 hours. Same people present.*"

Now Lt. Larocco says:

"*Like I said, the rumors were flying around, and they turned out to be quite factual, about the second tower getting hit. Although at the time I really didn't believe it until I saw it later on television. The thing about the Pentagon, the plane crashing out in Pennsylvania, it was all coming into the picture that this is something major going on*."

Finally I note that when he was making his way out after "collapse," Lt. Larocco recalls:

"*I thought to myself this is a locked exit. That's illegal*."

We see, as some survivors have noted, many fire escape exits were locked. Someone — who may have had a master key — apparently locked numerous exits. If such a person is ever found and his actions proven to be deliberate he should be charged with mass murder.

Finally, for those who grasp the deeper conspiracies I have elucidated here I note that Firefighter Michael Wernick here stated "*...I ran down to the corner of Church and Park Place, looked up and I saw the plane shooting out of the top of the towers. That's when I grabbed for my radio and yelled over the air, "1 Adam. A bomb just went off in the Trade Center."...* He wasn't referring to the plane on that call but rather, a bomb at ground level.

Wernick further said, "*Engine 33 went first*." All things nuclear… on 9/11. Yet, as I've stated before, I don't believe in symbolism here. This is all for money, power and resources. Yet for those of you that do ... *33* ...

Teresa Veliz, a facilities manager who fled from the 47th floor of the North Tower, described the scene as she made it down to street level:

"There were explosions going off everywhere.
I was convinced that there were bombs planted all over the place
and someone was sitting at a control panel pushing detonator buttons."

Source: September 11: An Oral History by Dean E. Murphy – Doubleday Books, 2002

Phillip Morelli (*at right*), a construction worker, told reporters at a New York television station (NY1 News) that on the morning of 911 when the North Tower was struck, he was thrust to the ground by two explosions in the fourth sub-basement. Somewhat later, another explosion which made the walls explode once again hurled him to the ground. Morelli then exited that building and went inside the South Tower's sub-basement, where once again he felt the same type of underground explosions that he had felt before.

Source: NY1 News

Phillip Morelli

PART ONE CONCLUSIONS

1. Leukemia, non-Hodgkin's Lymphoma and Multiple Myeloma, three rare cancers, have increased dramatically and in an unprecedented number, frequency and rapidity in very young age groups never seen before.

2. All three of these cancers, increasing ***together*** in a select population have previously always indicated radiation exposure. The CDC study (K25 Workers), Chernobyl, Nagasaki and Hiroshima data are all conclusive and in agreement on this issue as well.

[See: Robert W. Miller, M.D., and William J. Blot, Ph.D., and others, US National Academy of Sciences, National Research Council, Japanese National Institute Of Health Of The Ministry Of Health And Welfare, Atomic Radiation, Hiroshima and Nagasaki. Also see Ionizing Radiation 911, parts 1, 2 and 3 linked on a previous page. Also see: CDC study of K25 workers linked previously]

3. Increases in these cancers using September 11th as the 'start date,' specifically and most importantly; Leukemia, non-Hodgkin's Lymphoma and Multiple Myeloma along with increases in esophageal, prostate & thyroid cancers with all of them very rapid increases often in young and otherwise healthy people indicates clearly, without ambiguity and with certainty that further study into a radioactive component of some type and design is critically required at this point in time.

4. The government, in all its wisdom, decided not to cover cancer in the Zadroga Bill while cancer deaths in First Responders are exploding like the Twin Towers on 911.

5. The EPA, Congress and the military and other governmental and environmental agencies responsible for the disaster cleanup must have known from early on that the dust in New York City was highly toxic, caustic and contained 100s of known human poisons. Very few people knew it was radioactive. My personal opinion is that certain people did know, of course.

6. I believe that it may have been known early on by the mainstream medical community that radiation was a factor. I emailed over 500 oncologists or people in the Oncology Departments at Sloan Kettering and Mount Sinai Hospitals, Cancer Section and over 100 mainstream media sources with copies of pages 19-42 of the free eMagazine titled, "*Dust*" and I also posted it to the CDC and NISOH web sites (*link for source to original 'short' document below*) on March 14th, 2011, in a reformatted style to accommodate CDC and NIOSH web site requirements. No responses from anyone, ever. They also posted a small 2mg file I sent as 40+mgs.

7. Parts 2, 3, 4, 5, 6 and 7 will show that there are and were bombs tested that were '*salted*' such or designed such that over 97% of their radiation was eliminated from the detonation. There was radiation, but not much, not easily measurable without sophisticated equipment, certainly not with a Geiger Counter, and not long-lasting. And it wasn't alpha, beta or gamma radiation; these are the types we usually measure. But enough to kill people, as we're seeing now. It was neutron radiation.

8. The following chapters will prove a lot more. The reasoning by Dr. Jones and others used to explain the high levels of tritium are scientific mythology and we prove that here also.

Me and Dr. Jones - ***together***

9. Although Dr. Jones addressed the following issues partially, loosely, imperfectly in a fragmented manner using poor science that is just good enough to fool most people, he failed to adequately and properly address the increased uranium, thorium (*two elements found only in radioactive form*) tritium and the high levels of zinc, barium, strontium, vanadium, and especially potassium and sodium (*these 2 are crucial*) among other elements found in the dust as the levels increase and decrease ***together*** across 35 sampled locations by the USGS. Dr. Jones failed to use the Product Momentum Correlation Coefficient and the 't' test statistic, formulas he's intimately familiar with, to discuss the various levels of these elements as they are seen in the dust, "***together***," and as they interact ***together*** from mapped location to mapped location. This gives us a "*photograph*," if you will, of the dust "*at that moment in time"* and how the elements are behaving ***together***. It's critical, crucial and the only scientific method with validity for examining elemental levels in the dust of a disaster suspected of any type of explosives. Simple police procedures. Dr. Jones won't do that.

Nano Technology

10. Forty years of technology has come and gone since 1961 (*up until 2001*) so we'll also examine nano-technology in subsequent chapters because nano tech is a child of the nuclear industry and they grabbed hold of miniaturization even more quickly then the Metastable Intermolecular Compound (*nanothermite or MIC*) industry and well before. Why wouldn't they? That's where both the need and the money were. Atomic grenades were coming down the pike. It was only a matter of time. The Davy Crockett, as you'll see in the next chapter, was a watermelon-sized nuclear bomb launched from a 3-man tripod style grenade launcher.

The Davy Croskett was experimentation in miniaturization, the precursor of nano tech. Explosive nuclear devices got smaller as we'll see in Part Five. 40 years later we have apples. But very, very special apples based on a deuterium-tritium design.

Dr. Stephen Jones himself studied Muon Catalyzed Fusion for the US Department of Energy in critical detail and is intimately knowledgeable in this area.

This report will further show that Dr. Jones' studies in muon catalyzed fusion and other areas involved deuterium, uranium and tritium fusion which produce uranium and tritium as a by-product of fusion and fission reactions. Both were found in high and as yet inadequately accounted for amounts in NYC. This report will suggest that Dr. Jones should be fully aware of the nuclear component to the events of 911 based on the reasoning presented herein. Since he's obviously not and further seeks to hide the nuclear component the only logical explanation is that he's been tasked with covering it up.

11. Lawrence Livermore has a long history of developing new materials, fabrication techniques, and characterization and diagnostic methods to address the important national problems it is asked to solve. From miniaturizing nuclear weapons in the late 1950s and beyond, to proving fusion ignition on a laboratory scale five decades later, Livermore's can-do attitude consistently meets with success. 911 is certainly proof of someone's success.

Source #5: http://www.datafilehost.com/download-94750b11.html

PART TWO
FUSION FISSION

~ BIG IVAN, THE TSAR BOMBA OR "KING OF BOMBS" ~

THE WORLD'S **LARGEST** NUCLEAR WEAPON FROM 1961

YIELDS THE WORLDS SMALLEST NUCLEAR WEAPON IN 2001,

40 YEARS LATER WITH MINIMAL FALLOUT...

911 WAS A NUCLEAR BOMB TEST

The device offically designated RDS-220, known to its designers as Big Ivan, and nicknamed in the west Tsar Bomba (*and referred to as the Big Bomb by Sakharov in his Memoirs* [Sakharov 1990]) was the largest nuclear weapon ever constructed or detonated. This three stage weapon was actually a 100 megaton bomb design, but the uranium fusion stage tamper of the tertiary (*and possibly the secondary*) stage(s) was replaced by one(s) made of lead. This reduced the yield by 50% by eliminating the fast fissioning of the uranium tamper by the fusion neutrons, ***and eliminated 97% of the fallout*** (*1.5 megatons of fission, instead of about 51.5 Mt*), yet still proved the full yield design. The result was the "*cleanest*" weapon ever tested ***with 97% of the energy coming from fusion reactions.*** A green H-bomb!

The nickname Tsar Bomba is a reference to a famous Russian tradition for making gigantic artifacts for show. The world's largest bell *(the Tsar Kolokol*) and cannon (*the Tsar Pushka*) are on display at the Kremlin [Kalinin 1994; pg. 33]. Having come to power by over-thowing and assassinating the last royal family of Russia, the Soviet leadership would never have countenanced such a royalist name, but this designation has become popular in Russia since the collapse of the Soviet Union.

This high quality image (*right*) of a building adjacent to the Twin Towers which was then impaled by sections of the Twin Towers weighing many tons and ejected at an estimated 50-60mph can be zoomed repeatedly.

the most powerful nuclear device ever detonated

equal to 3800 times the energy of the bomb used in Hiroshima

eliminated 97% of its fallout

this reduced the yield by 50% by eliminating the fast fissioning of the uranium tamper by the fusion neutrons

and eliminated 97% of the fallout (1.5 megatons of fission, instead of about 51.5 Megatons), yet still proved the full yield design

the result was the “cleanest” weapon ever tested with 97% of the energy coming from fusion reactions

now magine the Tsar Bomba in 2001 – at miniaturized or nano-scale … the size of an apple …

Because that’s what you saw

This image appears as an artists rendition, not an actual photograph. An actual image of the Big Ivan demolition appears further on in this eMagazine with a link to video. By comparison to other known nuclear tests, as the chart shows on the next page, Big Ivan was massive.

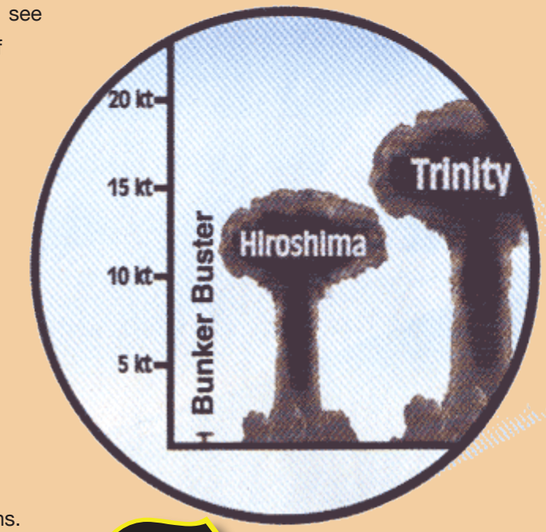
Big Ivan

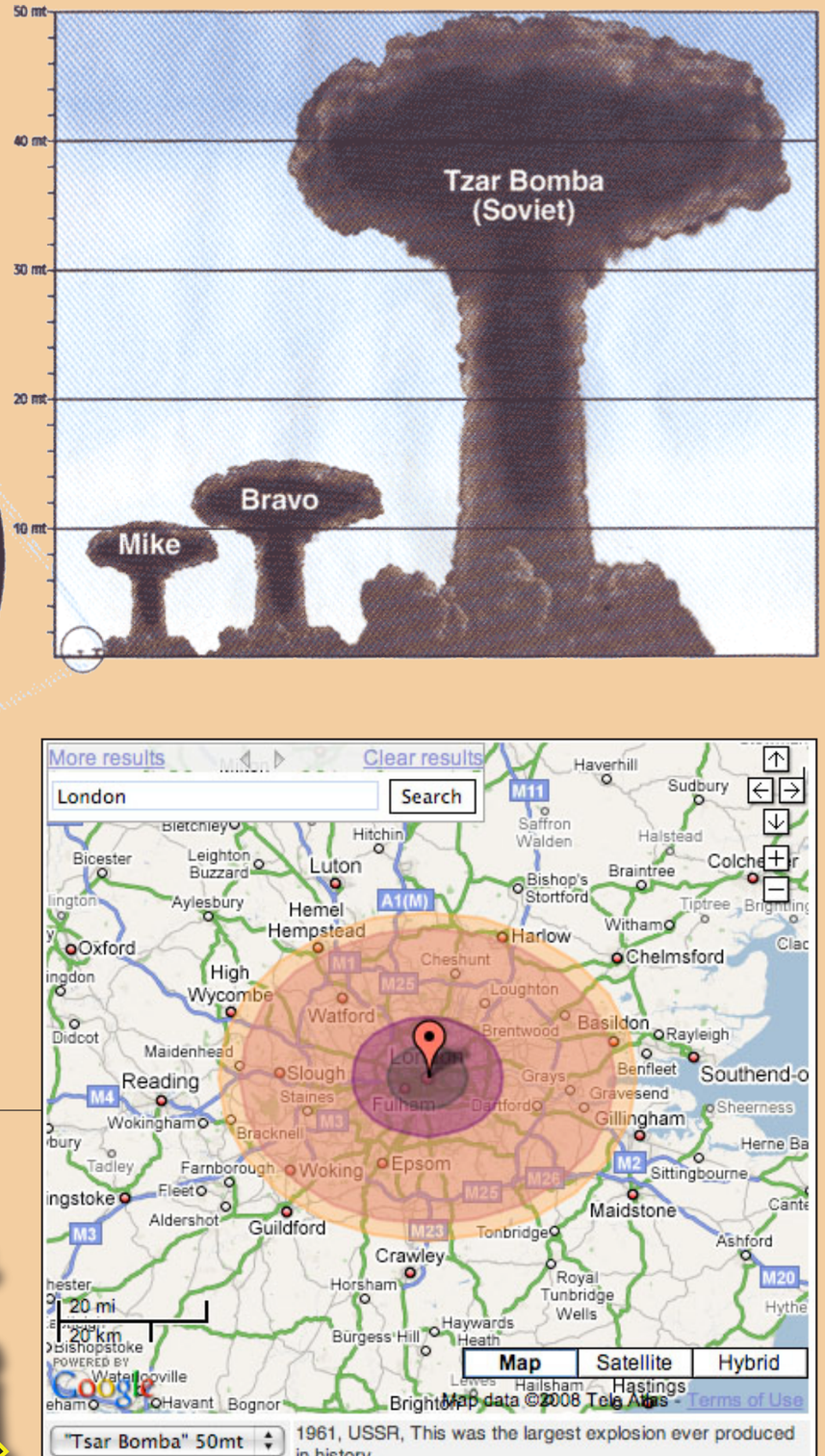
Tsar Bomba

Tsar Bomba comparison charts

Here is the Tsar Bomba fireball radius compared to other nuclear bombs. On the left, you can see the fireball of the Hiroshima bomb magnified. This is another chart comparing the Tsar Bomba's radius to other well known nuclear bombs.

Below (right, map), you can see what the effects would be of Tsar Bomba if detonated in a populated area like London. The inner circle is where the conflagration would take place and most people would die, while the outer circle is where people would suffer 1st degree burns. Many of those burned severely would certainly suffer the most gruesome of painful, agonizing deaths. With no visible fire the air temperature could increase to 1000s of degrees instantly for a millisecond.





Code Name: Big Ivan – Tsar Bomba

Time and date:	11:32 AM October 30, 1961
Location:	D-2 Sector, Zone C, Sukhoy Nos Peninsula, Novaya Zemlya, Russia
Height of detonation:	4,000 meters (12,800 feet)
Yield:	50,000 kilotons (50 megatons)
Weight:	25 tons
Coordinates:	73.85N, 54.50E
Dimensions:	8 meters long, 2 meters in diameter

Tsar Bomba facts

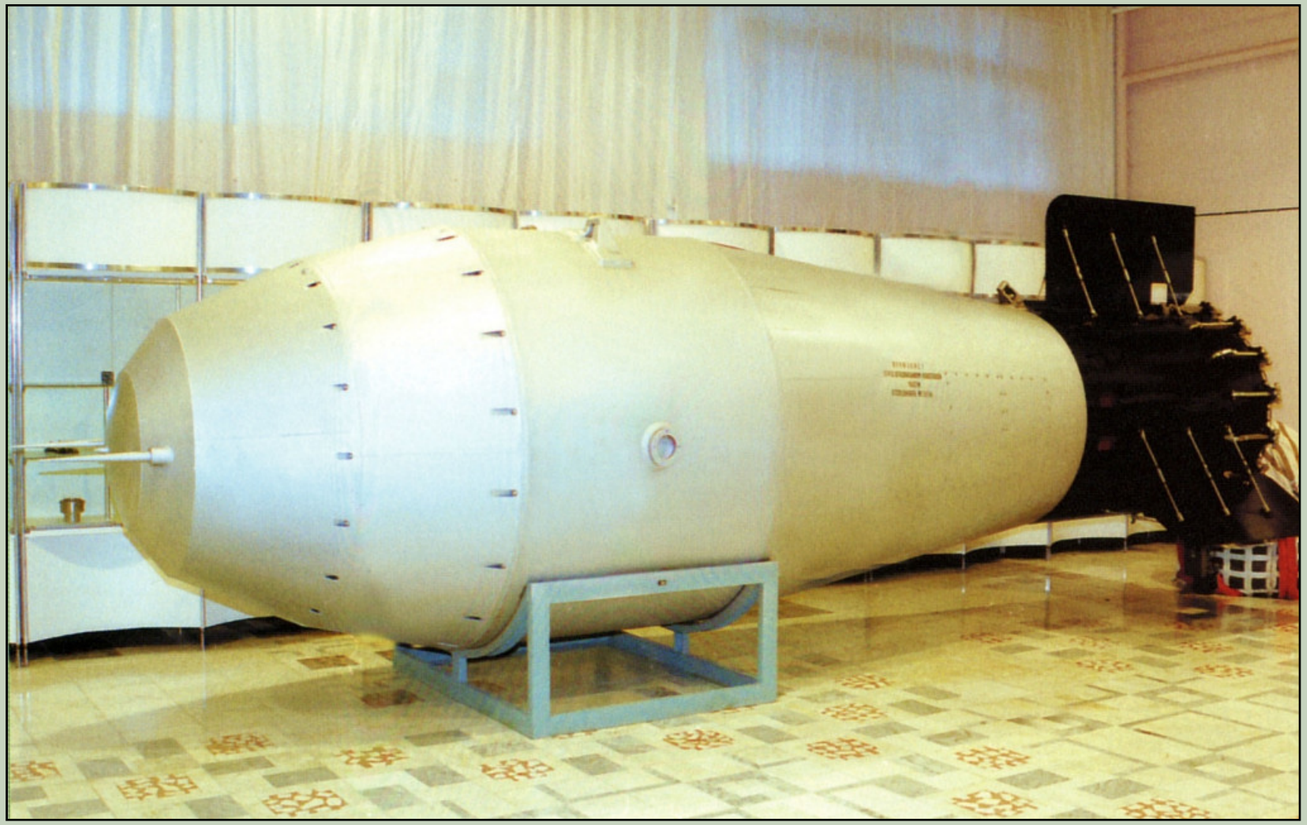
- Tsar Bomba was built in only 15 weeks
- It was dropped from a modified Tu-95 plane.
- The shockwave of the explosion travelled the Earth three times
- The mushroom cloud that formed had a diameter of about 40 km
- The parachute attached to the bomb weighed 800 kg.
- The modified Tu-95 was flown by Major Andrei Durnovtsev.
- The plane which dropped the bomb was able to fly around 45 km from ground zero during the 188 seconds until the bomb detonated.
- The mushroom cloud that formed was 64 km high, 168 times higher than the Empire State Building.
- The power produced during the fission-fusion process was 5.4 yottawatts, corresponding to around 1.4% of the power output of the Sun.

The plane piloted by Andrei Durnovtsev dropped the Tsar Bomba at 11:32 AM Moscow time, from a height of 6.5 miles (10.5 km) over Mityushikha Bay in Novaya Zemlya. The bomb detonated at a height of 2.5 miles (4 km). The descent from the height it was dropped from until the place of the detonation at 4,000 meters above ground took 188 seconds, just enough time for the pilot, Andrei Durnovtsev to fly to a safe distance. Just one second after the detonation, the fireball was already 4 miles wide, and the light could be seen at distances of over 2,000 kilometers. The mushroom raised to a height of about 64 km, over 7 times the height of Mount Everest.

So what do you think happened to this incredible technology? Was it shelved? Or was it developed; did it move along at an unbridled pace which our rapid technological advances in miniaturization and nano-technology allowed for and encouraged?

The test was conducted by air dropping the bomb from a specially modified Tu-95N "Bear A" strategic bomber piloted by mission commander Major Andrei E. Durnovtsev. It was released at 10,500 meters, and made a parachute retarded descent to 4000 meters in 188 seconds before detonation. By that time the release bomber was already in the safe zone about 45 km away. The drop area was over land at the Mityushikha Bay test site, on the west coast of Novaya Zemlya Island, above test field D-2, near Cape Sukhoy Nos. [Podvig et al 2001; pp. 466, 498], [Khalturin et al 2005]. Durnovtsev was immediately promoted to lieutenant colonel and made Hero of the Soviet Union. The Tu-95 was accompanied by a Tu-16 "Badger" airborne laboratory to observe and record the test. The time of the test is given by [Adamsky and Smirnov 1998] as 11:32 AM Moscow Time; it is listed in [Podvig et al 2001; pg. 498] as occurring at 06:33 Moscow Decree time.

The test location was about 55 km north of the Severny settlement and 250 km north of the headquarters at Belushya, from where it was observed by the State Commission. The bomb design team and the test supervisors, headed by Major General Nikolai Pavlov, Chairman of the State Commission, monitored the test at the airfield near Olenya station on the Kola Peninsula 1000 km away. Observers were also at many other locations. Among these were Soviet Minister of Medium Machine Building Efim Slavsky and Marshal of the Soviet Union Kirill Moskalenko, deputies to the 22nd Congress of the CPSU then in session, who had arrived by plane on the day of the test to observe the explosion. They observed the test aboard an Il-14 "crate" at a distance of several hundred kilometers from ground zero. Sakharov himself stayed by the phone, presumably at Arzamas-16, waiting for a call from Maj. Gen. Pavlov.



The effects were spectacular. Despite the very substantial burst height of 4,000 m (13,000 ft) the vast fireball reached down to the Earth, and swelled upward to nearly the height of the release plane. The blast pressure below the burst point was 300 PSI, six times the peak pressure experienced at Hiroshima. The flash of light was so bright that it was visible at a distance of 1,000 kilometers, despite cloudy skies. One participant in the test saw a bright flash through dark goggles and felt the effects of a thermal pulse even at a distance of 270 km or 167.7 miles.

One cameraman recalled:

The clouds beneath the aircraft and in the distance were lit up by the powerful flash. The sea of light spread under the hatch and even clouds began to glow and became transparent. At that moment, our aircraft emerged from between two cloud layers and down below in the gap a huge bright orange ball was emerging. The ball was powerful and arrogant like Jupiter. Slowly and silently it crept upwards.... Having broken through the thick layer of clouds it kept growing. It seemed to suck the whole earth into it. The spectacle was fantastic, unreal, supernatural.

Another observer, farther away, described what he witnessed as:

"*... a powerful white flash over the horizon and after a long period of time he heard a remote, indistinct and heavy blow, as if the earth has been killed!* "

A shock wave in air was observed at Dickson settlement at 700 km; windowpanes were partially broken to distances of 900 km. All buildings in Severny (*both wooden and brick*), at a distance of 55 km, were completely destroyed. In districts hundreds of kilometers from ground zero, wooden houses were destroyed, and stone ones lost their roofs, windows and doors; and radio communications were interrupted for almost one hour. The atmospheric disturbance generated by the explosion orbited the earth three times. A gigantic mushroom cloud rose as high as 64 kilometers (210,000 ft).

Despite being exploded in the atmosphere, it generated substantial seismic signals. According to a bulletin of the U.S. Geological Survey it had seismic magnitude mb = 5.0 to 5.25. The blast wave was detected circling the world.[Khalturin et al 2005]

Some time after the explosion, photographs were taken of ground zero. "*The ground surface of the island has been levelled, swept and licked so that it looks like a skating rink*," a witness reported. "*The same goes for rocks. The snow has melted and their sides and edges are shiny. There is not a trace of unevenness in the ground.... Everything in this area has been swept clean, scoured, melted and blown away.*" [Adamsky and Smirnov 1998]

The radio blackout created by ionization from the explosion gave immediate indication to the command post on the Kola Peninsula that the explosion had occurred, but kept them from receiving any reports on the degree of success, or the fate of the bomber and the Tu-16 "Badger" airborne laboratory accompanying it for 40 minutes. Only when radio contact with Novaya Zemlya was reestablished were they able to request information on the altitude of the cloud, and it became clear that the bomb had worked as designed.

The Tu-95 was painted with a special white reflective paint to protect it from the thermal radiation of the fireball. The airborne laboratory plane was also covered with the same paint. In clear air, the 50 Mega ton test was capable in principle of inflicting third degree burns at a distance of up to 100 km or 67 miles.

The area of effectively complete destruction extended to 25 km or 15.5 miles, and ordinary houses would be subjected to severe damage out to 35 km or 21.7 miles. The destruction and damage of buildings occurred sporadically at much greater ranges than this due to the effects of atmospheric focusing, an unpredictable but unavoidable phenomenon with very large atmospheric explosions that is capable of generating localized regions of destructive blast pressure at great distances (*even exceeding 1000 km - 670 miles*).

Like the entire 1961 test series in which it was conducted, the creation of the Tsar Bomba was the result of political calculation by the Soviet leadership, especially of Premier Nikita Khrushchev. A de facto moratorium had existed

between the U.S., USSR and UK since the conclusion of the last U.S. and Soviet test series in 1958, and two years of discussion had been conducted regarding formal limitations on nuclear testing. But the Cold War continued at high pitch, with the occasional reductions in tension being only partial and transitory phenomena. Many high-stakes cards remained to be played by the Soviets - the erection of the Berlin Wall and the deployment of missiles to Cuba being notable examples. The decision to break the moratorium with a "testing spectacular" that coincided with the Twenty Second Congress of the Communist Party of the Soviet Union was a move cast in the same mold.

The Soviet weapons scientists had spent the three years since the last test series in 1958 developing new concepts and refining old ones, but they had not been preparing for a new test series per se until Khrushchev called a meeting with the "atomic scientists" - the leaders of the weapons program - on 10 July 1961. There was no discussion of whether more tests were necessary or desirable, which Sakharov, the senior weapon designer, very much doubted. Khrushchev simply began the meeting with a speech declaring that tests would resume in the fall to 'show the imperialists what we could do', a decision that came as a surprise to the scientists present. Khrushchev specifically cited as the primary motivation a political rather than a technical justification - his view that the international situation was deteriorating [Sakharov 1990, pg. 215].

From there on until the end of the test series it was an all-out effort to ready as many designs, concepts, and devices for testing as possible.

Available sources do not make it clear where the idea of the 100 megaton device test originated. Sakharov does not mention this device being proposed at the 10 July meeting, but first refers to it in connection with a mid-August review:

"*Khrushchev was already familiar with the test program, and in particular with our plan to explode a device of record-breaking power*", implying that the idea of this test spectacular originated with the weapons team [Sakharov 1990, pg. 218]. Comments by Reed and Kramish [Reed and Kramish 1996] conversely indicate that the development and test of this device was a directive from Khrushchev at the July meeting. The detailed account by Adamsky and Smirnov [Adamsky and Smirnov 1998] do not address this at all. They do state that the development of the device began in the middle of July (*i.e. immediately after the meeting*) and that "*We knew that the culmination of the series of tests planned in the USSR would be the explosion of the 50-Mt device, which was designed to produce explosions of up to 100 megatons*" but do not indicate how they came to know this.

There was no previously existing military requirement for a 100 megaton weapon - such weapons are virtually useless for military purposes. The Soviet Union had only one delivery system capable of carrying a weapon of this size - a handful of the relatively slow prop-driven Tu-95 bombers - and it was incapable of intercontinental range with a payload this large. A 100 Mt weapon can level urban areas in a zone 60 km wide, cause heavy damage in a zone 100 km across, cause 3rd degree burns in a region 170 km across (*only a bit smaller than the width of West Germany*) and eye damage to 220 km. Such a weapon can only be used as a means of destroying an entire urban region - a major urban complex including suburbs and even neighboring cities. This scale of destruction is much larger than any discrete urban area in Western Europe.

With its dense settlement, use of such a weapon in Europe is equivalent to an attack on a major portion of an entire nation and its population.

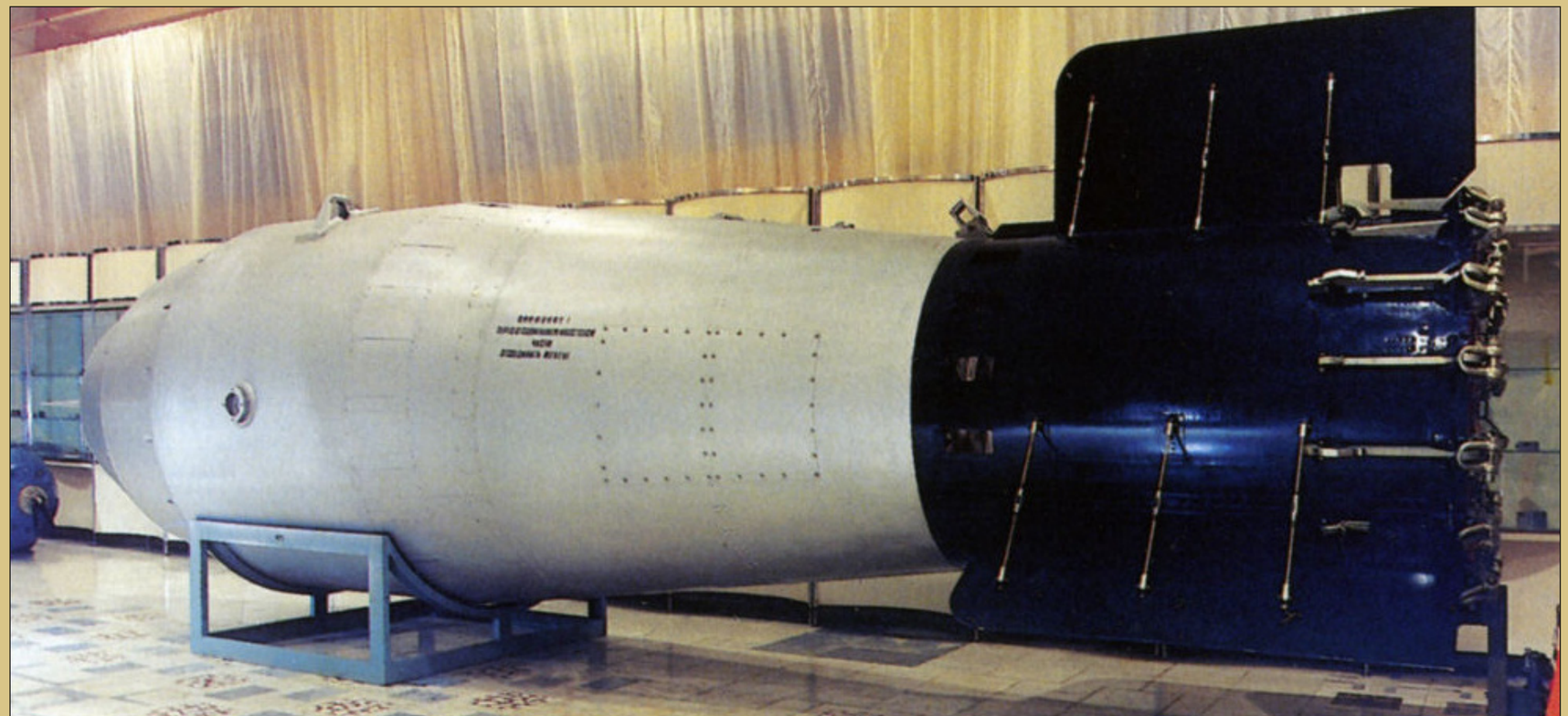
Fallout from a low altitude or surface burst in central England could produce lethal exposures extending into the Warsaw Pact nations; a similar explosion in West Germany could create lethal fallout as far as the Soviet border. Even in the United States there were only three urban regions at that time large enough to conceivably merit attack with such a weapon - New York, Chicago, and Los Angeles.

On any smaller target it would be simple overkill. Even if the Tu-95 were able to reach Chicago, the closest plausible U.S. target, (*which is doubtful given the enormous payload, far in excess of normal for long-range missions, and the added drag from the belly bulge required to house the bomb*) it would have been detected cross-

Deuterium-Tritium fusion appears to be the best and most effective way to produce energy. By fusing the two isotopes of Hydrogen in to the heavier element Helium large quantities of energy are released. D-T fusion is the safest form of fusion, producing no waste and no harmful radioactive atoms. As long as there is available Deuterium and Tritium, we have an effective way to solve the energy crisis.

The sun generates its energy by fusing hydrogen atoms, which give off large amounts of energy. but scientists believe that the sun long ago fused Deuterium, an isotope of hydrogen, because it was a more easily achieved fusion (Conventional Fusion FAQ, May 2007). Deuterium-Tritium fusion is soon to be one of the most effective and efficient ways to produce energy. A normal hydrogen atom has only one proton in its nucleus, but deuterium is a hydrogen atom with one neutron and one proton, a tritium atom consists of two neutrons and one proton. Deuterium is also known as "heavy water" because it forms D-O-D (Wikipedia, 2007).

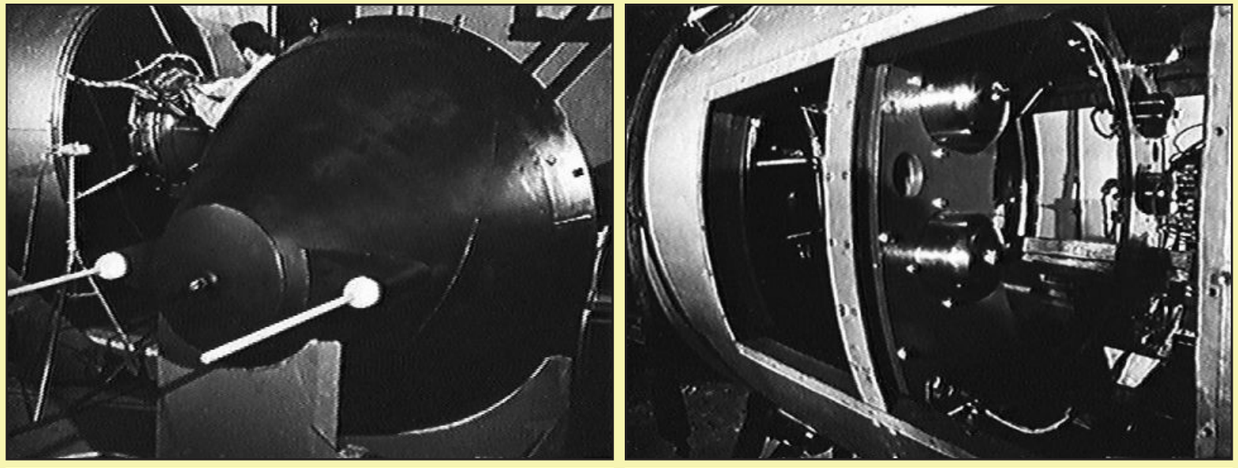
Many people are skeptical about nuclear energy, fearing accidents like Chernobyl will reoccur. Yet, D-T fusion is the cleanest methods of generating energy, producing only helium and neutrons as products. Deuterium is found in seawater about at about 1 part in every 6500, adding up to around 10^15 tons of deuterium, making it virtually inexhaustible. However, tritium must be bred. Tritium is very rare in nature, but it can be made from naturally occurring lithium (Hyper Physics, 2007).

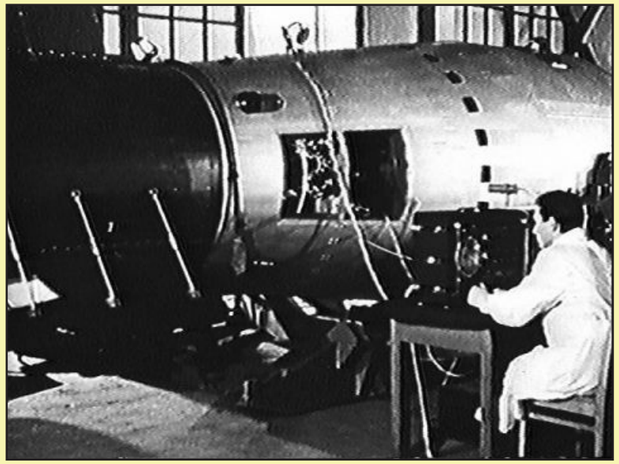


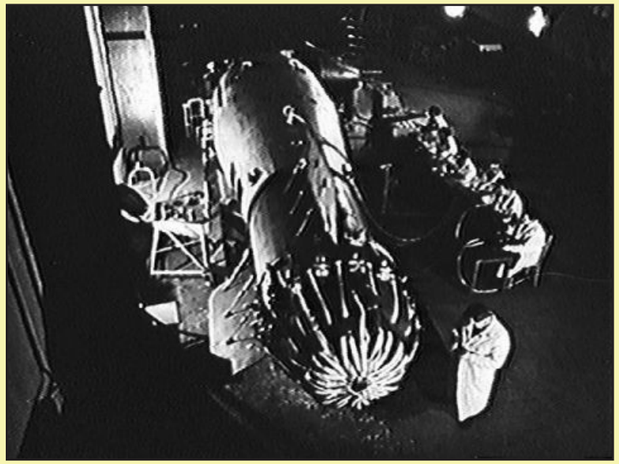
ing the North American early warning line and then been over U.S. and Canadian territory for 8 hours – ample time for jet fighters to intercept and shoot it down [Zaloga 1993] not that this would ever have happened.

Since preparation of the 100 megaton bomb only began after the 10 July meeting at which Khrushchev ordered the test series be held, no more than 112 days elapsed from initial concept to detonation - exactly 16 weeks.

Upon returning to Arzamas-16, the secret nuclear weapons laboratory in the Urals, after the meeting Sakharov selected a team to develop the 100 megaton device. He included Viktor Adamsky, Yuri N. Babaev, Yuri Trutnev, and the newly arrived Yuri Smirnov, then 24 years old ([Adamsky and Smirnov 1998], [Khariton 1993]). Sakharov indicates that the lead responsibility for the project lay with Adamsky and V.P. Feodoritov [Sakharov 1990, pg. 220].







Inside The RDS-220

Every aspect of the development was rushed. The mathematical analysis normally conducted by the Soviet weapon scientists for a new thermonuclear weapon design was skipped, substituting estimates and approximations of various kinds. This created uncertainties about the system performance that cropped up late in the preparations – leading to eleventh hour doubts, and last minute design modifications even while assembly was underway.

By the mid-August review, held after 13 August (*Sakharov states that is was 'after the Berlin Wall had been built*) and thus after about 4 weeks of work, Sakharov had decided to test a reduced yield "*clean*" version of the device with a yield of 50 megatons. At this review Khrushchev said that he had already disclosed the planned test of this device to visiting dignitaries from the U.S.. Khrushchev identified the dignitary as an unidentified U.S. senator (*and his grown daughter*), but Sakharov speculates that it was actually presidential adviser John McCloy [Sakharov 1990, pg. 218].

Khrushchev went public regarding the planned superbomb test with the announcement of the new test series issued simultaneously with the first shot fired on 1 September 1961 [Time 1961], [Adamsky and Smirnov 1998]. By pre-announcing the event, Khrushchev exhibited great confidence in his weapon development team, and also placed extreme pressure on them. In any ordinary test of a new weapon design a failure results in only a delay in successful completion (*and the cost of the materials expended*). Now any marked deviation in yield would result in the loss of the planned propaganda value in which Khrushchev placed so much emphasis. The make-or-break character of this test was heightened still further by its scheduling to coincide with the final sessions of the Twenty-Second Party Congress. The weight of this bomb – 27 tonnes – was nearly equal to

the Tu-95's maximum payload, and two and a half times its normal weapon load [Zaloga 1993]. Special attachment and release hardware thus had to be developed and installed. Since the bomb's dimensions – 2 meters wide and 8 meters long – were larger than the bomb bay could accommodate part of the fuselage had to be cut away, and the bomb bay doors removed. The bomb was partially recessed in the plane, but not enclosed, with over half of it protruding in flight [Adamsky and Smirnov 1998]. A special parachute had to be developed to slow the bombs descent. The fabrication of this massive parachute disrupted the Soviet nylon hosiery industry [Reed and Kramish 1996]. Even special ground handling equipment had to be developed to lift the bomb for attaching to the aircraft.

Assembly appears to have been conducted in parallel with the design effort – that is, they began building the device even while developing its design. The bomb was assembled on a railroad flatcar in a special workshop built over a railroad line. After completion, the workshop was dismantled and the flatcar was camouflaged as a regular freight-train car. The bomb was taken by train all the way to the airfield where it was loaded directly into the delivery aircraft [Adamsky and Smirnov 1998], [Sakharov 1990, pg. 219].

At the beginning of October Sakharov travelled to Moscow to discuss calculations for the 100 megaton bomb. After he returned to Arzamas-16, with the device almost ready for shipment, serious doubts about its design arose. This would have been about the middle of the month, no more than two weeks before the test.

The device had 'some risky new features' (*according to Sakharov*) and Evsei Rabinovich had become convinced that the device would not work. Rabinovich communicated his concerns to the rest of the project staff, without at first notifying Sakharov. His arguments were evidently persuasive, and could not be easily set aside. Sakharov was pulled into the debate, and he, with Adamsky and Feodoritov, developed counter-arguments that refuted Rabinovich's conclusions. Since both parties relied on approximations it was difficult to discern which was correct.

Sakharov explains his response to this crisis:

"*I decided to introduce some changes into the design of the Big Bomb, trying to minimize the margin of error in calculating the subtle processes which worried Rabinovich. I hurried off to David Fishman, the head of the design department, who did not even bother to complain – the matter was too serious. The designers did not go home that night until they had handed in revised blueprints; the actual design changes were made the following day*." [Sakharov 1990, pg. 220]

Adamsky and Smirnov comment on the uncertainties experienced by the team:

"*From time to time, we would naturally have doubts: would the device deceive us, would it fail at the moment of testing?*" Alluding to this, Sakharov said: "*If we don't make this thing, we'll be sent to railroad construction.*" [Adamsky and Smirnov 1998].

This was however a marked improvement over the days of Stalin when nuclear weapon designers ruminated over the prospect of being shot!

The Drop Sequence

By October 24 (only 6 days before the actual test) the final report was complete, including the proposed design of the bomb and the theoretical and design calculations. The specifications in the report were sent to design engineers and bomb assemblers. The report was co-authored by Andrei Sakharov, Viktor Adamsky, Yuri Babaev, Yuri Smirnov, and Yuri Trutnev. Adamsky and Smirnov, two of the reports authors have recently quoted the following statement from the report: "*A successful result from the test of this device opens the possibility of creating a device of practically unlimited power*" [Adamsky and Smirnov 1998].

According to [Adamsky and Smirnov 1998] "*even if the parachute system had failed during the test, the bomber's crew would not have been endangered, as the bomb contained a special mechanism which triggered its detonation only after the plane had reached a safe distance*".

This suggests that the bomb was rigged with a proximity fuze (*which could either be a timer, or a barostatic or radar altimeter*) that would detonate it close to the ground (*the pictures of the bomb do show nose mounted probes that have been identified as a radar altimeter - Janes Defense Weekly 1992*). Even with this technique, the free fall time to the ground was less than 60 seconds (*46 seconds neglecting air resistance*), allowing the Tu-95 release plane to get no more than 30 km from ground zero (*since this requires maximum speed, and a virtually instantaneous turn after release, the real separation might have been less*).

Shortly after the 30 October test the U.S. estimated the yield at 57 megatons. This value then circulated for 30 years as the actual yield of this device, quoted by Western sources and by the Soviet government. In his 1974 memoirs Khrushchev recollects: "*Our scientists calculated in advance that the force of the bomb would equal 50 million tons of TNT. That was in theory. In actual fact, the explosion turned out to be equivalent to 57 million tons*" [Khrushchev 1974; pg. 71]. However, all Russian sources since 1991 have consistently used a figure of 50 megatons, not 57. This includes the official Russian listing of all nuclear tests ([RFNC-VNIIEF 1996]), the personal account of the Arzamas-16's accomplishments by its long-time director Yuli Khariton ([Khariton 1993]), and the account of this device given by its developers Viktor Adamsky and Yuri Smirnov [Adamsky and Smirnov 1994].

In preparing its estimate of the bomb's yield the U.S. had data about the test that was collected surprisingly close at hand. With the advance notice of Khrushchev's announcement, and the other tests in the series, a crash program code-named Speedlight was organized at the behest of Hebert Scoville (*Joint Atomic Energy Intelligence Committee chairman*) and Gerald Johnson (*assistant to the Secretary of Defense for atomic energy*). A KC-135 Stratotanker was modified to carry broadband electromagnetic and special optical equipment (*which would have included a high-speed photometer called a 'bhangmeter'*). The modification was carried out under the supervision of Doyle Northrup by an Air Force unit headquartered at Wright-Patterson AFB called "Big Safari." The plane was ready for overseas deployment to its staging base by 27 October. Crossing over the Arctic Ocean, Speedlight was able to get quite close to the detonation point; close enough that the fuselage suffered scorching (*suggesting it was closer than the 45 km separation of the Tu-95 drop aircraft*).

The Tsar Bomba mushroom cloud seen from a distance of 160 km. The crown of the cloud is 56 km high at the time of the picture.

The light emission profile of the explosion collected by the "bhangmeter" would have been used to calculate yield; the electromagnetic monitoring equipment would have detected signals generated by each stage of the bomb as it ignited, allowing the interstage timing to be measured. The data was analyzed by the Foreign Weapons Evaluation Panel (better known as the Bethe Panel, after its chairman Hans Bethe) which assigned the yield estimate of 57 Megatons [Richelson 2006].

The discrepancy may be explained if the test were actually 50 megatons, but the U.S. estimate was high by 14%. This difference would not be an unusual deviation between actual and estimated yield. For example authoritative estimates of the yield of the Hiroshima bomb have varied from 12 to 16 kt, a 33% difference, despite U.S. advantages in knowing the detailed device design, and having conducted exhaustive studies of its effects on the ground. In the case of the 50 megaton test, the U.S. did not have the benefit of detailed information about the device. Nonetheless, given the up-close high quality data provided by Speedlight the yield magnitude of the discrepancy remains puzzling.

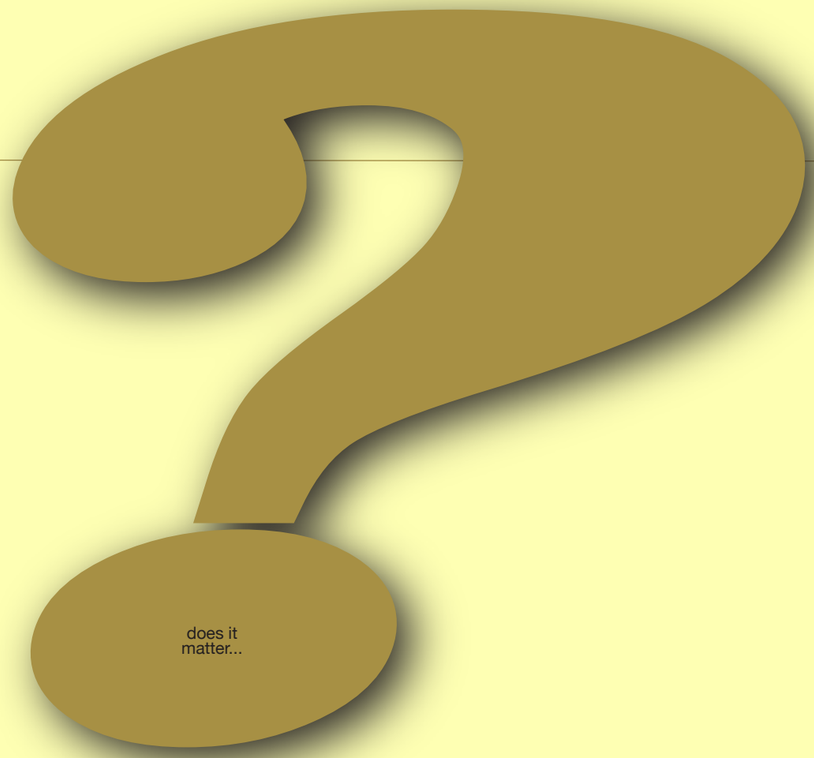
The reasons why the Soviets might use this high foreign estimate instead of correcting it with the actual lower figure are clear. The test was intended to be a spectacular demonstration of awesome Soviet capabilities. For this purpose the higher the yield the better. The Soviets had no reason to want to provide a more accurate, but lower, yield. Further, the underlying pathologies of the Soviet system encouraged self-deception. The capricious and very political nature of Khrushchev's decision making, and the fear and apprehension of the weapons scientist about the consequences of failure (*even if less extreme than during the Stalin years) illustrate how the system hardly encouraged feedback and truth-telling to the Soviet leadership. If Khrushchev heard of Western estimates as he surely did*) and was pleased with the weapons team "*exceeding their quota*" as it were, they could hardly be expected to risk themselves in disabusing the leader of the party and state of cherished notions Further, it is not unusual for governments to use inaccurate and unofficial figures developed by others in public discourse, if the accurate official figures are classified. It was even more typical for the CPSU and the Soviet government to refuse to ever acknowledge error. If once upon a time, the leader of the USSR publicly accepted a yield of 57 megatons, then this figure was unlikely to be corrected in subsequent statements. After the fall of the USSR, and the dethronement of the Communist Party as the monopolistic holder of state power, then these motivations to continue with inaccurate estimates disappeared. We'll call it 50 Megatons.

was it

50 megatons

or

57 megatons

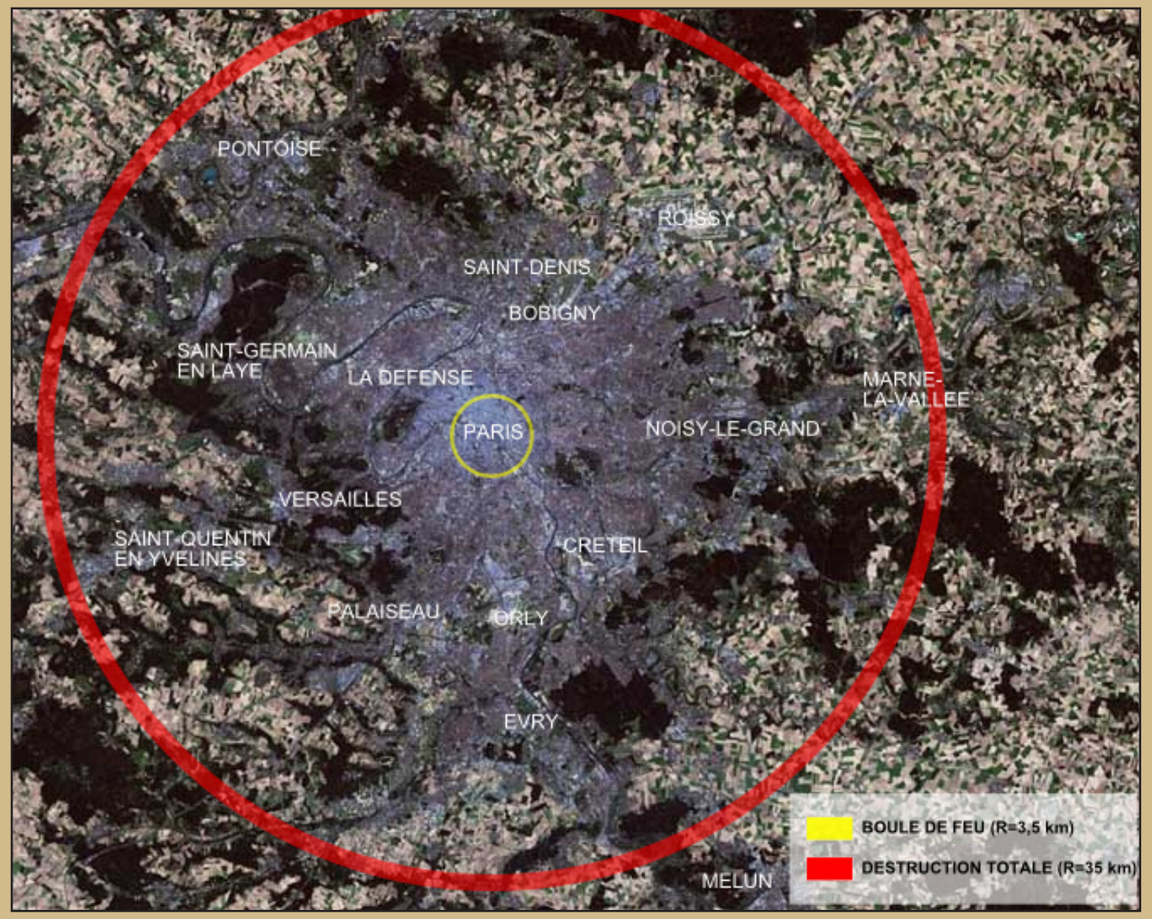


The Tsar Bomba is the single most physically powerful device ever used by man, though its size and weight precluded a successful delivery in case of a real war. By contrast, the largest weapon ever produced by the United States, the now-decommissioned B41, had a predicted maximum yield of 25 Mt, and the largest nuclear device ever tested by the US (Castle Bravo) yielded 15 Mt (*this was due to an unexpected runaway lithium-7 reaction; the design yield was approximately 5 Mt*). The largest weapons deployed by the Soviet Union were also around 25 Mt, as in the SS-18 Mod. 2 ICBM warheads.

Source: "Tsar Bomba's Blast Wave Orbited Earth Three Times in 1961"
http://english.pravda.ru/russia/history/17-09-2009/109339-tsar_bomba-0
Last Retrieved on March 1st, 2011.

40 Years Later – September 11th, 2001

much better science - much, much, much smaller bombs



Zone of total destruction of the Tsar Bomba with Paris, above, as an example:
red circle = total destruction (radius 35 kilometres (22 miles)
yellow circle in center = fireball (radius 3.5 kilometres (2.2 miles)

The bomb was tested at Novaya Zemlya Island in the Russian Arctic Circle. It was airdropped and detonated at around 4,000 meters, being visible from1,000 kilometers away despite overcast weather. Even at the great height at which it exploded, the fireball reached down to the Earth and rose almost to the height at which is was deployed at 10,500 meters. The blast pressure below the burst point was 6 times greater than the Hiroshima bomb at 300 PSI. One cameraman recalled:

The clouds beneath the aircraft and in the distance were lit up by the powerful flash. The sea of light spread under the hatch and even clouds began to glow and became transparent. At that moment, our aircraft emerged from between two cloud layers and down below in the gap a huge bright orange ball was emerging. The ball was powerful and arrogant like Jupiter. Slowly and silently it crept upwards... Having broken through the thick layer of clouds it kept growing. It seemed to suck the whole earth into it. The spectacle was fantastic, unreal, supernatural.

The Soviet Union was quickly condemned in the United Nations and the Western allies jumped back into the nuclear arms race. Thankfully, this monster never made it into the production line. The device's size, weight, as well as it's frightening destructive capabilities were deemed too extreme for use in a real conflict.

I urge the reader to watch the video linked above, center. It's had 500,000+ viewers and it's the best video of the Tsar Bomba that I've found. There are many others. Imagine, if you will, this same technology reduced to the size of an apple or a grapefruit. The costs would be minimal once a low level production phase was established. With current advances in nanotechnology the smaller components of weapons such as this could and would be reduced to nano-size making a bomb with the same construction criteria as the one above simply designed at a reduced scale. Ninety-seven percent (97%) reduced radiation in 1961. Could they have reduced the radiation to almost zero by 2000, lasting just 5 or 6 days as Dr. Christopher Busby theorizes? Are there bombs like this one that leave little radioactive fallout behind and what might be left would require sophisticated equipment to detect? Bombs that are, in fact, the size of an apple or a grenade? Easily disguised? Easily hidden ... ?

Of course there are.

This link below for the very first Soviet Hydrogen bomb test which took place in 1953 is particularly interesting:

http://www.youtube.com/watch?v=r0dUIq8gHgc&feature=related

Adamsky and Smirnov 1994] Viktor Adamsky and Yuri Smirnov. 1994. “Moscow’s Biggest Bomb: the 50-Megaton Test of October 1961” Cold War International History Project Bulletin, Issue 4, Fall 1994; pg. 3, 19-21. PDF document: http://cwihp.si.edu/pdf/bull4b.pdf); HTML Format: http://cwihp.si.edu/cwihplib.nsf/16c6b2fc83775317852564a400054b28/97630a00dff48d43852564bf006fca95?OpenDocument.

[Feoktistov 1999] Lev Petrovich Feoktistov. 1999. Nukes Are Not Forever. International Physicians for the Prevention of Nuclear War, Russia, Moscow. Chapter Five: A bomb for Nikita Khrushchev.

[Janes Defense Weekly 1992] Janes Defense Weekly. 1992. First Showing for Super-bomb, Janes Defense Weekly, 7 November 1992, pg. 17.

[Kalinin 1994] AV Kalinin. 1994. Secrets of the Soviet Nuclear Complex, IEEE Spectrum, May 1994, pp. 32-38.

[Khalturin et al 2005] Vitaly I. Khalturin, Tatyana G. Rautian, Paul G. Richards and William S. Leith. 2005. A Review of Nuclear Testing by the Soviet Union at Novaya Zemlya, 1955—1990, Science and Global Security, 13:1-42, 2005.

[Khariton 1993] Yuli Khariton and Yuri Smirnov. 1993. The Khariton Version, The Bulletin of the Atomic Scientists, May 1993, http://www.thebulletin.org/issues/1993/may93/may93Khariton.html.

[Khrushchev 1974] Nikita Khrushchev and Strobe Talbott (transl. and ed.). 1974. Khrushchev Remembers: The Last Testament. Boston: Little, Brown, and Company, LCC 74-4095.

[Podvig et al 2001] Pavel L. Podvig ed., with contributions from Oleg Bukharin, Timur Kadyshev, Eugene Miasnikov, Pavel Podvig, Igor Sutyagin, Maxim Tarasenko, and Boris Zhelezov. 2001. Russian Strategic Nuclear Forces. Cambridge Massachussetts: The MIT Press, ISBN 0-262-16204-4.

[Reed and Kramish 1996] Thomas Reed and Arnold Kramish. 1996. Trinity at Dubna, Physics Today, November 1996, pg. 30-35.

[Reines and Suydam 1949] F. Reines and B.R. Suydam. 1949. Preliminary Survey of Physical Effects Produced by a Super Bomb, LAMS-993, Los Alamos Scientific Laboratory http://lib-www.lanl.gov/la-pubs/00419767.pdf.

[RFNC-VNIIEF 1996] Russian Federal Nuclear Center-VNIIEF. 1996. USSR Nuclear Weapons Tests and Peaceful Nuclear Explosions: 1949 through 1990, Ministry of the Russian Federation for Atomic Energy, ISBN 5-85165-062-1.

[Richelson 2006] Jeffrey T. Richelson. 2006. Spying on the Bomb. New York: W.W. Norton & Company, pg. 103, 133-135.

[Spassky 2000] Nikolai Spassky ed. 2000. Russia’s Arms and Technologies, The XXI Century Encyclopedia: Volume I Strategic Nuclear Forces., Moscow: Publishing House “Arms and Technologies”, ISBN 5-93799-001-3.

[Sakharov 1990] Andrei Sakharov. 1990. Memoirs, New York: Alfred A. Knopf, pp. 215-225, ISBN 0-679-73595-X.

[Time 1961] Time Magazine. 1961. A Bang in Asia, Time magazine, 8 September 1961.

[Zaloga 1993] Steven J. Zaloga. 1993. Target America: the Soviet Union and the Strategic Arms Race 1945-1964, Presidio Press, ISBN 0-89141-400-2.

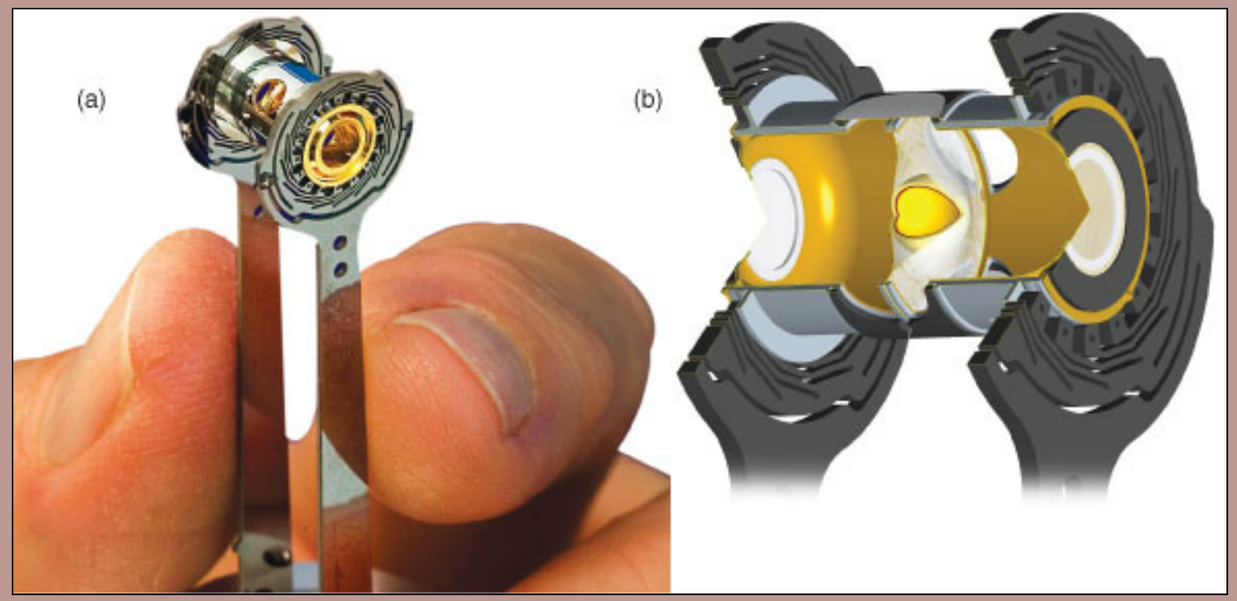
REFERENCES FOR BIG IVAN, THE TSAR BOMBA OR “KING OF BOMBS”

Semipalatinsk Test Site, Kazakhstan, August 29th, 1949, 7:00am (description at right).

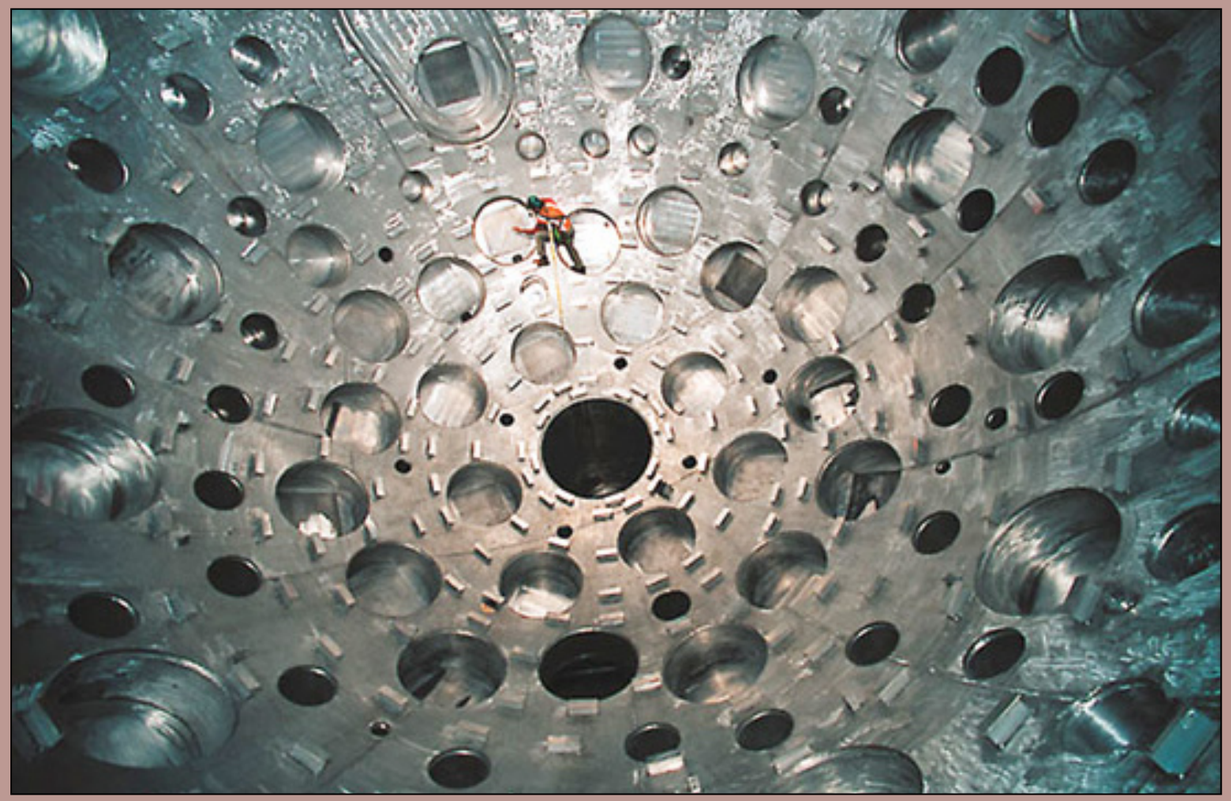
August 29th, 1949 - 7:00am

SEMIPALATINSK TEST

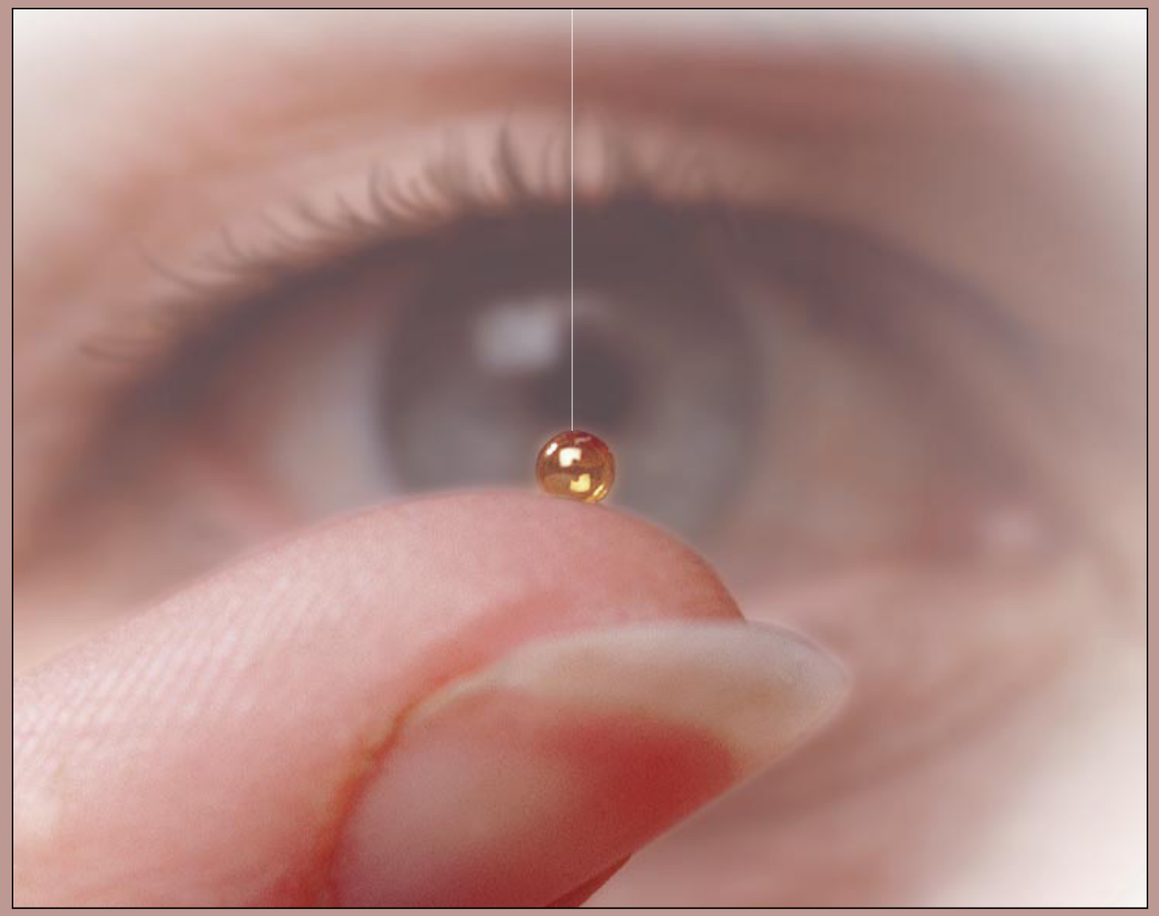
Semipalatinsk Test Site (left), Kazakhstan, August 29th, 1949, 7:00am. Sixty years ago on a remote steppe in the former Soviet Republic of Kazakh SSR, a flash splits the sky. The first Soviet nuclear test, code named “First Lightning.” had succeeded in detonating the communist country’s first Atomic Bomb. “Joe-1” was about the same size as the American “Fat Man” bomb that had flattened Nagasaki 4 years earlier, killing 80,000 people and maiming and harming millions more. The Soviet bomb was named for Joe Stalin, General Secretary of the Communist Party and head of the country. Joe-1 wasn’t the biggest bomb the Soviets or anyone else ever exploded. That distinction goes to “Tsar Bomba” or King Of Bombs that was detonated on October 30th, 1961, at the Mityushikha Bay test range above the Arctic Circle. The H-Bomb, Tsar Bomba, was 2,273 times bigger than Joe-1.



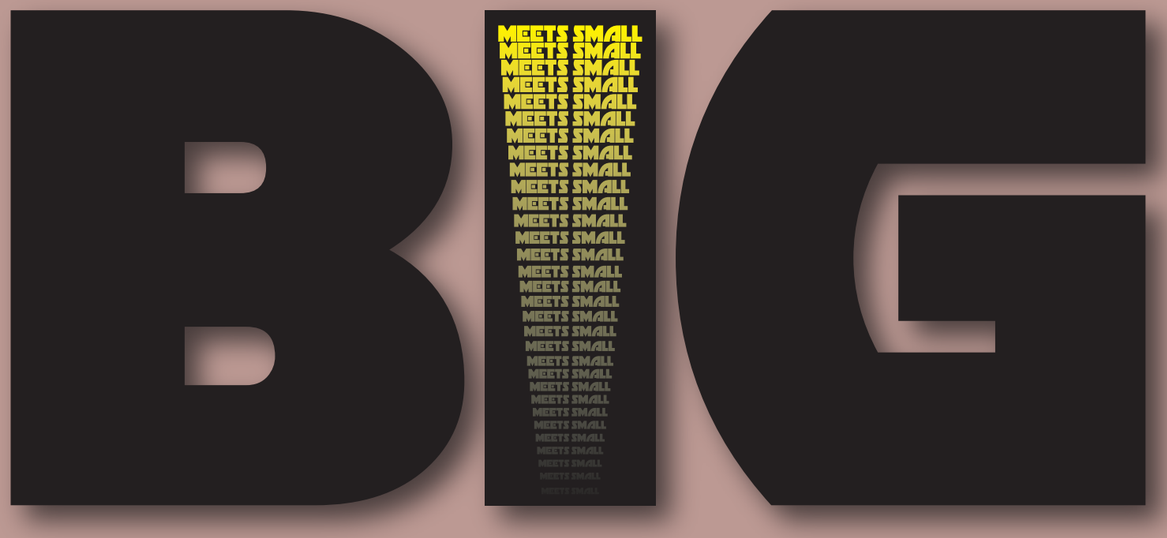
(a) The thermomechanical package (above) for the hohlraum–capsule assembly has a 2-millimeter-diameter capsule in the center.
(b) A cutaway rendering of the package shows the tenting (above right) of the capsule and the silicon support arms.



employee (top center), working inside a fusion reactor chamber



NIF's fuel "*target*", filled with either Deuterium-Tritium gas or D-T ice. The capsule is held in the hohlraum using thin plastic webbing. A ten micrometer filling tube is barely visible extending upwards from the top of the capsule.



Particulate Size

World Trade Center demolition and particulate size matter. The total thermal energy required to reduce many 1000s of tons of concrete to dust is immense. The concrete was calcined. The Ph was as high as caustic drain cleaner. Details like these, particulate size among them, are critically important. The calcined caustic concrete is a signature of nuclear demolition.

Although we can't see them, the air we breathe is full of microscopic particles. These particles are health hazardous and are thus considered a specific type of air pollution. Often this type of air pollution is called fine dust. The size of these particles is in the order of several nanometers to several micrometers. Currently regulation focuses primarily on the measurement and reduction of fine particles. Fine particles are often identified by Particle Matter (PM) ratings. PM10 rating as an example represents the weight of particles that have a diameter smaller than 10 micrometer.

However, a very large fraction of particles in urban air (less then 90%) has minute particles of around 100 nanometers (nm) and smaller. These we call very fine particles, ultra-fine particles and nano-particles. The chart inset at right clearly demonstrates the difference in dimensions of fine and ultra-fine particles. Ultra-fine particles range below the currently monitored levels. In other words, there is an important and actually invisible *unmeasured* factor in the air around us that we can't see and that impregnates everything.

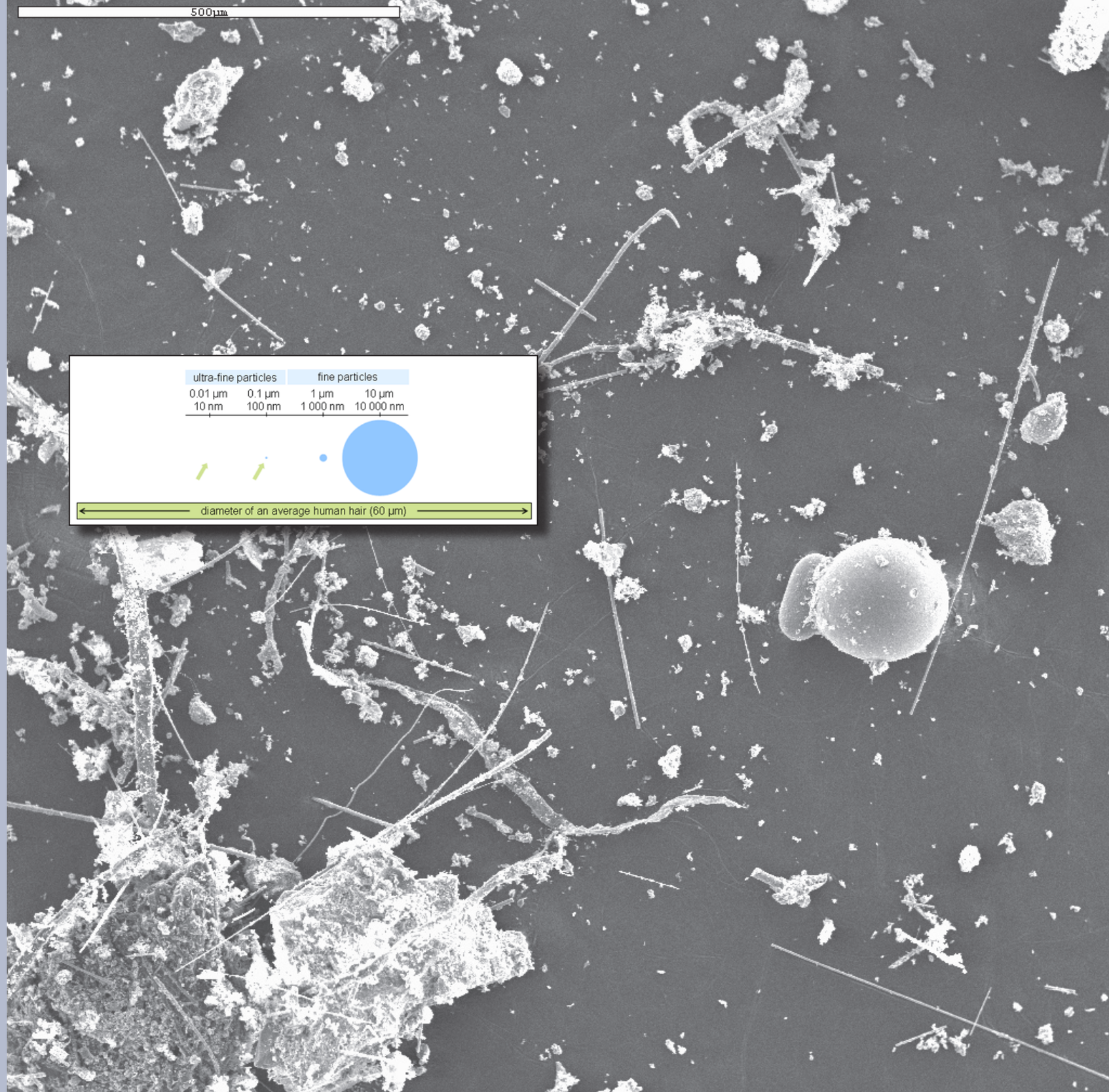
Airborne particles originate from many natural and man-made sources (e.g. sand dust, fires, diesel smoke, sea salt). Ultra-fine particles are normally only generated at very high temperatures, such as combustion processes. One can think of wood fires, industry, engines, cooking fumes, or cigarette smoke. Toner (carbon black) from copiers, laser printers and welding-fumes or nano-materials are important sources as well. The heat from fusion and fission also produce these types of particles in abundance.

The most important source of ultra-fine particles in urban air however is car traffic. Especially diesel exhaust which consists of large amounts of ultra-fine particles. Such particles are generally formed by a basically insoluble core of carbon of 10-20 nm, often covered with chemicals like sulphates, metals and hydrocarbons. These extremely small particles tend to conglomerate in the air into particles of around 100 nm.

Of course only radiation causes uranium, thorium, tritium, zinc and other elements to rise in the dust ***together.***

To access some of the best information available on atmospheric and ground dust particulates, Scanning Electron Microscopy and elemental analysis of the 911 dust see these links:

USGS Open Source Ground Zero ground dust sampling data:
http://pubs.usgs.gov/of/2001/ofr-01-0429/
Delta Group Open Source Ground Zero atmospheric dust sampling data:
http://www.tandfonline.com/doi/abs/10.1080/02786820490250836



THERMAL CAPACITY AND VERY FINE PARTICLES

Some people may not have fully grasped the significance of heat-generating criticality sites at the WTC after 911. Some have claimed that energetic compounds could have been responsible for these high underground temperatures and molten steel for a total of 100 days before they could be extinguished.

Any attempt to have a complete theory of 911 must include the WTC demolition on 911 itself, and crucially its aftermath of the great hot-spots and molten steel, over 3 months afterwards. Any complete theory must account for each and every anomaly seen that day and discovered afterwards as relates to the demolition.

The temperatures are supported by Dr. Thomas Cahill, nuclear atmospheric physicist and his Delta Group at UC Davis, the AVIRIS images, and numerous eyewitness accounts and images. Underground temperatures would have had to exceed 2500 degrees to "*boil soil and glass*" for days according to Cahill.

While energetic compounds or other conventional explosive may have been used in some subsidiary capacity on 911 an advancing plethora of evidence, science, chemistry and physics is highlighting clearly how only miniature nuclear devices could have accounted for all the phenomena of the 911 WTC demolitions. There are dozens of anomalies that must be accounted for and this is the only theory that covers all of them.

We have stated that only nuclear criticality sites could be the source of "*generated heat*" to "*boil soil and glass*" [Dr. Thomas Cahill, Dust, Part 1 and 2: http://www.box.net/shared/9duecajohk and http://www.box.net/shared/h81kjfkvg9] for weeks and months after 911. You can find, for example on Youtube, numerous videos of an energetic compound of some type being used to melt things including various metals — but no vaporization and a lot of melted metal (*we'll discuss melted metal at length later*). I've seen no vaporization of concrete. No one has calcined concrete with energetic compounds made of iron oxide rich spheres and aluminum in a silica substrate with approximately 300mps velocity (Harrit, 2010) into micron sized, highly acidic very fine particles.

Note that the energetic compound is not being used as an explosive when it is seen melting through a car or girder, e.g. But some of those videos clearly show that after just a few seconds, the molten compound residue is burned fully and cools off within 15-30 minutes. Energetic compounds, for example the one found by Jones, et al., with a velocity of 300mps (Harrit, 2010), would have burned rapidly wherever they were and in whatever quantity they may have occurred in because they're mixed at nano-scale specifically to be rapid and efficient burners exhausting their fuel in just milliseconds. Only un-fusioned or un-fissioned materials can continue to generate heat and "*boil soil and glass*" for 30 days after the event [Cahill, 2007].

It is highly likely that any energetic compounds at the WTC on 911 would have cooled off within hours or less. Indeed, I have stated that even the momentary maximum temperature of a nuclear demolitions hypocenter (*up to 100 million degrees*), is known to cool off relatively quickly. You can ascertain this rapid cooling off in regards to the Trinity Site, or Hiroshima or Nagasaki, or even H-Bomb test sites. The temperatures returned to normal at all these sites relatively quickly.

Now some claim that oxygen starved fires could allow for vastly longer high temperature fires underground at the WTC. These people don't seem to realize they have just proven the case only for nuclear chain reactions. Because only nuclear chain reactions release massive heat almost indefinitely, without needing any oxygen whatsoever. This is not the case for any conventional (*non-nuclear*) fire. This "*indefinite*" massive heat source was the basis for the term "*China Syndrome*" in regards to a nuclear reactor mishap which, in theory (*but not really*), could have massive indefinite heat leading to a nuclear reactor criticality core remnant burning all the way through to China. Some have suggested certain energetic compounds release their own oxygen. Were they able to do so they would exhaust their energy supply rapidly. And the bright, blinding flash of continually burning energetic compounds would have been apparent. Energetic compounds don't burn *slowly and manufacture oxygen below ground for months*. 100 days to be precise. Nuclear reaction accounts for this.

A newer nuclear device with a 10, 20, 50 or 100 foot radius would glow for a millisecond. Many above ground nuclear explosions have two flashes and the first flash is too fast to even be seen by the human eye. Many people don't know that. Perhaps a newer device has no visible flash at all. Of course that first initial unseen flash has been recorded, but there's more than meets the eye in this nuclear game and if you study it long enough, carefully enough, thoroughly enough, you'll learn that it's the only explanation for the events that occurred at the Twin Towers on 911. More important, you'll learn everything you knew about fusion, fission, radiation and nuclear explosives was wrong in the first place and far more complex, intricate and convoluted then you might have thought. Energetic compounds alone don't have the thermal capacity to calcine 100,000 tons of concrete (*that's just 25% of the estimated total concrete*) and they don't have the expanding thermal capacity to do what we saw that day in less than 10 seconds.

PARTICULATE SIZE
EXCERPT - DELTA GROUP

The size distribution of major elements was anomalous with almost all mass either coarse or very fine, unlike typical ambient aerosols seen in scores of studies since 1972 (Whitby 1978). The presence of so much mass in the very fine size fraction thus leads to a very high particulate surface area and number of particles.

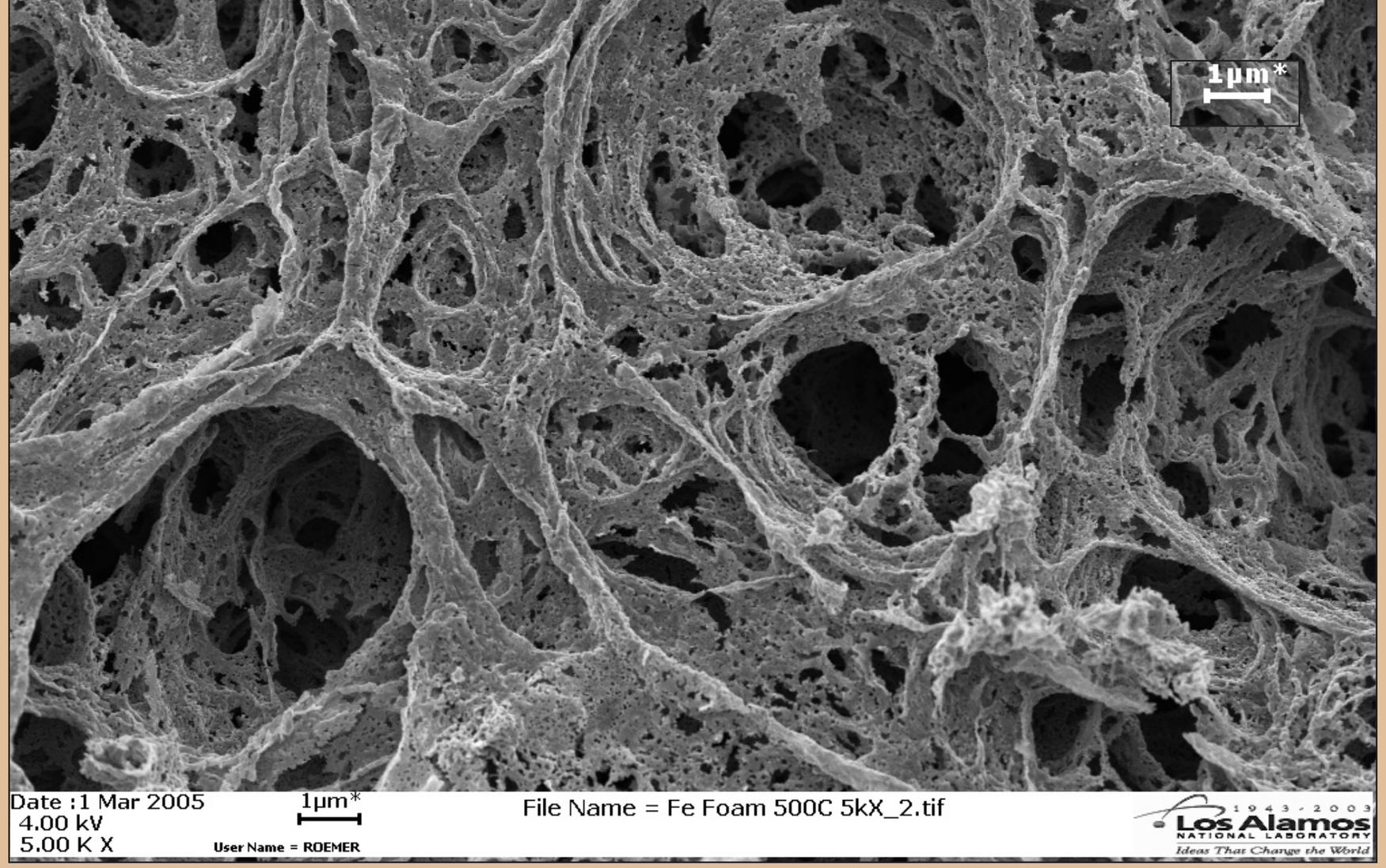
Very fine vanadium, nickel, and chromium versus time. Elemental data are presented for the very fine (0.26 > D p > 0.09 μm) mode for vanadium, nickel, and chromium, October 2–30 (see http://www.tandfonline.com/doi/abs/10.1080/02786820490250836)

CONCLUSIONS
EXCERPT - DELTA GROUP

In this work, we have isolated and characterized the nature of the aerosol plumes coming from the WTC collapse site in the period between October 2 and October 30, 2001. The key finding is the plumes were generally both coherent and elevated, thus not generally impacting ground-based sites in New York City away from the WTC collapse pile.

However, under certain meteorological conditions, the plumes could ventilate to the ground, leading to periods of sharply elevated coarse, fine, and very fine particulate mass over periods of a few hours 1.8 km from the WTC collapse site and beyond. The WTC plume data were in semiquantitative accord with EPA 24 h PM2.5 measurements.

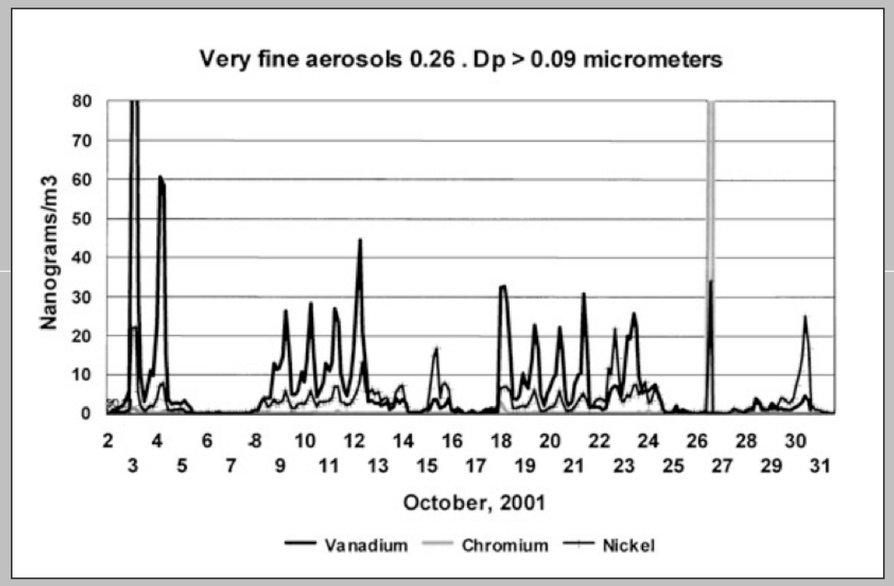
Very fine silicon particles, similar to those recently seen near coal-fired power plants, were a major component, about 10%, and may be derived either from similar high temperature processes or the formation of volatile halosilanes such as SiCl4. Due to the combination of relatively high mass and smaller-than-usual size, the number and surface concentration are unusually high both absolutely and on a per μg of mass basis. Since these particles are poorly soluble in lung fluids, they will likely have long retention times in the lung and most likely be cleared through macrophage ingestion and transport through the blood stream, although the data are available only for the even smaller ultrafine particles (U.S. EPA 1996). Very fine particle silicon concentra-



NANO TODAY • To produce a metal nanofoam (*above*), energetic metal bis(tetrazolato)amine (BTA) complexes are synthesized, compressed into cakes, and ignited in an inert atmosphere. The self-assembled nanoporous foam results from the action of heat released from combustion of the energetic complexes causing rapid gas-phase metal nanoparticle nucleation and agglomeration combined with the decomposition of the nitrogen-rich BTA ligands into gaseous products which, in effect, serve as a nano-blowing agent. BTA (Bis(tetrazolato)amine) ligands can be produced by the method described by Naud et al. Briefly, sodium dicyanoamide is reacted with sodium azide acidified to a pKa of less than 1 to produce sodium bis(tetrazolato)amine (Na-BTA). The Na-BTA is then rinsed thoroughly with sodium nitrite (NaNO2) to destroy any residual azides. Na-BTA is then treated with HCl to produce the free acid bis(tetrazolato)amine monohydrate (BTAw) which is then recrystallized. BTAw is subsequently treated with 3-4 equivalents of ammonium hydroxide to produce a highly-soluble diammonium salt (DA-BTA) which yields a chalky white precipitate diammonium bis(tetrazolato)amine monohydrate (DA-BTAw) upon evaporation. DA-BTAw can then be reacted with any of a number of metal chloride, nitrate, or perchlorate salts in aqueous solution to form the desired metal-BTA complex. The number of BTA ligands which attach to the metal center depends on the chemistry of the metal being used. For example, reaction of DA-BTA with iron perchlorate (*a dangerous oxidizer*) gives an iron complex with three BTA ligands. Reaction of DA-BTA with auric acid (HAuCl4) gives two complexes, one with two ligands and one with three. The resulting metal complex can then be isolated, washed, and purified.

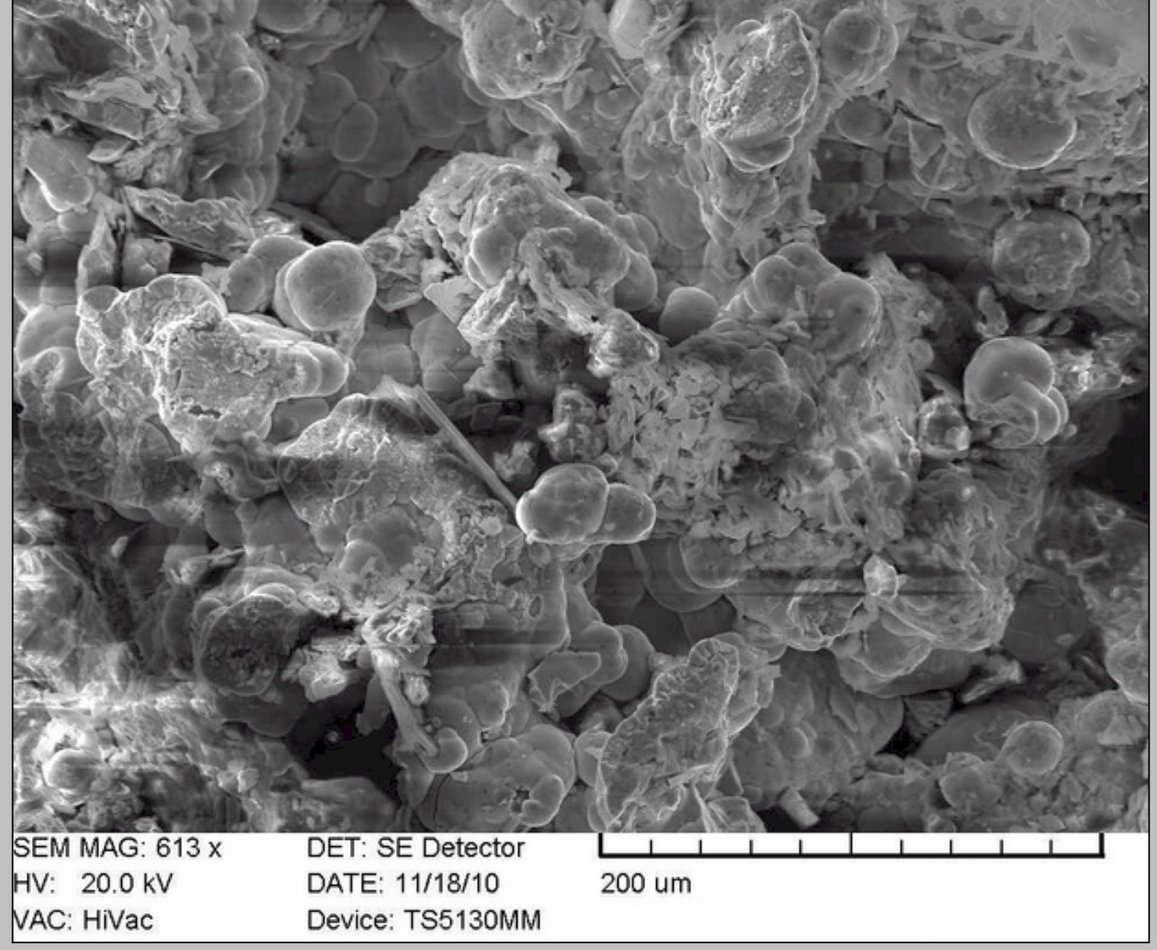
tions dropped sharply during October, far faster than the sulfates. Very fine metals were routinely seen, but while most were at low concentrations, some metals (V, Ni, Cu, As, Se, Br, and Hg) occurred at *Unprecedented* levels in the very fine size range (*my emphasis*).

Here, Dr. Cahill is telling us something. Vanadium, Nickel, Copper, Arsenic, Selenium, Bromine and Mercury were found in the atmospheric dust but they were found at nano-scale and in higher than expected levels. Smaller then small or what's commonly referred to as "very fine particles" within the scientific community. What thermal reaction caused these micron-sized particles to form in such high quantities?



The graph above shows the results for Vanadium, Chromium and Nickel
Spikes in Nickel (October 26), Vanadium (October 3) and Chromium (October 3 and 12) are all apparent

This study shows the value of highly time-resolved, size-resolved, and compositionally resolved aerosol data in aerosol emission events do not match the typical ambient aerosol patterns. In such situations, it may not be appropriate to base the estimated impact on health derived from the results of epidemiological studies based on 24 hour averages. A model based on acute industrial exposures may be more appropriate if extended to susceptible populations, i.e., young, old, and sick people. A person could, in a few hours, be subject to materials in amounts and composition that they would not have had to endure in years of typical ambient conditions. While the impacts of the plumes at sites away from the WTC collapse pile were episodic, that is not true for workers at the site itself, for which our data, when scaled to on-site conditions, could be relevant to health impact investigations. Finally, while the WTC event is hopefully unique, there have been in the past 30 years many similar types of events that deviate strongly from typical ambient conditions, including industrial accidents, major fires, dust storms, and the Mt St. Helens eruption, that would have benefited from increased information on particle size and composition as a function of time.



Uranium (*above*) under scanning electron microscopy was found at 7.57 parts per million (*93 Bequerels per kilogram*) in the dust taken from the girder coatings bt USGS personnel. Normal uranium content on earth is between 12 Bk/kg as a low and 40 Bequerels per kilogram as the maximum high making the girder coating uranium dust more than twice the expected level. What is the source of the increased levels of uranium found in this girder coating dust that was then surrounded by tons of building construction? Was it close enough to be slightly bombarded by neutrons and radioactive uranium atoms? This is the only answer.

Uranium in the environment refers to the science of the sources, environmental behaviour, and effects of uranium on humans and other animals. Uranium is weakly radioactive and remains so because of its long physical half-life (*4.468 billion years for uranium-238*). The biological half-life (*the average time it takes for the human body to eliminate half the amount in the body*) for uranium is about 15 days. Normal functioning of the kidney, brain, liver, heart, and numerous other systems can be affected by uranium exposure, because uranium is a toxic metal. The use of depleted uranium (DU) in munitions is controversial because of questions about potential long-term health effects. The use of Enriched Uranium found in Fallujah, Iraq, is criminal. The use of nuclear devices within the United States is also criminal.

A person could, (*in lower Manhattan after 911*) in a few hours, be subject to materials in amounts and composition that they would not have had to endure in over 100 years. Serious deadly illnesses are imminent.

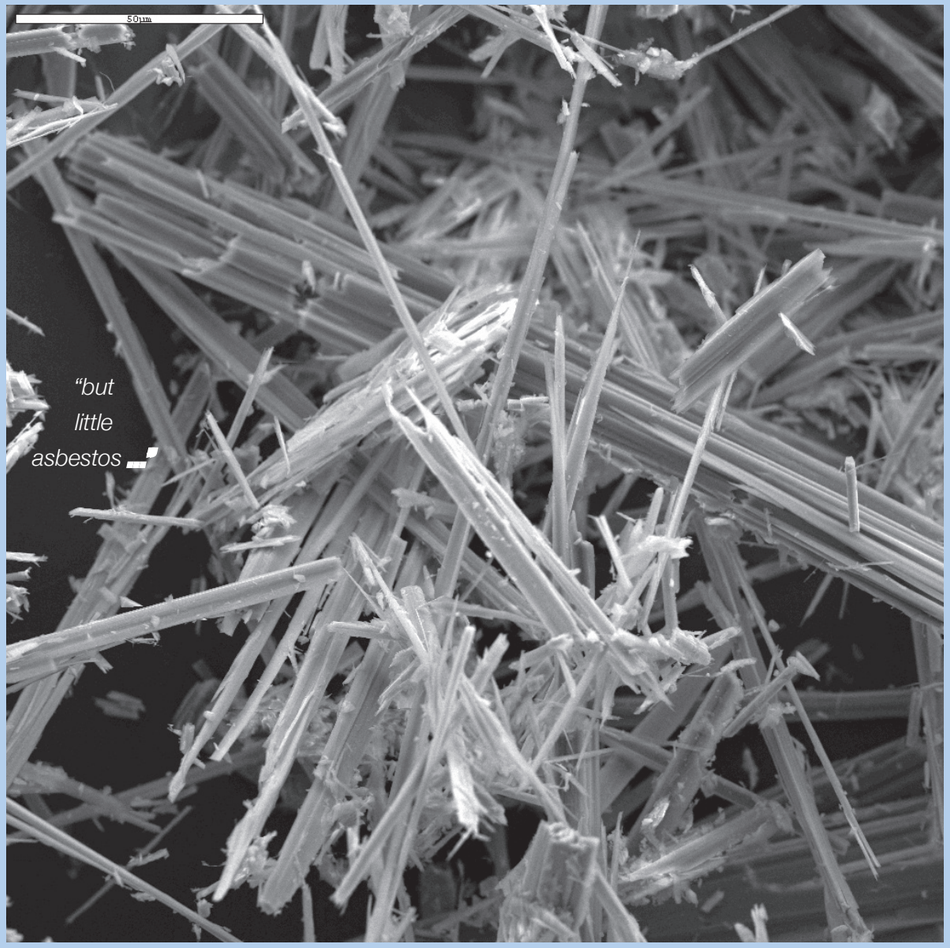
The only well known method of causing rapid increase in Thyroid cancer, Leukemia and Multiple Myeloma, and remember now – all three increasing rapidly together in the same cohort of people – is radiation exposure. The only known method capable of developing the thermal energy necessary to do what we see below – in the time that it took, less than 10 seconds in the still images below – is fusion and/or fission or both when we consider the amount of concrete calcined and the caustic measurements of the Ph of that concrete dust. There are many, many other compelling dust anomalies.

This was not a building collapse. This was not a building implosion.
This was a *massive* controlled nuclear building explosion.

Sophisticated Miniature Nuclear Bombs detonated rapidly every third, fifth or tenth floor with a total initial radii of perhaps as little as 10-50 feet each would have produced precisely what we saw. Deuterium-Tritium bombs that leave radiation requiring sophisticated equipment to register for a mere 5 or 6 days would explain the Twin Towers demolition and *all* of the anomalies associated with it.

GROUND ZERO ASBESTOS, OR LACK THEREOF ...

scanning electron microscope picture of anthophyllite asbestos



Analysis of Aerosols from the World Trade Center Collapse Site

New York, October 2 to October 30, 2001

Thomas A. Cahill,[1] Steven S. Cliff,[1] Kevin D. Perry,[2] Michael Jimenez-Cruz,[1] Graham Bench,[3] Patrick Grant,[3] Dawn Ueda,[3] James F. Shackelford,[4] Michael Dunlap,[4] Michael Meier,[4] Peter B. Kelly,[5] Sarah Riddle,[5] Jodye Selco,[5,6] and Robert Leifer[7]

1. DELTA Group, Department of Applied Science, University of California, Davis, California

2. Department of Meteorology, University of Utah, Salt Lake City, Utah

3. Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, California

4. Department of Chemical Engineering and Materials Science, UC Davis, Davis, California

5. Department of Chemistry, UC Davis, Davis, California

6. Redlands University, Redlands, California

7. Environmental Measurement Laboratory (EML), Department of Energy, New York, New York

Aerosol Science and Technology, 38:165–183, 2004
Copyright © American Association for Aerosol Research
ISSN: 0278-6826 print / 1521-7388 online
DOI: 10.1080/02786820490250836

Every truck, every tractor trailer, every vehicle leaving Ground Zero was required to pass through one of several large commercial truck washes before leaving Ground Zero. The trucks were washed fastidiously to remove what the public was told was asbestos. The trucks were pressure washed top to bottom including the undercarriage, wheels and axles. Removing asbestos so as not to track it across lower Manhattan was a very serious concern for those whose job it was to clean up the mess. But there wasn't any asbestos at Ground Zero. Viewing the AVARIS maps from NASA and examining the text from both the Delta Group and the USGS indicate clearly that the asbestos was dispersed across lower Manhattan by the demolition and that Ground Zero was virtually asbestos-free. In fact, the literature mentions that the asbestos across lower Manhattan was being lofted into the atmosphere by buses, taxis and normal city traffic. The trucks leaving Ground Zero had no asbestos or toxic chemicals to wash off. Yet they were required to be washed and the reason given by the city was to remove asbestos. I believe the truck washes, numerous commercial washes set up by the city were erected to remove lingering radioactive element particles and prevent those radioactive particles from being deposited across the city of Manhattan.

Abstract

The collapse of the World Trade Center buildings #2, the South Tower, #1, the North Tower and #7 created an enormous collapse pile which emitted intense plumes of acrid smoke and dust until roughly mid-December, when the last spontaneous surface fire occurred. We collected particles by size (8 modes, ≈12 to 0.09 micrometers diameter) and time (typical resolution of 1 to 3 h) from October 2 until late December at the EML 201 Varick Street site roughly 1.8 km NNE of the collapse site and 50 m above ground level.

Here we show some of the 70,000 mass and elemental data from the time period October 2 through October 30. Identification of a WTC collapse pile source for aerosols seen at the receptor site were based upon the simultaneous presence of finely powdered concrete, gypsum, and glass with intense very fine combustion-mode mass episodes concurrent with winds from the southwest analytical techniques, showed that while PM10 and PM2.5 24 h values rarely, if ever, violated federal air quality standards, WTC-derived plumes swept over lower Manhattan Island, resulting in intense aerosol impacts of durations of a few hours at any one site. The WTC plume resembled in many ways those seen from municipal waste incinerators and high temperatures processes in coal-fired power plants. The size fractions above 1 micrometer contained finely powdered concrete, gypsum, and glass, with soot-like coatings and anthropogenic metals, ***but little asbestos*.***

*USGS and AVARIS data confirm this finding on the ground

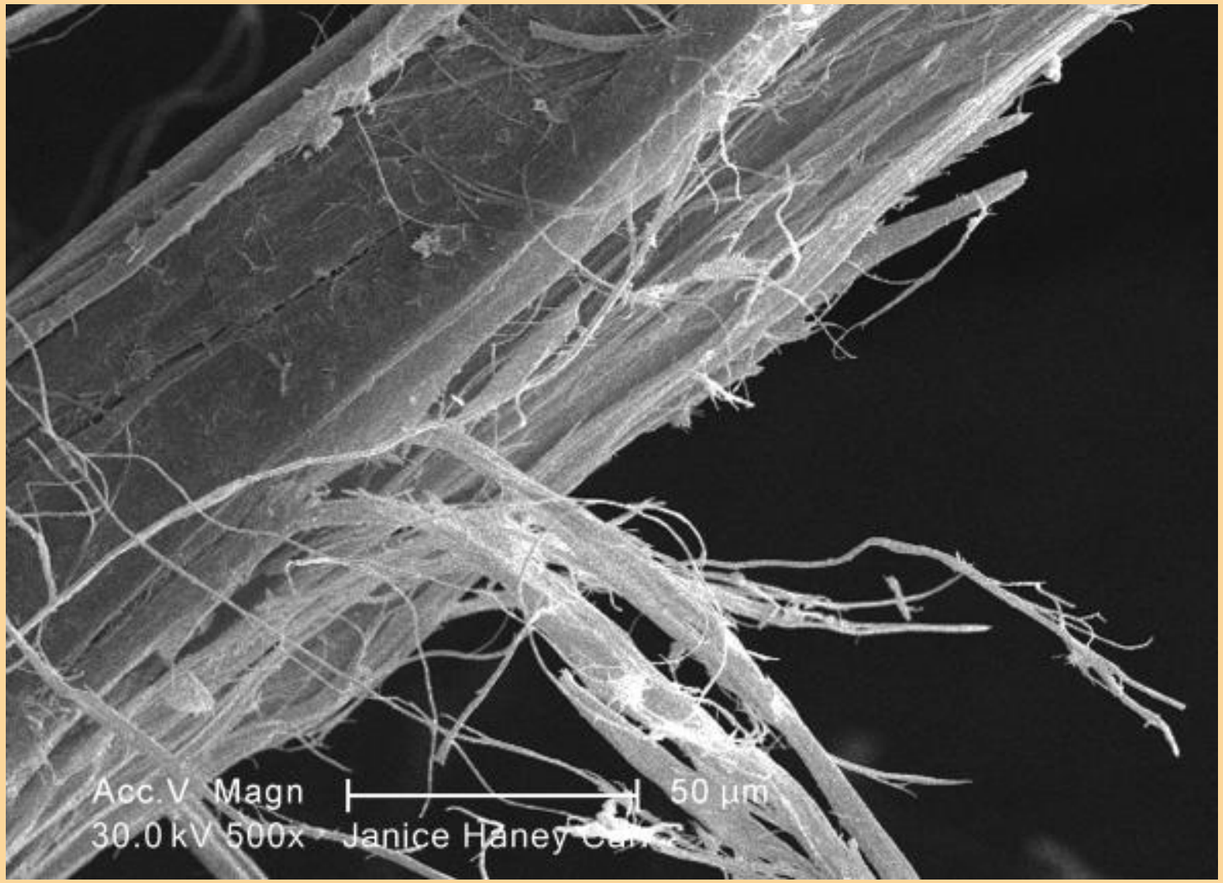
Composition in the very fine size range (0.26 > Dp > 0.09 µm) was dominated by sulfuric acid and organic matter, including polycyclic aromatic hydrocarbons (PAHs) and their derivatives, *and glass-like silicon-containing aerosols.* Many metals were seen in this mode, most, but not all, *at low concentrations. The concentrations of very fine silicon, sulfur, and many metals, as well as coarse anthropogenic metals, decreased markedly during October, probably in association with the cooling of the collapse piles. Values of very fine elements seen in May, 2002 at the WTC site were only a few percent of October values.

NO ASBESTOS AT GROUND ZERO

* Remember, this report stated earlier that, "*Very fine metals were routinely seen, but while most were at low concentrations, some metals (V, Ni, Cu, As, Se, Br, and Hg) occurred at unprecedented levels in the very fine size range.*"

ABOUT ASBESTOS

WHITE ASBESTOS



Under a moderate magnification of 500X, this scanning electron micrograph (SEM) revealed some of the microcrystalline ultrastructure exhibited by a piece of raw chrysotile, or white asbestos, which had been excavated from the Lowell Asbestos Mine on Belvidere Mountain, Vermont. Note the elongated crystalline structure, and how the fibrils are arranged in both bundles, and as singular serpentine units. Though chrysotile asbestos is the predominant commercial form of asbestos, asbestos is the name given to a group of six different fibrous minerals including chrysotile, amosite, crocidolite, and the fibrous varieties of tremolite, actinolite, and anthophyllite, with all occurring naturally in the environment. Note that the fibers are configured in both lamellated and teased patterns, which illustrates the long, flexible nature of this mineral's fibers. Workers who repeatedly breathe in asbestos fibers with lengths greater than or equal to 5µm (*this equals 5 millionths of a metre of 1 x 10^-6 m - the symbol 'µm' means micrometer*) may develop a slow buildup of scar-like tissue in the lung, and in the membrane that surrounds the lungs. This scar-like tissue does not expand and contract like normal lung tissue and so breathing becomes difficult. Blood flow to the lung may also be decreased, and this causes the heart to enlarge. This disease is called asbestosis. People with asbestosis have shortness of breath, often accompanied by a cough. This is a serious disease and eventually leads to certain disability and in people exposed to high amounts of asbestos over a long period of time it means death. However, asbestosis is not usually of concern to people exposed to *low* levels of asbestos. Changes in the membrane surrounding the lung, called pleural plaques, are quite common in people occupationally exposed to asbestos, and are sometimes found in people living in areas with high environmental levels of asbestos.

New York City was covered with asbestos and the AVARIS satellite images display asbestos across the city. Yet almost no asbestos was found at Ground Zero. Asbestos is not the cause of a wide range of rare cancers. We have dozens of years of science with clear indications of the pattern of disease seen in asbestos compromised workers. The regular breathing of asbestos particles by asbestos workers in the early 1900s led to serious health complications with severely compromised blood oxygenation but exposure to asbestos never led to rapidly developing rare cancers.

Even exposure to the toxic soup of chemicals in the Ground Zero dust has never caused rapid development of numerous rare cancers; these are only seen in individuals exposed to radiation.

IF THE ASBESTOS WAS DISPERSED ACROSS THE CITY WITH VERY LITTLE FOUND AT GROUND ZERO, WHY WAS THERE SO MUCH **TRITIUM** AT GROUND ZERO?
IF THE ASBESTOS WAS DISPERSED ACROSS THE CITY WITH VERY LITTLE FOUND AT GROUND ZERO, WHY WAS THERE SO MUCH **URANIUM** AT GROUND ZERO?

NO ASBESTOS AT GROUND ZERO

Why the fastidious clean-up when we know there was little asbestos at Ground Zero? Asbestos was specifically used as the reasoning behind the clean-up of workers and the wash-down of trucks leaving Ground Zero, yet the FDA claimed that “the air is safe to breathe.” More importantly, the USGS data, the AVARIS data and the UC Davis Delta Group data indicate with clarity virtually no asbestos was found at Ground Zero. It was dispersed north, north-east across the city.

RAGED

GROUND ZERO FIRES

The fires were and are never adequately discussed in the mainstream or in the alternative media 911 truth movement. In fact very little of the truly critical components of the event are ever discussed whether in the mainstream media (*of course*) or even in the alternative 911 truth media groups. Some have hypothesized that energetic compounds produce their own oxygen so underground fires burning at 2500 degrees and more aren't to be unexpected. However what is entirely unexpected and virtually impossible is for energetic compound residuals to produce enough oxygen for 3 months of uncontrollable underground fires. Energetic compounds burning for 3 months at a necessarily slow enough rate to maintain fires for over 90 days is impossible. These nano compounds are specifically designed to be rapid burners; to burn so fast that they reach their maximum 4500F degree (*approx*) temperature as fast as possible – in just milliseconds – and with fuel exhausted they then cool within 15 to 30 minutes. It is absolutely impossible for energetic compounds to fuel an underground fire for 100 days. Only a nuclear reaction is capable of producing the level of heat necessary to produce the aerosols. "*Boiling glass and soil*" and "*regenerating*" aerosols is how Dr. Cahill at UC Davis explains it. Only continuing fission can produce these results.

Non-Extinguishable Fires Burned Between 2355C+ or 4270F+ until *at least* October 30th when UC Davis Delta ended measurement

– the boiling point of glass to create or 'regenerate...' 'boiling soil and glass' aerosols 'coated with soot' (*Cahill 2004, 2007*)

Dr. Cahill and his UC Davis team, Delta Group, set up atmospheric testing equipment between October 2nd and the 30th of 2001. Their collective data supports temperatures in excess of 2500C almost two months after the event. A fire, even supported by remnant iron rich aluminum in a silica substrate with a 300mps velocity would be easily and rapidly extinguished with 1,200 (*minimum*) gallons of Pyrocool® *(see Pyrocool® industry analysis pages 125-127*) but Pyrocool® *failed.*

The collapse of the World Trade Center buildings number 2, the South Tower, number 1, the North Tower, and number 7 on September 11, 2001 is an unprecedented event in numerous ways. "*Yet the prompt and massive emissions of smoke and dust in the first days after the collapse were in accord with common understanding of such phenomena*." But is that true? It might be true for building 7 but the dust plumes related to towers 1 and 2 were dramatically different.

The contrasts, the independent unconventionally anomalous differences, the after-effect of the pyroclastic cloud in particular and the heat it must have carried are just the beginning of discussing the differences between the demolition of the Twin Towers and Building 7. The differences were numerous, wide-spread, all-encompassing.

"...the continuing emission of these plumes, especially after the heavy rains of September 14 and the increasingly effective efforts of fire suppression in mid- and late September, are not fully understood. Factors which are essential for an in-depth analysis are the chemical composition of the materials that could be aerosolized and the energy sources available in the collapse piles. In this regard, the kinetic energy of the two aircraft is negligible (<1%) compared to the chemical energy in the roughly 25,000 liters of fuel in each plane (some of which was burned outside the buildings). The gravitational potential energy of the collapse was capable of raising the entire mass of debris only a few degrees K. The largest energy sources available are the combustible materials present in the buildings and furnishings and a significant body of fuel, especially under World Trade Center #7, in the form of diesel fuel for emergency electrical generators and large quantities of oil in various forms in the Consolidated Edison substation, also under World Trade Center #7. Very high temperatures occurred in the burning floors of the buildings prior to collapse and during the first few days of active surface fires, as shown by the melting of metals. Later, infrared surveys showed surface temperatures in the collapse pile were as high as 30 K above ambient in October, and much higher subsurface temperatures were inferred from the lower portions of removed steel beams glowing red. The subsurface of the collapse piles remained hot for months despite use of massive amounts of water to cool them, with the last spontaneous surface fire occurring in mid-December.

Satellite and photographic observations of the aerosol plumes are extremely useful in characterizing plume transport, especially in the early days when few other measurements were performed or were available. On the evening of September 11, the area of lower Manhattan Island was blanketed with a dark gray smoke. On September 12 at 11:30 AM, the Enhanced Thematic Mapper Plus (ETM +) aboard the Landsat 7 satellite showed a dispersed plume moving WNW to SSW in a broad plume over roughly 120 degrees angular dispersion, while later that same day IKONOS showed a whitish coherent plume no more than about 0.3 km wide lofting above the buildings as it moved south towards open water (IKONOS 2001). Heavy rains occurred on September 14, which helped the Fire Department of New York (FDNY) extinguish surface fires while wetting the massive dust deposits. The plume detected by IKONOS on September 16 was much less intense and much darker than the plume of September 12, and the lofting is not as evident. All of these were consistent with the improved conditions on the collapse pile observed during rescue operations. In late September, World Trade Center rescue operations gradually ceased and recovery operations began and with them greatly increased fire suppression efforts, including wetting agents and use of heavy equipment to begin unpeeling the collapse pile."

Yet the fires raged for 100 days in spite of all efforts and were declared *officially* out on December 10th (*approx*).

FOR 100 DAYS

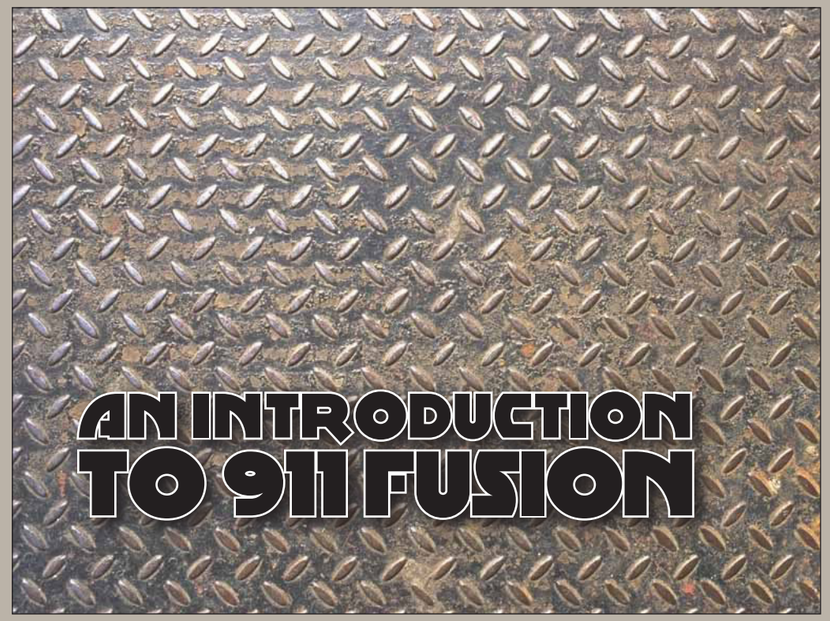
ABOUT METALS

UNUSUAL ELEMENTS UNUSUAL ELEMENTS UNUSUAL ELEMENTS

HYDROGEN

While hydrogen isn't a metal we're starting with hydrogen because it's a component of most nuclear reactions. The Hydrogen Fuel cell is a developing technology that will allow great amounts of electrical power to be obtained using a source of hydrogen gas.

Consideration is being given to an entire economy based on solar- and nuclear-generated hydrogen. Public acceptance, high capital investment, and the high cost of hydrogen with respect to today's fuels are but a few of the problems facing such an economy. Located in remote regions, power plants would electrolyze seawater; the hydrogen produced would travel to distant cities by pipelines. Pollution-free hydrogen could replace natural gas, gasoline, etc., and could serve as a reducing agent in metallurgy, chemical processing, refining, etc. It could also be used to convert trash into methane and ethylene. At some depth in the planet's interior the pressure is so great that solid molecular hydrogen is converted to solid metallic hydrogen.



The ordinary isotope of hydrogen, H, is known as Protium, the other two isotopes are Deuterium (*a proton and a neutron*) and Tritium (*a protron and two neutrons*). Hydrogen is the only element whose isotopes have been given different names. Deuterium and Tritium are both used as fuel in nuclear fusion reactors. One atom of Deuterium is found in about 6000 ordinary hydrogen atoms.

Deuterium is used as a moderator to slow down neutrons. Tritium atoms are also present but in much smaller proportions. Tritium is readily produced in nuclear reactors and is used in the production of the hydrogen (fusion) bomb. It is also used as a radioactive agent in making luminous paints, and as a tracer.

Sources: Los Alamos National Laboratory; CRC Handbook of Chemistry and Physics; American Chemical Society

URANIUM

Uranium is of great importance as a nuclear fuel. Uranium-238 can be converted into fissionable plutonium by the following reactions: 238U(n, gamma) --> 239U --(beta)--> 239Np --(beta)--> 239Pu. This nuclear conversion can be brought about in breeder reactors where it is possible to produce more new fissionable material than the fissionable material used in maintaining the chain reaction.

Natural uranium, slightly enriched with 235U by a small percentage, is used to fuel nuclear power reactors to generate electricity. Natural thorium can be irradiated with neutrons as follows to produce the important isotope 233U: 232Th(n, gamma)--> 233Th --(beta)--> 233Pa --(beta)--> 233U. While thorium itself is not fissionable, 233U is, and in this way may be used as a nuclear fuel. One pound of completely fissioned uranium has the fuel value of over 1500 tons of coal.

The uses of nuclear fuels to generate electrical power, to make isotopes for peaceful purposes, and to make explosives are well known. The estimated world-wide capacity of the 429 nuclear power reactors in operation in January 1990 amounted to about 311,000 megawatts. The total has not increased significantly since then.

Uranium in the U.S.A. is controlled by the U.S. Nuclear Regulatory Commission. New uses are being found for depleted uranium, ie., uranium with the percentage of 235U lowered to about 0.2%.

Uranium is used in inertial guidance devices, in gyro compasses, as counterweights for aircraft control surfaces, as ballast for missile reentry vehicles, and as a shielding material. Uranium metal is used for X-ray targets for production of high-energy X-rays; the nitrate has been used as a photographic toner, and the acetate is used in analytical chemistry.

Crystals of uranium nitrate are triboluminescent. Uranium salts have also been used for producing yellow "vaseline" glass and glazes. Uranium and its compounds are highly toxic, both from a chemical and radiological standpoint. Sources: Los Alamos National Laboratory; CRC Handbook of Chemistry and Physics; American Chemical Society

TRITIUM

Tritium; symbol T or ^{3}H also known as hydrogen-3 is one of the 16 radioactive isotope of hydrogen. The nucleus of tritium (*sometimes called a triton*) contains one proton and two neutrons, whereas the nucleus of protium (*by far the most abundant hydrogen isotope)* contains one proton and no neutrons. Naturally occurring tritium is extremely rare on Earth.

Beta particles from tritium can penetrate only about 6.0 mm of air, and they are incapable of passing through the dead outermost layer of human skin. The unusually low energy released in the tritium beta decay makes the

(*along with that of rhenium-187*) element an appropriate laboratory for absolute neutrino mass measurements (*the most recent experiment being KATRIN which you should Google*).

Tritium is also produced in heavy water-moderated reactors whenever a deuterium nucleus captures a neutron. This reaction has a quite small absorption cross section, making heavy water a good neutron moderator, and relatively little tritium is produced. Even so, cleaning tritium from the moderator may be desirable after several years to reduce the risk of its escaping to the environment. The Ontario Power Generation's "Tritium Removal Facility" processes up to 2,500 long tons (2,500,000 kg) of heavy water a year, and it separates out about 2.5 kg (5.5 lb) of tritium, making it available for other uses.

Sources: Los Alamos National Laboratory; CRC Handbook of Chemistry and Physics; American Chemical Society

PRODUCTION HISTORY

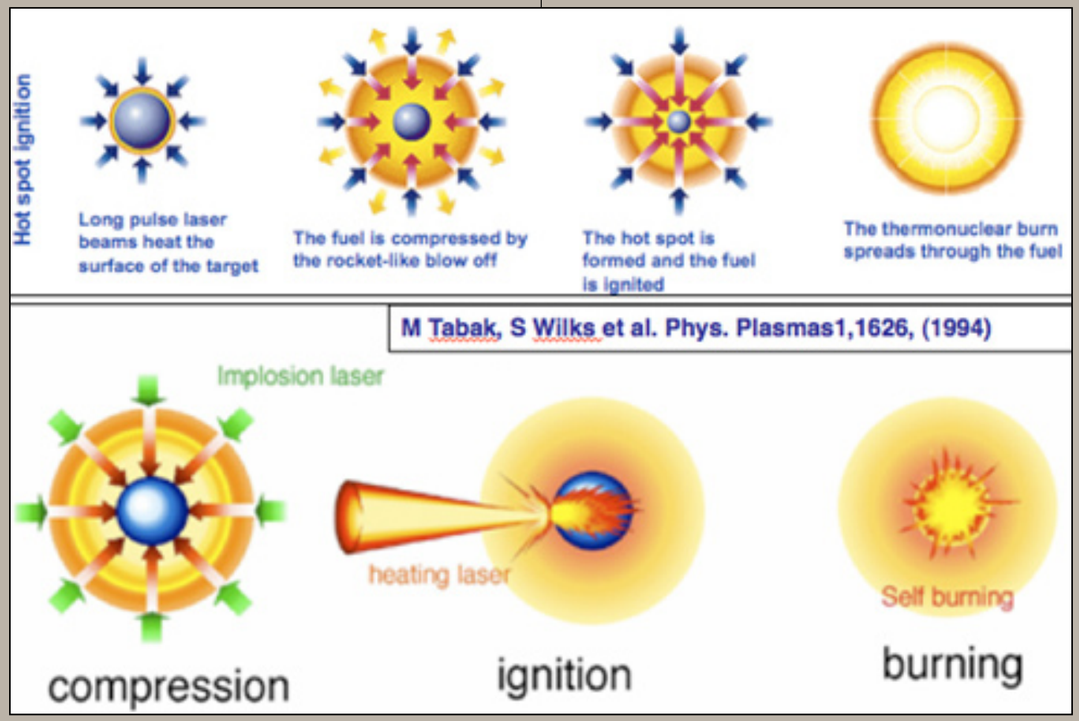
According to the Institute for Energy and Environmental Research report in 1996 about the U.S. Department of Energy, only 225 kg (500 lb) of tritium has been produced in the United States since 1955. Since it continually decays into helium-3, the total amount remaining was about 75 kg (170 lb) at the time of the report.

Tritium for American nuclear weapons was produced in special heavy water reactors at the Savannah River Site until their close-downs in 1988. With the Strategic Arms Reduction Treaty (START) after the end of the Cold War, the existing supplies were sufficient for the new, smaller number of nuclear weapons for some time.

The production of tritium was resumed with irradiation of rods containing lithium (replacing the usual control rods containing boron, cadmium, or hafnium), at the reactors of the commercial Watts Bar Nuclear Generating Station in 2003–2005 followed by extraction of tritium from the rods at the new Tritium Extraction Facility at the Savannah River Site beginning in November 2006. Tritium leakage from the TPBARs during reactor operations limits the number that can be used in any reactor without exceeding the maximum allowed tritium levels in the coolant.

Tritium's radioactivity is 9650 curies per gram.

Tritium figures prominently in studies of nuclear fusion because of its favorable reaction cross section and the large amount of energy (17.6 MeV) produced through its reaction with deuterium.



fast ignition is another approach to inertial confinement fusion - see next page

HEALTH RISKS

Tritium is an isotope of hydrogen, which allows it to readily bind to hydroxyl radicals, forming tritiated water (HTO), and to carbon atoms. Since tritium is a low energy beta emitter, it is not dangerous externally (*its beta particles are unable to penetrate the skin*), but it is a radiation hazard when inhaled, ingested via food or water, or absorbed through the skin has a short biological half-life in the human body of 7 to 14 days, which both reduces the total effects of single-incident ingestion and precludes long-term bioaccumulation of HTO from the environment.

Tritium has leaked from 48 of 65 nuclear sites in the United States, detected in groundwater at levels exceeding the United States Environmental Protection Agency (EPA) drinking water standards by up to 375 times.

The US Nuclear Regulatory Commission states that in normal operation in 2003, 56 pressurized water reactors released 40,600 curies of tritium (maximum: 2,080; minimum: 0.1; average: 725) and 24 boiling water reactors released 665 curies (maximum: 174; minimum: 0; average: 27.7), in liquid effluents.

SELF-POWERED LIGHTING

The emitted electrons from the radioactive decay of small amounts of tritium cause phosphors to glow so as to make self-powered lighting devices called betalights, which are now used in firearm night sights, watches, exit signs, map lights, and a variety of other devices. This takes the place of radium, which can cause bone cancer and has been banned in most countries for decades. Commercial demand for tritium is 400 grams per year and the cost is approximately US $30,000 per gram.

NUCLEAR WEAPONS

Tritium is an important component in nuclear weapons. It is used to enhance the efficiency and yield of fission bombs and the fission stages of hydrogen bombs in a process known as "boosting" as well as in external neutron initiators for such weapons.

NEUTRON INITIATOR

Actuated by an ultrafast switch like a krytron, a small particle accelerator drives ions of tritium and deuterium to energies above the 15 kilo-electron-volts or so needed for deuterium-tritium fusion and directs them into a metal target where the tritium and deuterium are adsorbed as hydrides. High-energy fusion neutrons from the resulting fusion radiate in all directions. Some of these strike plutonium or uranium nuclei in the primary's pit, initiating nuclear chain reaction. The quantity of neutrons produced is large in absolute numbers, allowing the pit to quickly achieve neutron levels that would otherwise need many more generations of chain reaction, though still small compared to the total number of nuclei in the pit.

BOOSTED FISSION WEAPON

Before detonation, a few grams of tritium-deuterium gas are injected into the hollow "pit" of fissile plutonium or uranium. The early stages of the fission chain reaction supply enough heat and compression to start deuterium-tritium fusion, then both fission and fusion proceed in parallel, the fission assisting the fusion by continuing heating

highly energetic (14.1 MeV) neutrons. As the fission fuel depletes and also explodes outward, it falls below the density needed to stay critical by itself, but the fusion neutrons make the fission process progress faster and continue longer than it would without boosting. Increased yield comes overwhelmingly from the increase in fission. The energy released by the fusion itself is much smaller because the amount of fusion fuel is so much smaller. The effects of boosting include:

• increased yield (for the same amount of fission fuel, compared to detonation without boosting)
• the possibility of variable yield by varying the amount of fusion fuel
• allowing the bomb to require a smaller amount of the very expensive fissile material – and also eliminating the risk of predetonation by nearby nuclear explosions
• not so stringent requirements on the implosion setup, allowing for a smaller and lighter amount of high-explosives to be used

The tritium in a warhead is continually undergoing radioactive decay, hence becoming unavailable for fusion. Furthermore its decay product, helium-3, absorbs neutrons if exposed to the ones emitted by nuclear fission. This potentially offsets or reverses the intended effect of the tritium, which was to generate many free neutrons, if too much helium-3 has accumulated from the decay of tritium. Therefore, it is necessary to replenish tritium in boosted bombs periodically. The estimated quantity needed is 4 grams per warhead. To maintain constant levels of tritium, about 0.20 grams per warhead per year must be supplied to the bomb.

One mole of deuterium-tritium gas would contain about 3.0 grams of tritium and 2.0 grams of deuterium. In comparison, the 4.5 kilograms of plutonium-239 in a nuclear bomb consists of about 20 moles of plutonium.

TRITIUM IN HYDROGEN BOMB SECONDARIES

Since tritium undergoes radioactive decay, and it is also difficult to confine physically, the much-larger secondary charge of heavy hydrogen isotopes needed in a true hydrogen bomb uses solid lithium deuteride as its source of deuterium and tritium, where the lithium is all in the form of the lithium-6 isotope.

During the detonation of the primary fission bomb stage, excess neutrons released by the chain reaction split lithium-6 into tritium plus helium-4. In the extreme heat and pressure of the explosion, some of the tritium is then forced into fusion with deuterium, and that reaction releases even more neutrons.

Since this fusion process requires an extremely higher temperature for ignition, and it produces fewer and less energetic neutrons (*only fission, deuterium-tritium fusion, and 73Li splitting are net neutron producers*), lithium deuteride is not used in boosted bombs, but rather, for multistage hydrogen bombs.

CONTROLLED NUCLEAR FUSION

Tritium is an important fuel for controlled nuclear fusion in both magnetic confinement and inertial confinement fusion reactor designs. The experimental fusion reactor ITER and the National Ignition Facility (NIF) will use deuterium-tritium fuel. The deuterium-tritium reaction is favorable since it has the largest fusion cross-section (about 5.0 barns) and it reaches this maximum cross-section at the lowest energy (*about 65 keV center-of-mass*) of any potential fusion fuel.

The Tritium Systems Test Assembly (TSTA) was a facility at the Los Alamos National Laboratory dedicated to the development and demonstration of technologies required for fusion-relevant deuterium-tritium processing, nuclear weapons testing, primarily in the high-latitude regions of the Northern Hemisphere, throughout the late 1950s and early 1960s introduced large amounts of tritium into the atmosphere, especially the stratosphere. Before these nuclear tests, there were only about 3 to 4 kilograms of tritium on the Earth's surface; but these amounts rose by 2 or 3 orders of magnitude during the post-test period.

FAST IGNITION INERTIAL CONFINEMENT FUSION

The Ohio State University Department of Physics
High Energy Density Physics Group • Physics Research Building

Controlled Fusion for the generation of pollution-free energy has been a goal of physicists since the mid 1950's. Fusion of isotopes of the hydrogen ion (proton, deuteron, triton) is the mechanism that powers all stars: It can occur only in extraordinary conditions not naturally found on earth. Although scientists have learned how to exploit this fundamental power source for weapons (thermal nuclear "hydrogen" bombs), we have had 6 decades of expensive frustration trying to harness this power for a source of useful energy. Currently the US officially supports only one form of research on controlled fusion, that is magnetically confined fusion as expressed in ITER (Latin for "the way"), the international project located in southern France designed to demonstrate fusion energy based on the "tokamak" concept. Not so officially, there is also a large and robust research effort to demonstrate Inertial Confinement Fusion (ICF) as expressed in NIF (National Ignition Facility), located on the campus of the Lawrence Livermore National Laboratory in California. This process compresses an exquisitely finely crafted pellet of deuterium-tritium ice to a density exceeding 300 times that of water. The NIF has 192 laser beams focused on a pellet whose dimensions are measured in mm's; each of the beams has approximately 5kJ of energy in a pulse of several nanoseconds. If everything goes as planned, the center of the pellet will rise to temperatures on the order of 50 million degrees and a self-sustaining nuclear reaction will occur where the deuterium and tritium ions fuse together, creating a helium nucleus and releasing an energetic neutron. Predictions for the NIF suggest that the energy output of this "ignition" event will be as much as 20 times that of the laser energy input: that is, over 20 million Joules.

As significant as this eagerly anticipated result will be, it is still an enormous step to actually design a power plant based on ICF. This is where the Fast Fusion concept comes in: in Fast Fusion the "trigger" for the fusion within the compressed pellet is the arrival of an ultra-intense laser pulse of nominally 50kJ energy, with a pulse length of 20 picoseconds. There are many notional advantages in the fast fusion concept: The pellet no longer has to be so precisely manufactured, the energy of the compression lasers can be reduced up to an order of magnitude, and the concept lends itself to the relatively rapid sequencing required for an energy source.

Not surprisingly, there are also many new physics issues associated with this concept as well, e.g., how exactly does a super intense laser interact with matter, how does matter react to currents and fields whose magnitudes occur only within stars, is it possible to design targets and laser pulses that give us control over how the energy flows in such a target? These are but a sampling of the difficult yet fascinating fundamental physics questions that drive our interest in what is now referred to as "High Energy Density Physics" (HEDP). Our group participates in a national consortium that conducts experiments on the largest laser systems in the world to try to understand these issues; simultaneously within the HEDP laboratory here at The Ohio State University we not only conduct experiments on our own laser, capable of exceeding 1021 W/cm2, we also model the myriad of complex many body interactions using massive parallel computing.

PART TWO CONCLUSIONS

1. Big Ivan left little radiation (*reducing radioactive output by 97% in 1961*). Forty years of technological advances could have easily produced a bomb with very, very little and very, very short-lived radioactive elements.

2. Big Ivan produced not only alpha, not only beta and not only gamma radiation but high neutron radiation which is measured differently and requires sophisticated measuring equipment to detect. A standard Geiger Counter might not produce sound results with a Deuterium-Tritium detonation.

3. Using 'Big Ivan' technology including advances made during 40 years of diligent study it's not hard to imagine a micronuclear device the size of an apple. The demolition effect would then be scaled down to what we actually saw on 911. Two 1000+ foot structural steel towers destroyed with the majority of the elements turned to dust; micron sized "*very small particles*" that can only be formed by a fusion device, a fission device or a fusion/fission device. Dropped in their footprints. Twice. In less then 10 seconds each.

4. The dust pH was as high as caustic drain cleaner which, with concrete, would require incredible heat. It was reported over 12 on the pH scale. In fact it requires more thermal energy to calcine concrete then to dissociate structural steel into what would be considered dust or its basic constituents. This is the signature of a nuclear event.

5. Very fine metals were routinely seen, but while most were at low concentrations, some metals (V, Ni, Cu, As, Se, Br, and Hg) occurred at unprecedented levels in the very fine size range. A person could, in a few hours, be subject to materials in amounts and composition that they would not have had to endure in years of typical ambient conditions. Ground Zero diseases are imminent and 1,003 First Responders were dead by March of 2011.

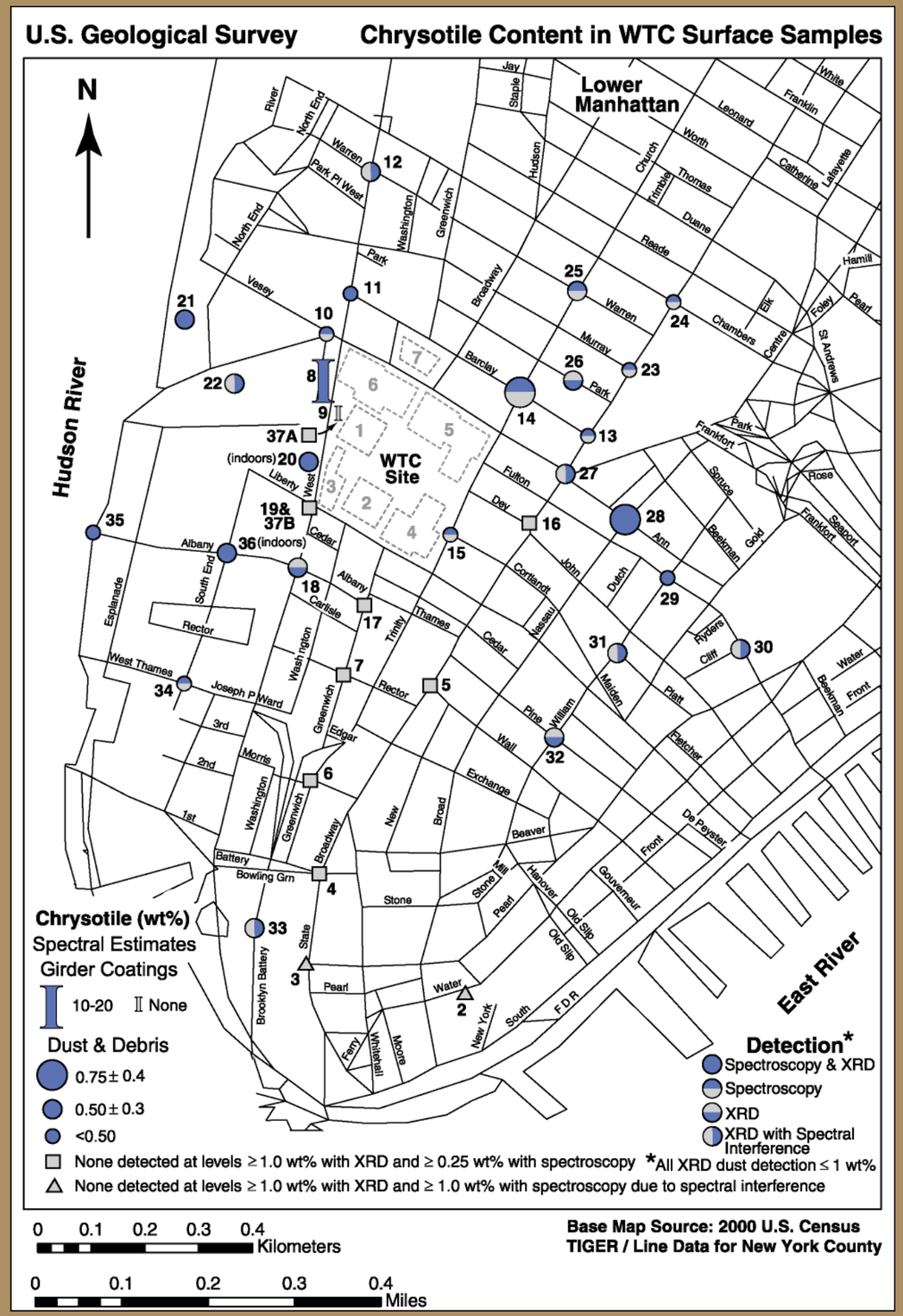
6. According to the Delta Group, "*The size fractions above 1 micrometer contained finely powdered concrete, gypsum, and glass, with soot-like coatings and anthropogenic metals, but little asbestos.*" The USGS data produces the same result. AVARIS satellite images confirm. There was virtually NO asbestos at Ground Zero. This presents a serious problem. If there was very little asbestos at Ground Zero and almost none to be more accurate (*and we know the buildings were filled with asbestos*) and the asbestos was dispersed across lower Manhattan by the demolition then what was the source of the elevated tritium levels at Ground Zero and why wasn't the tritium also dispersed across the city like the asbestos?

7. If the tritium, uranium, zinc and asbestos were equally dispersed across the city then why was the tritium, uranium and zinc content at Ground Zero so high and the asbestos content so absurdly low? See the map at right for a cursory look at asbestos (*chrysotile*) distribution throughout lower Manhattan but use the data linked on page 5 herein for confirmation of asbestos content at Ground Zero as compared to other elements.

7. The fires raged for 100 days at underground temperatures exceeding 2500 degrees and even 1200 gallons of Pyrocool® could not extinguish the fires (*see Pyrocool® data in this eMagazine*). Energetic compounds, especially at nano-scale, will not accomplish this feat because they are designed at nano-scale to be rapid burners exhausting their fuel in milliseconds. This is precisely how they reach such high temperatures (*4500F approx.*). However, they could not have reached the temperatures necessary for the time period necessary to calcine tons of concrete and demolish the towers. Only several milliseconds of 10 million degree heat is capable of demolishing the towers as they were and calcining 25,000 tons or 12.5% of the concrete *of just one building* to a caustic 12 pH, as caustic as drain cleaner..

8. Energetic compounds can not increase the dust content of uranium, thorium, tritium, nickel, lead, barium, strontium, potassium, sodium and other elements; all found at anomalous or high levels and all indicative of a nuclear event of some type when all are examined *together* and correlations are considered across numerous locations. Predictable correlations at rates well above 0.8 and as high as 0.9897 on a scale of 1.0 being perfect (*pages 159-160 herein and Product Momentum Correlation Coefficient pgs 18-22, Dust, Part 1: http://www.box.net/shared/9duecajohk*).

9. Particle size matters. The energy necessary to create the massive quantity of very fine and micron-sized particles is far, far greater than the energy output of an energetic compound with a velocity of 300 meters per second (*Jones, Harrit*). "*Boiling soil and glass*" as stated by Dr. Cahill and "*regeneration*" (*Dr. Cahill*) of aerosols; creating particles smaller than small, is a magic feat that energetic compounds can't perform.



DEMOLITION

PART THREE

Before we examine the data or dust specific to the events that took place on 911 I'd like to first examine the science behind various types of nuclear explosives since there are many. There are plutonium bombs like that used at Nagasaki and there are uranium bombs like that used at Hiroshima. Yes, the two bombs dropped in Japan during WWII were completely different. I didn't know that. There are fission reactions and fusion reactions also; both capable of severe destruction as compared to conventional explosives or (MIC) Metastable Intermolecular Compounds (*energetic compounds*) at both nano-scale and not at nano-scale. This gets a little complex. There are numerous various types of nuclear fusion and fission reactions using several different natural elements and that's the key to understanding what happened on 911. All nuclear explosions are not the same and not all nuclear explosions produce the same types of measurable radiation. There are some that produce radiation that requires more sophisticated equipment than a simple Geiger Counter and then some that produce a different type of radiation altogether that might last for just a few days. And there are some nuclear explosive devices that are very, very small and all we have to do is imagine 40 years of research to understand this. Water severely dilutes tritium. Rainwater, sewers and firehoses, too.

THINK DAVY CROCKETT – BUT 40 YEARS SMALLER

This was an 11" x 11" x 17" nuclear device. The M-28 or M-29 Davy Crockett Weapon System's were a tactical nuclear recoilless gun for firing the M388 nuclear projectile that was deployed by the United States during the Cold War. Named after American soldier, congressman, and folk hero Davy Crockett, it was one of the smallest nuclear weapon systems ever built. It had a variable yield that could be dialed up on the spot, from .01 kilotons (10 tons) to 10 kilotons.

The M-388 round used a version of the W54 warhead, a very small sub-kiloton fission device. The Mk-54 weighed about 51 lb (23 kg), with a yield equivalent to somewhere between 10 or 20 tons of TNT (*very close to the minimum practical size and yield for a fission warhead back in the late 1950s*). The only selectable feature with either versions of the Davy Crockett M28 & M29 was the height of burst dial on the warhead (*post-Davy Crockett versions of the W54 nuclear device apparently had a selectable yield feature*). The complete round weighed 76 lb (34.5 kg). It was 31 in. (78.7 cm) long with a diameter of 11 in. (28 cm) at its widest point; a subcaliber piston at the back of the shell was inserted into the launcher's barrel for firing. The "piston" was considered a spigot prior to the discharge of the propellant cartridge in the recoilless gun chamber of the Davy Crockett. The M388 atomic projectile was mounted on the barrel-inserted spigot via bayonet slots. Once the propellant was discharged the spigot became the launching piston for the M388 atomic projectile. The nuclear yield is hinted at in FM 9-11: Operation and Employment of the Davy Crockett Battlefield Missile, XM-28/29 (*June 1963*).

NNSA
National Nuclear Security Administration
U.S. DEPARTMENT OF ENERGY
Our Mission | About Us | Media Room | Federal Employment | Blog
SEARCH

Protective Forces

Home > About Us > Our Programs > Nuclear Security > Protective Forces

Protective Forces

NNSA has some of the best trained and best equipped forces protecting its nuclear weapons and material. Since the events of September 11, 2001, NNSA has hired additional armed security police officers. It has also shifted towards a paramilitary, "tactical response force" that utilizes a robust mix of offensive and defensive qualified officers who are well-trained in small team and weapons tactics. It has improved its training capabilities by expanding training ranges and support facilities, developing additional tactical training courses, and hiring additional instructors. NNSA has also increased the survivability and lethality of officers by providing armored vehicles, heavier caliber weapons with greater firepower and armor-penetrating ammunition, and outlining ballistically protected fighting positions.

Some examples of these improvement are below:

Training

The Oak Ridge Central Training Facility (CTF), located at NNSA's Y-12 National Security Complex , has an indoor firing range facility, the largest within the Department of Energy. The range broadens indoor weapons training capabilities and enables security police officers to train under a variety of scenarios. The range permits training 24 hours a day and enables night qualifications to be completed during daylight hours, reducing training downtime and overtime costs.

A Pre-Event Discovery Program (PEDP) was also developed at Y-12. This program trains local law enforcement agencies to recognize and report potential terrorist activities. This training is specifically designed to improve liaison and coordination with local law enforcement and airfield managers as a defensive resource in the overall protection of Y-12. The major objective of PEDP is to increase the probability that terrorist and criminal threats to Y-12 will be identified so that interruption by law enforcement can occur before an attack is initiated against NNSA resources.

The Nevada Test Site (NTS) completed major facility improvements at its Central Training Academy, including:

- The new Carlos N. Saenz Memorial Live Fire Shoot House;
- A new six-story live fire training tower that replicates the Device Assembly Facility environment;
- Moving target system upgrade on its outdoor range facility;
- Additional instructional classrooms and staff work space;
- Expanded ammunition storage site; and
- Upgraded weapons storage and repair armory.

Capabilities

Los Alamos National Laboratory and Y-12 joined Lawrence Livermore National Laboratory in fielding the Dillon M-134 7.62 mm Mini-Gun. Livermore developed an innovative qualification course for the Dillon Dillon M-134 7.62 mm Mini-Gunwhich not only facilitates evaluation of weapon manipulation skills and accuracy on target, but enables significant cost savings by reducing massive expenditures on ammunition and travel costs to other agencies' range facilities.

Y-12 introduced fragmentation grenades and the M203 grenade launcher to its defense posture, while continuing efforts to reduce its target footprint. Y-12 also deployed three second-generation Advanced Concept Armored Vehicles (ACAV) II and has five LENCO BearCats. These tactical, up-armored, four-wheel drive vehicles will be equipped with a Dillon 134D Mini-Gun.

The NTS successfully established two full-time Special Response Teams (SRT). Defense of the DAF will include: ACAV II with .50 caliber remotely-operated weapons, LENCO BearCats, the SR-25-7.62 mm rifle with optics, HK-69 grenade launchers, and Polaris 500 all terrain vehicles.

The Pantex Plant , which assembles and disassembles nuclear weapons, also researched, purchased, and tested the Vinghog weapons mount for the MK-19 grenade launcher, which will enhance the weapon's accuracy and fighting capability.

Printer-friendly version

Related Links
Press Releases

Headlines
Mar 8, 2012
NNSA Initiates International Nuclear Forensics Training with the IAEA
Mar 6, 2012
NNSA Administrator Highlights President's Nuclear Security Objectives in FY 2013 Budget Request during House Hearing
Mar 6, 2012
Statement on the FY 2013 President's Budget Request before the House Appropriations Committee Subcommittee on Energy and Water Development
Mar 1, 2012
NNSA Provides Training to
View All >

Timeline
Curious about NNSA history? Check out our interactive timeline to learn about our historic accomplishments!
View NNSA Timeline

Careers
Contact Us

NNSA Policies | Site Map | Site Feedback | Department of Energy

NNSA – THE NUCLEAR GRENADE LAUNCHER

NNSA needs to not only meet today's military and national security requirements, but at the same time begin to transform and modernize the *nuclear weapons* complex for the future.

Through research, development and production support, NNSA develops the tools that are required to maintain today's and tomorrow's *nuclear weapons* stockpile.

The Pantex Plant [http://www.pantex.com/] off site link, which assembles and disassembles nuclear weapons, also researched, purchased, and tested the Vinghog weapons mount for the MK-19 grenade launcher, which will enhance the weapon's accuracy and fighting capability.

Source: http://nnsa.energy.gov/aboutus/ourprograms/nuclearsecurity/protectiveforces

THE WTC AND CDI

The images on the following nine '*black background*' pages after these three CDI pages have rarely been seen in the US mainstream media. They're rarely seen in US alternative media and the three images on the following first 2 of 9 pages were never printed in a US major media publication or shown on US television. The images are visual proof of an extraordinary event unlike any seen before in the annals of human history. While the 'pit' was described in foreign press reports as "*proof of an Ice Age*" the truth is that the 'pit' is melted rock. This is where the continuing nuclear reaction that could not be extinguished with Pyrocool® or millions of gallons of water over the course of 100 days emitted the aerosols Dr. Cahill's report discusses in great detail. Aerosols generated by the pile with "*soil and glass boiling*" is what Dr. Cahill stated. The remaining images are individual images of the pyroclastic cloud, something the media also fails to address adequately, if at all, and sequenced images of the actual demolition. The angle used is one also rarely seen and provides a wide angle view of the entire event. If you've only seen video then these images are going to be somewhat surprising.

CDI Controlled Demolition Videos:

http://www.controlled-demolition.com/sites/default/files/villa_panamericanas.mpg

http://www.youtube.com/watch?v=JP1HJoG-1Pg

http://www.controlled-demolition.com/sites/default/files/beirut_hilton.mpg

10 Separate CDI Demolition Videos:

http://www.youtube.com/user/TheLoizeauxGroupLLC?feature=mhum&v=-TARNVwF7Yg&lr=1

This is just one floor of a properly rigged building (by Controlled Demolition, Inc.) prior to demolition. A similar process would have been necessary to properly wire and demolish the Twin Towers. It's patently absurd to think that dozens of technicians, or more, were involved in any normal demolition process. The Twin Towers were not destroyed by standard demolition practices. This was a nuclear event and the dust and elements within the dust prove this beyond any doubt.

CDI Corporate Brochure PDF: http://www.controlled-demolition.com/sites/default/files/CDI%20Corporate%20Brochure.pdf

CONTROLLED DEMOLITION, INC

Below (left) are experienced building demolition technicians rigging a building for controlled explosive demolition. How many men, for how many days, with how much nano-thermite or conventional explosives would it have taken to destroy the Twin Towers? Yet with micronuclear devices the job could be completed, ostensibly, with 2 to 4 people in just 2 to 4 days. On the preceding page is a concrete and rebar column prepared for demolition. Below (*bottom, right*) is that same concrete column after demolition. This particular demolition was performed with conventional explosives (*top, right*). As their web site states:

THE ART OF DEMOLITION

For over sixty years, three generations of Loizeaux family innovation, expertise and leadership have created a commercial explosives demolition industry which has saved property owners and contractors hundreds of millions of dollars worldwide.

That leadership and unparalleled experience gives CDI clients access to a full range of services and capabilities through a global network of offices and agents, all dedicated to the precision application of our technology. And behind each successful project stands the CDI team - a talented group of professionals with decades of experience dedicated to absolute perfection on each new project.

HOW BUILDINGS ARE DEMOLISHED

THE LARGE PHASE ARRAY RADAR (LPAR) FACILITY

"*The Silver Castle Award is presented to Controlled Demolition, Inc. for exceptional sensitivity and professional in completing the politically sensitive demolition and removal of the former Soviet military's Large Phased Array Radar Facility in Skrunda,Latvia. The project was completed ahead of schedule, within budget and to the customer's satisfaction. Your skill in expediting this important Partnership for Peace project in a new and challenging environment reflects great credit on the dedication and professional of all who contributed to its success.*"

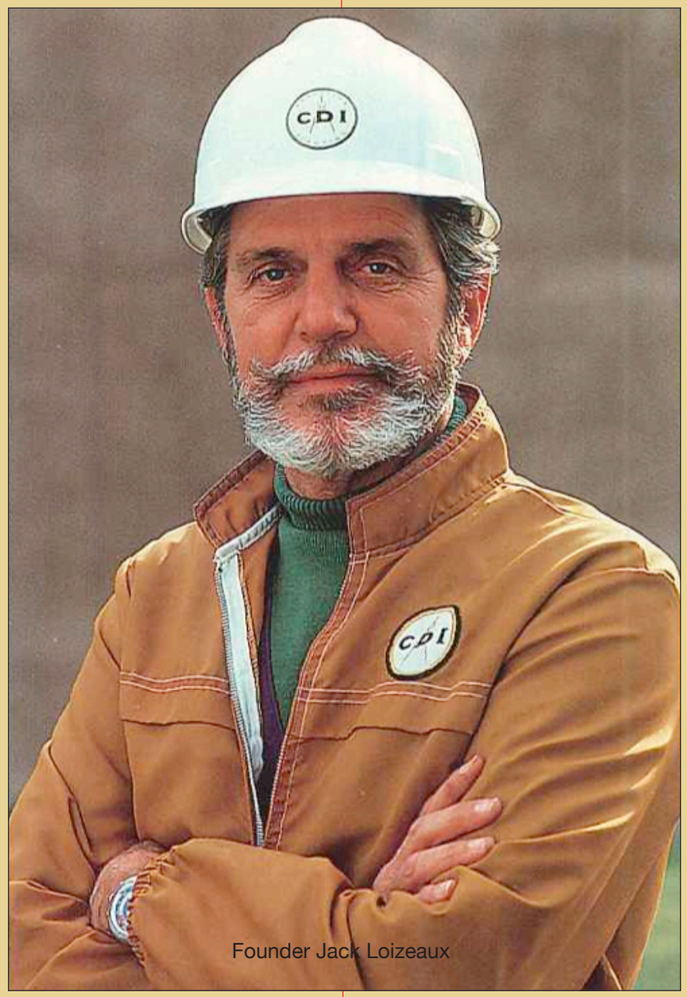
– John Gates, Colonel, Engineering Commanding, U.S. Army Corps of Engineers

The second tallest building in Latvia and twenty-four other structures were carefully demolished at a large phase array radar (LPAR) facility in the middle of an active Russian military base in Skrunda, Latvia. When finished, the nearly-completed, over-the-horizon system was to become the mainstay of Russia's central European early warning system for nuclear attack. The complex was demolished as a result of President Clinton's commitment to help the Latvian government comply with a treaty involving the withdrawal of Russian troops.

Controlled Demolition, Inc. (CDI) of Phoenix, MD, used both conventional and implosion methods to demolish the facility. The contract included the implosion of a 19-story receiver building. Conventional demolition methods were then used to destroy an 800,000 square foot, 8-story transmitter building, a transmitter utility structure, a receiver utility building, a guard house, two warehouses, an ancillary installation building, two transformer substations, a fire station, a neutralizer facility foundation and 25 large, underground tanks. Recyclable materials were processed for scrap, including 22,000 pounds of steel, 250 tons of aluminum, and 75 tons of copper. In addition, 5.5 miles of underground cable trench were removed, collapsing the maze of underground tunnels which had connected the buildings.

THE HACIENDA HOTEL

Controlled Demolition Incorporated's (CDI's) Magic Of Implosion. At precisely midnight, Eastern Time on New Year's Eve, 1996, a second Las Vegas hotel fell in less than 35 days. The 11-story, 900 room Hacienda Hotel was the fifth hotel felled by Controlled Demolition Incorporated (CDI) in the last three (3) years to make way for theme park developments by the Las Vegas Entertainment magnates. Previous structures imploded were the 24-story Dunes North Tower and 17-story Dunes South Tower for Mirage to clear the site for Steve Wynn's new entry to the race, the 35-story Landmark Hotel went next for the Las Vegas Convention Center to create new parking for the convention complex, and, most recently, the 18-story Sands Hotel Tower fell to CDI's design on November 26th for Las Vegas Sands Incorporated Venetian Theme Park.



Founder Jack Loizeaux

Demolition of the Hacienda presented special problems for CDI due to the hotels unique construction. According to Mark Loizeaux, CDI's President, the hotel's 3 wings were built at 2 different times, under different building codes. The north wing was built in 1980 using concrete block laced with reinforcing rods and filled with grout. The use of pre-cast floor panels provided a structure which was stable so long as it remained static. The center tower and south wing were completed in 1989 under more stringent building code requirements which considered greater seismic loading. Loizeaux said that there was three times more reinforcing in the newer central and south towers than was found in the original, north tower. Every demising wall in the structure acted as shear walls that CDI had to cope with in order to create a progressive collapse. Loizeaux said that he was unaware of any structure of this configuration having been felled previously by explosives. He added that it was not surprising considering the relatively young age of the structure. Concern for workers led CDI to rely on extensive preparations on the ground floor alone, alternating the explosives in their delay program to give the pre-cast panels an opportunity to fail sequentially, disrupting the reinforced block shear walls at every floor to promote instability in the structure. CDI avoided work on upper floors out of concern for the problems a "*soft-story*" might have created under extreme wind or even unlikely seismic activity.

CDI's experience in and the application of its' knowledge of progressive collapse patterns in dozens of other types of construction paid off on the Hacienda project. **It took 1,125 lb. of explosives and 30,600-ft of detonating cord initiating charges in 4,128 different locations to bring the three towers down.**

BILTMORE HOTEL

In Oklahoma City, precisely placed explosive charges dropped a 28-story building almost in its tracks. When it fell, the 245-ft-high structure became the tallest steel-frame building to be demolished with explosives. **CDI placed 991 separate charges, about 800 lbs. of explosives in all, on seven floors from the basement to the 14th floor and detonated them over a five-second interval.**

500 WOOD STREET BUILDING

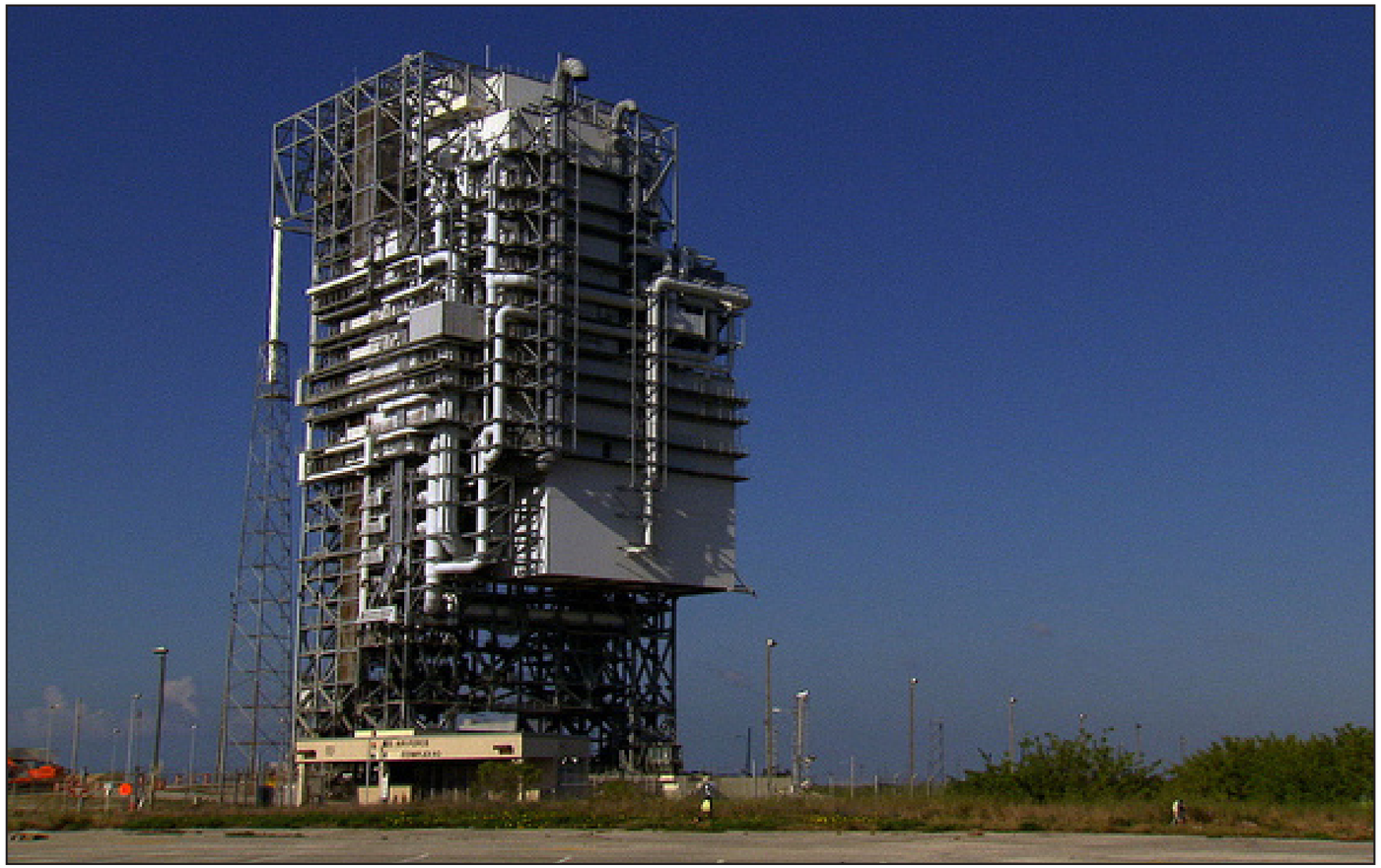
After two (2) months of preparation, CDI's 13 person crew needed seven (7) days to place 1,590 linear shaped charges totaling 595 lb. of explosives on steel columns on 11 levels of the 27-story structure. CDI's implosion of the structure yielded vibration levels of only 0.58 inches per second (*far less than even 1mps*) Peak Particle Velocity as measured at adjacent structures less than 70 feet from the base of the building. Other than a few broken windows, there were no damages to adjacent utilities or properties. Debris was so well fragmented by CDI's implosion design that the IWSS contractor's project manager said he was considering demobilizing the steel shear on a CAT 245B excavator he had originally brought on site to handle the debris. He feels the shear will be "unnecessary" during the fast track, round-the-clock removal of the 37,000 tons of debris over the next four weeks.

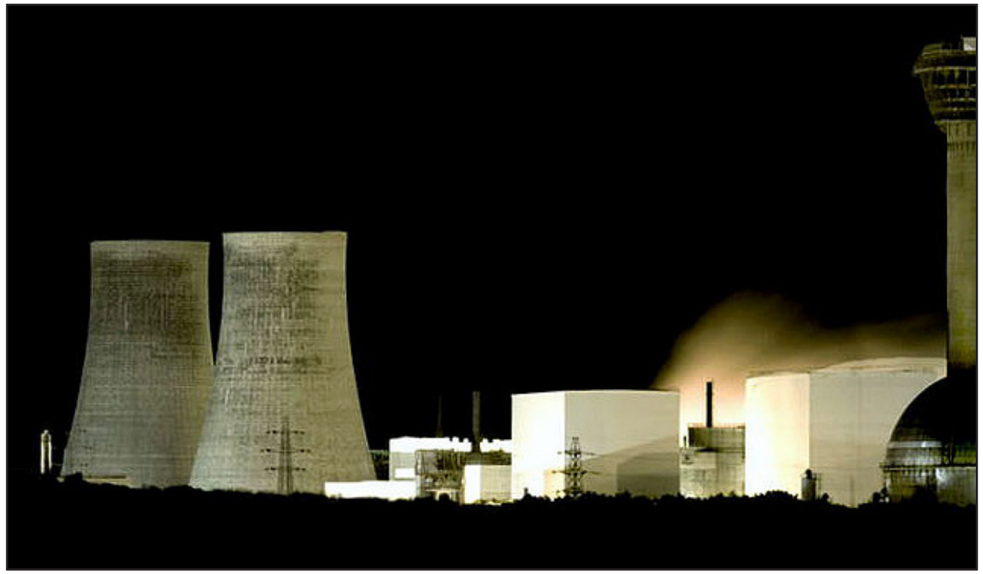
CLIENTS

Controlled Demolition, Inc., CDI, has numerous government and military clients as well as foreign clients across the globe. The US Department Of Defense (DoD), the US Department Of Energy (DoE), the Department Of Housing And Urban Development (HUD), the Department Of Justice and the Department Of State are all CDI clients. Phillips Petroleum, US Steel, Fermco, Pemex, Kennecott Copper, the US Air Force Texas Tower in Boston, Massachusetts, the Alfred P. Murrah Federal Building and many other corporate, government and military clients make up the CDI data base. CDI has done removal work at the Princeton Accelerator Ring in Princeton, New Jersey, Seismic Mat Removal for Virginia Electric Power Company (VEPCO) in Saltville, Virginia, the Harry Diamond Labs Reactor in Washington, DC., the Guri Dam on the Rio Caronni Basin, Venezuela and the Abkantun 91 Drilling Platform Removal in the Gulf Of Mexico.

Calder Hall Cooling Towers - (*top right*) Controlled Demolition Inc. taps their expertise in building implosions to take down four cooling towers at the Sellafield nuclear facility in England without disturbing the active nuclear plant. Parallax Film Productions follows this daring explosive demolition feat. The four Calder Hall cooling towers, located at the world's first industrial-scale nuclear power plant, are 88 metres tall and will generate more than 20,000 tons of debris. It will take 192 kilograms of explosives and shrewd demolition engineering to make this Blowdown a success. Mark Loizeaux and his team hustle to load the towers, major symbols of the United Kingdom's industrial heritage. The first reactor at the Calder Hall plant was opened by Queen Elizabeth II in 1956. The plant's four 50 MWe Magnox reactors not only generated electricity, they also produced weapons-grade plutonium. The generators produced for 47 years before ceasing operations in March 2003.

NASA Mobile Service Tower 40 - (*below*) The Controlled Demolition Inc. team, experts in building implosions, faces a serious test as they load military grade, high-speed explosives to implode a NASA rocket launch tower, Mobile Service Tower 40, in Cape Canaveral, Florida. Parallax Film Productions profiles this explosive demolition journey. The Atlas and Titan rocket programs have come to an end. MST 40, once considered the largest moving structure in the world, must be demolished. Mark Loizeaux and his team will need more than 200 pounds of high explosives – shaped charges containing RDX – for this Blowdown. They'll also need an unprecedented demolition engineering plan to take this 80-metre-tall tower down. Complex 40 was built for the Titan IIIC program. It operated from the program's first launch in 1965 until the last TITAN IV launch in 2005. It facilitated 55 historic missions over the years including the Mars Observer interplanetary mission, the Cassini mission to Saturn, six MILSTAR communications satellites, and numerous defense support endeavours.





Hacienda Hotel - (*above*) At precisely midnight, Eastern Time on New Year's Eve, 1996, a second Las Vegas hotel fell in less than 35 days. The 11-story, 900 room Hacienda Hotel was the fifth hotel felled by Controlled Demolition Incorporated (CDI) in the last three (3) years to make way for theme park developments by the Las Vegas Entertainment magnates. Previous structures imploded were the 24-story Dunes North Tower and 17-story Dunes South Tower for Mirage to clear the site for Steve Wynn's new entry to the race, the 35-story Landmark Hotel went next for the Las Vegas Convention Center to create new parking for the convention complex, and, most recently, the 18-story Sands Hotel Tower fell to CDI's design on November 26th for Las Vegas Sands Incorporated Venetian Theme Park.

THE PIT

The image above and the two images on the next page have never been published or shown in the United States

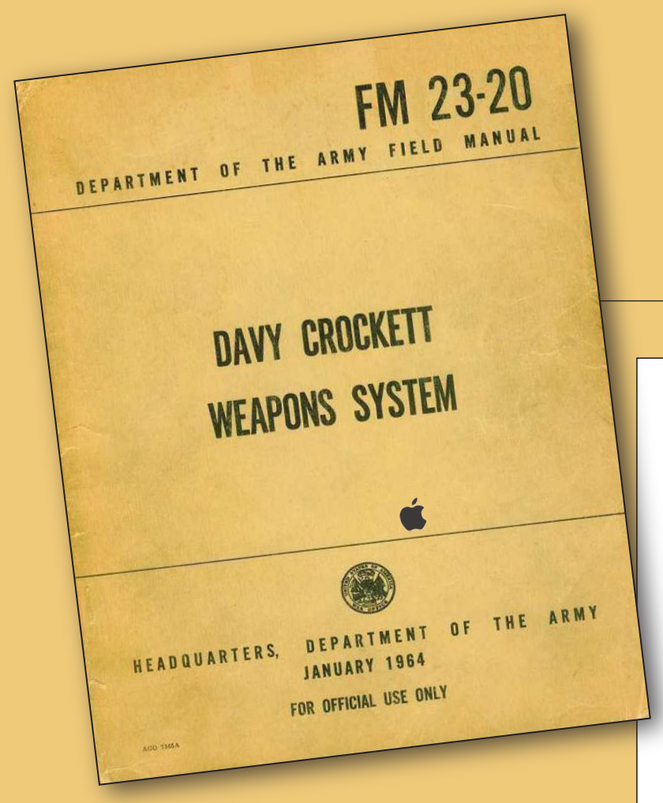
GROUND ZERO GEOGRAPHY
THE PIT

Multicolored glass-like smooth bedrock - the signature of a fusion-fission reaction

Never, ever has a conventional building demolition using nano-energetics or conventional explosives formed a massive pyroclastic cloud that sizzled as it blew by as though it were crammed with an enormous quantity of rapidly releasing static electricity. (*eyewitness account*).

Think.

In this sequence the image on the right reveals a horizontal line at the base of the center cloud structure
with a vertical line on the left of that extending rear-wards as though this were a structural element of the tower, perhaps a floor, collapsing. Think apples ...



It was late in the year 2001 and 200 or 300 operatives weren't wiring the Twin Towers with 29,000 tons of nano thermite as Dr. Neils Harrit would like us to believe. They weren't using C4, RDX, TNT or any other types of military grade advanced explosives.

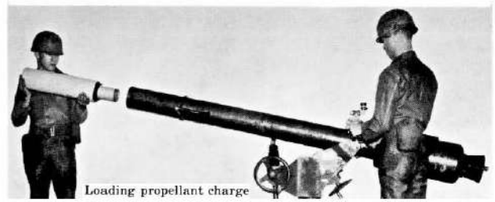
They were using small, powerful nuclear devices that could have been disguised inside of a computer.

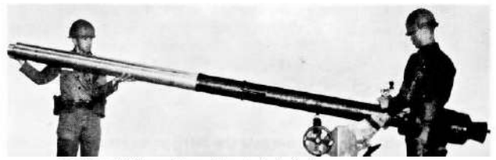
Two or three men, less than a handful, were quietly placing easily disguised nuclear devices in the buildings. Large plant pots, computers, even some office telephones could have held a device the size of an apple designed a full 40 years after the Davy Crockett pictured at right.

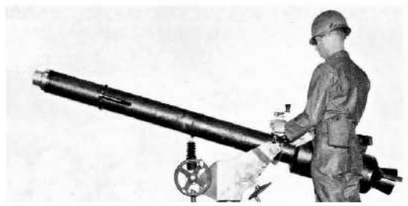
Maybe some type of thermite or energetic compound was used but it was secondary to the forces that actually turned the buildings and their contents to dust.

M29 DAVY CROCKETT WEAPON SYSTEM

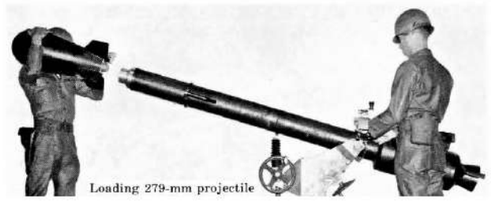

M64 Recoilless Gun on bracket mount

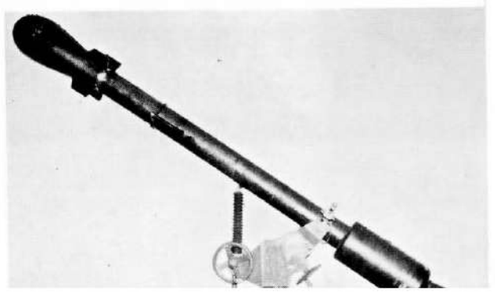

Loading propellant charge


Loading M2 launching piston/spigot cylinder

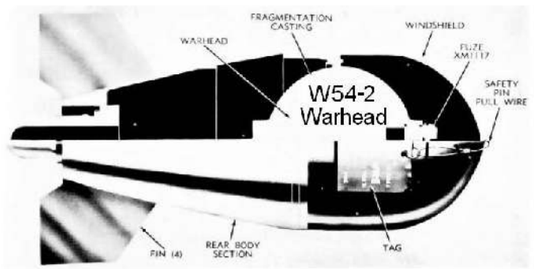


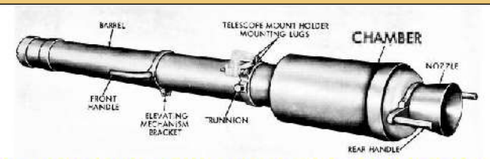
Unloaded M29 Davy Crockett {includes the M64 recoilless gun on a bracket mount, plus (1) the gun barrel seated M2 launching piston/spigot cylinder and (2) either of two fixed propellant charges/cartridges, M76 (or M94) "Zone I" or M77 "Zone II", seated in the M64's chamber}.


Loading 279-mm projectile



Loaded M29 Davy Crockett. The M388 279-mm atomic projectile is attached to the M2 launching piston/spigot cylinder. Within the M388 projectile is the W54-2 nuclear warhead.





M64 RECOILLESS GUN, PART OF THE M29 DAVY CROCKETT

From Wikipedia:

A **recoilless gun** or **recoilless rifle** is a lightweight weapon that fires a heavier projectile that would be impractical to fire from a recoiling weapon of comparable size. Technically, only devices that use a rifled barrel are recoilless *rifles*. Smoothbore variants are recoilless *guns*. This distinction is often lost, and both are often called recoilless rifles.

From **FM 23-20**:

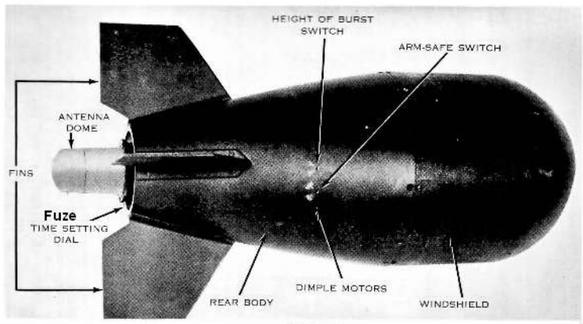
Unlike other recoilless weapons, the M29 has a firing mechanism that is integral with the propellant cartridge instead of being a component of the weapon.

M 29 Davy Crockett

The M29 Davy Crockett is an open-breech, recoilless, smooth bore, single shot, low-angle fire, muzzle-loaded weapon with a 155-mm barrel.

The M29 Davy Crockett weapon system utilizes projectile, atomic, supercaliber, 279-mm, M388.

Atomic projectile M388 is a 51 pound, fin-stabilized, low-drag projectile which uses a W54-2 nuclear warhead.



M388

The M65 Recoiless Nuclear Rifle

31 inches from end to end the bomb itself was 17 inches long and less than 11 inches in circumference

the science behind the demolition of the Twin Towers began in 1961 with the Tsar Bomba and continued through 1962 with the Davy Crockett. Then came nano-science and then 50 years of miniaturization

the Davy Crockett Weapon System did improve on the concept in one important way: it paired this dead-simple launch device with a tiny fission bomb, making it the most convenient nuclear bomb delivery system ever developed

Video Link:
http://www.youtube.com/watch?v=khyZI3RK2IE

In addition to being the smallest nuclear device ever developed by the United States, the Davy Crockett also has the distinction of being the last atomic device tested by the US in the open atmosphere. The 1962 test shot at the Nevada Proving Grounds confirmed the effectiveness of the design, and the device's tiny size made it a real crowd-pleaser – or a crowd killer, depending on one's point of view. With the destructive power of twenty tons of TNT squeezed into a watermelon-sized package, it's hard to outperform the Davy Crockett in terms of convenient annihilation per cubic inch. Though its use could have triggered a chain reaction that would have ultimately led to the destruction of humanity, it's hard not to have a strange kind of fondness for this thing.

THE DAVY CROCKETT LAUNCHES THE W-54 NUCLEAR WARHEAD

VIDEO LINK

The Davy Crockett, a recoilless launcher, was the third artillery piece deployed, those earlier being a l55 mm piece designed to fire a nuclear round and a 288 mm mobile piece, commonly called an "*atomic cannon.*" Nuclear-capable ground artillery pieces were gradually replaced by increasingly accurate, nuclear carrying missiles and aircraft.

The Ivy Flats video shows an Army exercise that was observed by visiting dignitaries, including U.S. Attorney General Robert Kennedy and General Maxwell Taylor, a Presidential military adviser. Participating in the exercise were members of the 4th Mechanized Infantry Division from Ft. Lewis, Washington.

Ivy Flats was a "battle" between a large simulated enemy armored force and a smaller U.S. force consisting of conventional artillery pieces, which could not stop the pending onslaught. U.S. Army squads then arrive in armored personnel carriers and set up the heavy (l55 mm) and light (120 mm) versions of recoilless launchers. The Davy Crockett fired a nuclear round that decimated the mock opposing force.

The Davy Crockett was deployed from 1961 to 1971. The heavy version was transported by either an armored personnel carrier or a large truck. The light version was generally carried on and fired from an Army jeep, but could be carried for a short distance and fired by a 3-man team.

The W-54 nuclear warhead in a projectile was launched by the Davy Crockett and had a subkiloton yield. The projectile was 30 inches long, 11 inches in diameter, and weighed 76 pounds. The l55 mm launcher had a maximum range of 13,000 feet, and the 120 mm could reach a distance of 6,561 feet. For those of you that believe a mushroom cloud is a part of a nuclear explosion the video link at right is attached for your viewing pleasure and education.

Video Link: http://www.youtube.com/watch?v=nv_q8q6Z9_I&feature=player_embedded#!

THE SIZE OF AN APPLE

The M-388 could be launched from either of two launchers known as the Davy Crockett Weapon System(s): the 4-inch (120 mm) M28, with a range of about 1.25 mi (2 km), or the 6.1-in (155 mm) M29, with a range of 2.5 mi (4 km). Both weapons used the same projectile, and were either mounted on a tripod launcher transported by an armored personnel carrier, or they were carried by a Jeep M-38 and later the M-151. The Jeep was equipped with an attached launcher for the M28 or the M29, as required, whereas the Davy Crockett carried by an armored personnel carrier was set up in the field on a tripod away from the carrier. The Davy Crocketts were operated by a three-man crew. In the 3rd Armored Division in Germany in the 1960s many Davy Crockett Sections (all of which were in the Heavy Mortar Platoons, in Headquarters Companies of Infantry or Armor Maneuver Battalions) received what became a mix of M28 & M29 launchers [e.g., one of each per D/C section]. Eventually, the M28's were replaced by M29's, so that both the armored personnel carriers and the Jeeps carried the M29.

Both recoilless guns proved to have poor accuracy in testing, so the shell's greatest effect would have been its extreme radiation hazard. The M-388 would produce an almost instantly lethal radiation dosage (in excess of 10,000 rem) within 500 feet (150 m), and a probably fatal dose (around 600 rem) within a quarter mile (400 m).

When we discuss nuclear weapons today we fail to account for the complexity of the devices and the technology that we've all seen in the 40 years that preceded the Davy Crockett. I was 5 when the Davy Crockett was a popular military sensation and all the mass murderers wanted one, or a dozen or two, and we had black and white television just like the black and white image of the Davy Crockett at right.

We didn't have computers in our homes until the 1980s when many of us had Atari, Commodore and other similar systems that today are less than inadequate and virtually neanderthal by our current standards. Look around at the advances in modern technology and science and it doesn't take great imagination to understand nuclear weapons the size of an apple in 2001 and now a ping-pong ball today. But heavier ...

U.S. officials examine the M-388 Davy Crockett nuclear weapon.
It used the smallest nuclear warhead ever developed by the United States at that time, 1961.

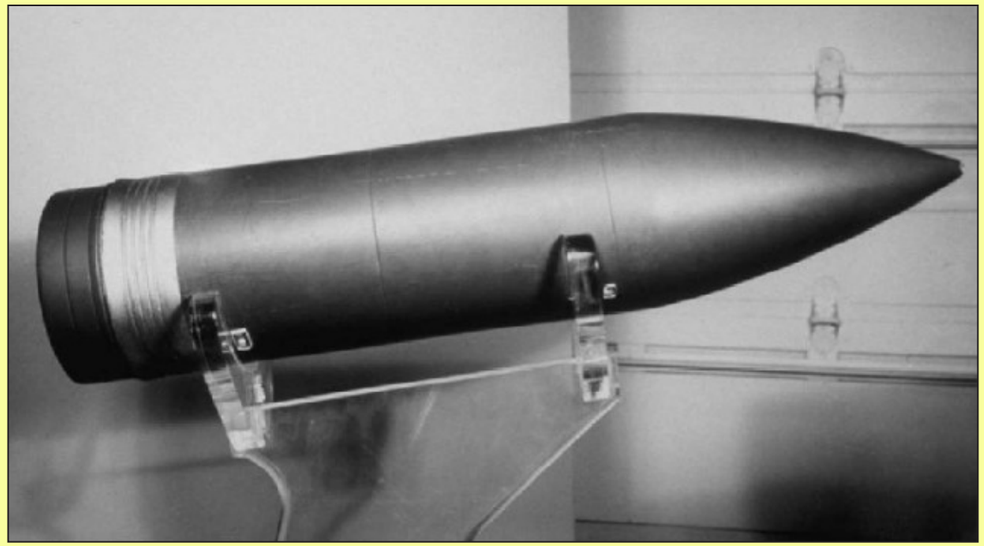
THERMONUCLEAR EXPLOSIONS

Because of the high temperatures required to initiate a nuclear fusion reaction, such devices are often called thermonuclear devices. A thermonuclear explosion can be created only by producing the required temperature, about a hundred-million Kelvins, and by forcing the material together so quickly that it will fuse rapidly. This is typically done with the isotopes of hydrogen, deuterium and tritium. This led to the term "hydrogen bomb" to describe the deuterium-tritium fusion bomb.

To obtain the two parts of the fuel, pellets were made from lithium hydride, LiD, made with the deuterium isotope. The only way which was found to produce the ignition temperature was to set off a fission bomb such that it would heat and compress the lithium hydride. In the process, the lithium was bombarded with neutrons, breeding tritium. Then the deuterium-tritium fusion reaction could take place. So we have a bomb that breeds tritium.

HYDROGEN BOMB

Because the thermonuclear explosive devices used hydrogen isotopes, (deuterium-tritium fusion), the resulting bombs were often called "hydrogen bombs". The first hydrogen bomb was detonated on November 1, 1952 at the small island Eniwetok in the Marshall Islands. It's yield was several megatons of TNT. The Soviet Union detonated a fusion bomb in the megaton range in August of 1953. The U.S. exploded a 15 megaton fusion bomb on March 1, 1954. It had a fireball 4.8 km in diameter and created a huge characteristic mushroom-shaped cloud. Analysis of the radioactive fallout from this bomb revealed it to be a fission-fusion-fission weapon, a "hydrogen bomb" with an outer sheath of natural uranium to increase the yield.



The W-48 artillery shell is 6.1 inches (155 mm) by 33.3 inches. Manufactured 10/63 to 3/68; retirement (135 Mod 0s) 1/65 - 1969, all 925 Mod 1s retired 1992; 1060 total produced (all mods). Small diameter linear implosion plutonium weapon.

URANIUM BOMB

Using the energy release from the nuclear fission of uranium-235, an explosive device can be made by simply positioning two masses of U-235 so that they can be forced together quickly enough to form a critical mass and a rapid, uncontrolled fission chain reaction. That is not to say that this is an easy task to accomplish. First you must obtain enough uranium which is highly enriched to over 90% U-235, whereas natural uranium is only 0.7% U-235. This enrichment is an exceptionally difficult task, a fact that has helped control the proliferation of nuclear weapons. Once the required mass is obtained, it must be kept in two or more pieces until the moment of detonation. Then the pieces must be forced together quickly and in such a geometry that the generation time for fission is extremely short. This leads to an almost instantaneous buildup of the chain reaction, creating a powerful explosion before the pieces can fly apart. Two hemispheres which are explosively forced into contact can produce a bomb such as the one detonated at Hiroshima.

PLUTONIUM BOMB

Plutonium-239 is a fissionable isotope and can be used to make a nuclear fission bomb similar to that produced with uranium-235. The bomb which was dropped at Nagasaki was a plutonium bomb. Not enough Pu-239 exists in nature to make a major weapons supply, but it is easily produced in breeder reactors. In the U.S., there are reactors at Savannah River Plant, S.C., and at Hanford, Washington which are classified as plutonium production reactors. They breed plutonium by surrounding a fission reactor with a uranium-238 "blanket" to make use of the breeding reaction between neutrons and U-238. Once the plutonium is produced, it is easily separated from the other fission products by chemical means, so that less technology is needed to produce a nuclear weapon if you have a breeder reactor. This makes plutonium a greater source of concern for weapons proliferation, because reactors which appear to be just electric power generators can be breeding plutonium for weapons along with the power production.

The type of bomb which was dropped on Nagasaki on August 9, 1945 had been tested at Alamagordo, New Mexico on July 16. It developed from the Manhattan Project after Fermi demonstrated in 1942 that a sustained nuclear chain reaction was possible.

HIROSHIMA

On August 6, 1945, a uranium fission bombwas detonated over the Japanese city of Hiroshima. The bomb, called "Little Boy" was a "gun-type" device which used an explosive charge to force two sub-critical masses of U-235 together. It was 28 inches in diameter and 120 inches long, a relatively small package to deliver an explosive force of some 20,000 tons of TNT by converting about 1 gram of matter into energy. This could be accomplished with a sphere of U-235 about the size of a baseball. This kind of device had never been tested, in contrast to the plutonium bomb which was dropped on Nagasaki three days later. No device like this has been used since, making the estimates of radiation exposure at Hiroshima very difficult. Casualties included both direct blast victims plus those who died from radiation-induced cancer in subsequent years. The bomb was triggered to explode at a height of 550 meters (1800 ft), a height calculated to cause the widest area of damage. In the detonation of the uranium fission bomb over Hiroshima, about 130,000 people were reported killed, injured, or missing. Another 177,000 were made homeless.

NAGASAKI

On August 9, 1945 a plutonium fission bomb was detonated over the Japanese city of Nagasaki, three days after a uranium fission bomb was dropped on Hiroshima. The bomb, called "Fat Man", was 128 inches long and had a diameter of 60.5 inches. It used implosion to compress the sub-critical assembly of plutonium. This kind of device had been tested less than a month before the drop, and was the subject of several other weapons tests after World War II. The explosive yield was about 20,000 tons of TNT, generated in about a microsecond. The bomb was triggered to explode at a height of 550 meters (1800 ft), a height calculated to cause the widest area of damage.

NUCLEAR FUSION

If light nuclei are forced together, they will fuse with a yield of energy because the mass of the combination will be less than the sum of the masses of the individual nuclei. If the combined nuclear mass is less than that of iron

at the peak of the binding energy curve, then the nuclear particles will be more tightly bound than they were in the lighter nuclei, and that decrease in mass comes off in the form of energy according to the Einstein relationship. For elements heavier than iron, fission will yield energy.

For potential nuclear energy sources for the Earth, the deuterium-tritium fusion reaction contained by some kind of magnetic confinement seems the most likely path. However, for the fueling of the stars, other fusion reactions will dominate.

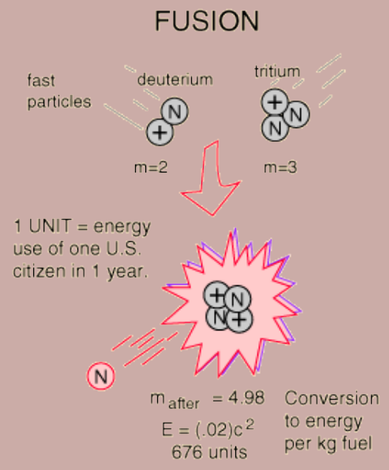
DEUTERIUM-TRITIUM FUSION

The most promising of the hydrogen fusion reactions which make up the deuterium cycle is the fusion of deuterium and tritium. The reaction yields 17.6 MeV of energy but requires a temperature of approximately 40 million Kelvins to overcome the coulomb barrier and ignite it. The deuterium fuel is abundant, but tritium must be either bred from lithium or gotten in the operation of the deuterium cycle.

It's important to remember that a deuterium tritium explosive device at a microscale with the expected technological advances since 1961 would likely leave little radiation for no more than 5 or 6 days yet would have a destructive force exactly as we saw on 911. This wouldn't be what most everyone considers in their minds eye as a nuclear explosion. That's 1960s technology and we've advanced exponentially since then. The nuclear device used in NYC on 911 was of a slightly new type but more then being new it was a very old design of a highly refined and miniaturized new device such that it could be disguised as almost anything. Being no bigger then an apple or a grapefruit. Estimated weight ranges from 40 to 60 pounds or slightly more.

WEIGHTS OF METALS
POUNDS PER CUBIC FOOT

Plutonium	1430
Iridium	1383
Platinum	1342
Tungsten	1224
Gold	1204
Uranium	1192
Mercury	849
Lead	708
Silver	653
Molybdenum	636
Cobalt	546
Nickel	541
Cadmium	540
Cast Iron	450
Zinc	440



It should be relatively easy to see how a nuclear device the size of an apple or grapefruit could reach a weight of 50 pounds and much more. A 3 inch square of uranium weighs 37.25 pounds. Add in numerous other metal elements and 50 pounds or much more is easy to reach with a 6 to 8 inch round device.

It's important to remember, this was a tubular structured steel building. When people see the "dustification" they immediately think "concrete" and forget that what they're also seeing is the pulverization of 1000s of tons of steel. How much steel? 79,000 tons PER TOWER MINIMUM but closer to 100,00 tons total and more than 200,000 tons of concrete per building. Some portion of each was turned to dust and the estimates I've heard vary and I'm not sure we'll ever know how much. But it was a lot of both.

dust and un-burned paper – everywhere – included in that dust – the molecular human remains of over 1,000 people never found ...

Since this type of device uses an extremely small quantity of uranium, deuterium and tritium and because the fusion process stops in nano-seconds and the initial fission process lasts but nano-seconds the elemental results are very high tritium, moderately increased uranium, some strontium and barium (*the first daughter products of uranium fission*) and increases in other elements as well and with these elements correlated in their respective parts per million across known, mapped locations, we see fission in NYC on 911.
This is what we do. We see the decay path of a newer, lesser-known fission and have the supportive data to conclude the deuterium-tritium fusion trigger.

As a Homicide Detective, this is a murder you know – a mass murder – wouldn't you examine all of the dust, together, and wouldn't you examine the correlations between the various concentrations if you had dust from 35 mapped locations? A total and complete, sophisticated scientific analysis of the only real evidence you have, the dust?

What would Columbo, Perry Mason, Erin Brockovich or Robert Shapiro do?

THIS AIN'T NAGASAKI BABY!

Nuclear reactions are a complex series of answers based on a variety of inputs. They encompass both fusion and fission reactions and they can encompass both, or, just one or the other. Because the two bombs dropped on Hiroshima and Nagasaki were of entirely different types we saw completely different conditions. The radioactive decay paths were different, the type of radioactivity was different and the illnesses experienced by survivors differed immensely as a result. One nuclear device is not, by any means, the same as another of a differing type. What's more, the strides in nuclear technology advancement have been beyond our wildest dreams and the technology behind the newest nuclear devices is infinitely smaller then it was on August 6th in 1945 when we reigned Plutonium and Uranium horror on the Japanese people. This ain't Nagasaki, baby.

FUSION

Nuclear fusion is the process by which two or more atomic nuclei join together, or "fuse", to form a single heavier nucleus. This is usually accompanied by the release or absorption of large quantities of energy. Fusion is the process that powers active stars, the hydrogen bomb and some experimental devices examining fusion power for electrical generation.

The fusion of two nuclei with lower masses than iron (which, along with nickel, has the largest binding energy per nucleon) generally releases energy, while the fusion of nuclei heavier than iron absorbs energy. The opposite is true for the reverse process, nuclear fission. This means that fusion generally occurs for lighter elements only, and likewise, that fission normally occurs only for heavier elements. There are extreme astrophysical events that can lead to short periods of fusion with heavier nuclei. This is the process that gives rise to nucleosynthesis, the creation of the heavy elements during events such as supernovas.

Creating the required conditions for fusion on Earth is very difficult, to the point that it has not been accomplished at any scale for protium, the common light isotope of hydrogen that undergoes natural fusion in stars. In nuclear weapons, some of the energy released by an atomic bomb (fission bomb) is used for compressing and heating a fusion fuel containing heavier isotopes of hydrogen, and also sometimes lithium, to the point of "ignition". At this point, the energy released in the fusion reactions is enough to briefly maintain the reaction. Fusion-based nuclear power experiments attempt to create similar conditions using far lesser means, although to date these experiments have failed to maintain conditions needed for ignition long enough for fusion to be a viable commercial power source. Yet fusion is still a component of an awesome destructive force.

Building upon the nuclear transmutation experiments by Ernest Rutherford, carried out several years earlier, the laboratory fusion of heavy hydrogen isotopes was first accomplished by Mark Oliphant in 1932. During the remainder of that decade the steps of the main cycle of nuclear fusion in stars were worked out by Hans Bethe. Research into fusion for military purposes began in the early 1940s as part of the Manhattan Project, but this was not accomplished until 1951 (see the Greenhouse Item nuclear test), and nuclear fusion on a large scale in an explosion was first carried out on November 1, 1952, in the Ivy Mike hydrogen bomb test.

Research into developing controlled thermonuclear fusion for civil purposes also began in earnest in the 1950s, and it continues to this day. Two projects, the National Ignition Facility and ITER are in the process of reaching break-even after 60 years of design improvements developed from previous experiments.

PRODUCTION METHODS

A variety of methods are known to effect nuclear fusion. Some are "cold" in the strict sense that no part of the material is hot (except for the reaction products), some are "cold" in the limited sense that the bulk of the material is at a relatively low temperature and pressure but the reactants are not, and some are "hot" fusion methods that create macroscopic regions of very high temperature and pressure.

MUON-CATALYZED FUSION

Muon-catalyzed fusion is a well-established and reproducible fusion process that occurs at ordinary temperatures. It was studied in detail by Dr. Steven Jones in the early 1980s. It has not been reported to produce net energy. Net energy production from this reaction cannot occur because of the energy required to create muons, their 2.2 μs half-life, and the chance that a muon will bind to the new alpha particle and thus stop catalyzing fusion.

Don't confuse producing energy for peaceful purposes with producing energy to create weapons. Just because it can't be used to generate energy at a profit doesn't mean it can't be used to make things blow up.

Please also remember, Dr. Stephen Jones, the man who discovered a metastable intermolecular compound (MIC) or sol gel (nanothermite) in the Ground Zero dust also worked for the US Department of Energy on Muon-catalyzed fusion and authored a paper on why the Twin Towers were not and could not have been destroyed by fusion or fission devices using what we'll call here, "The Tritium Defense". Not once in the "Tritium Defense" paper are the anomalous parts per million of sodium mentioned; not zinc or thorium, also found in the dust. Mapped with locations that can be correlated. Finding a high level of tritium ***and*** a high level of uranium along with dozens of other anomalous elements and examining ***all*** of the dust in its totality is the beginning of a long, winding scientific path of discovery. *We simply can't ignore the sodium, the potassium, the zinc, the lanthanum, the cerium, the yttrium and the thorium or any of the other elements found in the dust.* The science of these numerous elements and how they interact in the environment, whose varying correlations often increase and decrease predictably across numerous locations in lock-step; when one element, strontium for example, increases, we see a corresponding increase in barium at the same location. Examining the elements and analyzing their correlations reveals various certainty's. Perhaps the reason is far too horrific for civilians to even imagine, let alone speak out about. A bomb that's the size of an apple, produces little to no measurable fallout but a high degree of destruction with just enough initial fallout to be deadly for anyone during the first week is a horror. It's on the dust samples taken from the girders. 93 Becquerels per Kilogram of uranium. Lot's of tritium. And then there are all the other elements. Sodium, Potassium, Zinc and Vanadium. And others. All working together creating a path.

We simply can't ignore the

sodium, potassium, zinc, lanthanum, cerium, yttrium, tritium, thorium and uranium

or any of the other elements found in the dust as they correlate together

across a variety of mapped locations surrounding Ground Zero

We even have atmospheric dust samples, and these dust samples and

aerosols simply aren't easily explained unless... we examine...

Hiroshima in ruins following the atomic bomb blast taken by Bernard Hoffman at Hiroshima, Japan, in September of 1945.

Muon-catalyzed fusion (μCF) is a process allowing nuclear fusion to take place at temperatures significantly lower than the temperatures required for thermonuclear fusion, even at room temperature or lower. It is one of the few known ways of catalyzing nuclear fusion reactions.

Muons are unstable subatomic particles. They are similar to electrons, but are about 207 times more massive. If a muon replaces one of the electrons in a hydrogen molecule, the nuclei are consequently drawn 207 times closer together than in a normal molecule. When the nuclei are this close together, the probability of nuclear fusion is greatly increased, to the point where a significant number of fusion events can happen at room temperature.

Unfortunately, current techniques for creating large numbers of muons require large amounts of energy, larger than the amounts produced by the catalyzed nuclear fusion reactions. This prevents it from becoming a practical power source. Moreover, each muon has about a 1% chance of "sticking" to the alpha particle produced by the nuclear fusion of a deuterium with a tritium, removing the "stuck" muon from the catalytic cycle, meaning

that each muon can only catalyze at most a few hundred deuterium tritium nuclear fusion reactions before it decays away, which only takes a couple of microseconds. If there were no “alpha-sticking” of muons, each muon could, in principle, catalyze more than about ten thousand deuterium tritium nuclear fusion reactions during its brief 2 microsecond lifetime, which would allow it to be a feasible power source. So, these two factors, of muons being too expensive to make and then sticking too easily to alpha particles, limit muon-catalyzed fusion to a laboratory curiosity. To create useful room-temperature muon-catalyzed fusion reactors we would need to discover a cheaper, more efficient muon source and/or encourage each individual muon to catalyze myriads of fusion reactions.

Andrei Sakharov and F.C. Frank predicted the phenomenon of muon-catalyzed fusion on theoretical grounds before 1950. Yakov Borisovich Zel’dovich also wrote about the phenomenon of muon-catalyzed fusion in 1954. Luis W. Alvarez et al., when analyzing the outcome of some experiments with muons incident on a hydrogen bubble chamber at Berkeley in 1956, observed muon-catalysis of exothermic p-d, proton and deuteron, nuclear fusion, which results in a helion, a gamma ray, and a release of about 5.5 MeV of energy. The Alvarez experimental results, in particular, spurred John David Jackson to publish one of the first comprehensive theoretical studies of muon-catalyzed fusion in his ground-breaking 1957 paper. This paper contained the first serious speculations on useful energy release from muon-catalyzed fusion. Jackson concluded that it would be impractical as an energy source, unless the “alpha-sticking problem” could be solved, leading potentially to an energetically cheaper and more efficient way of utilizing the catalyzing muons. This assessment has, so far, stood the test of time. It also allows for massive nuclear explosions on a miniature scale.

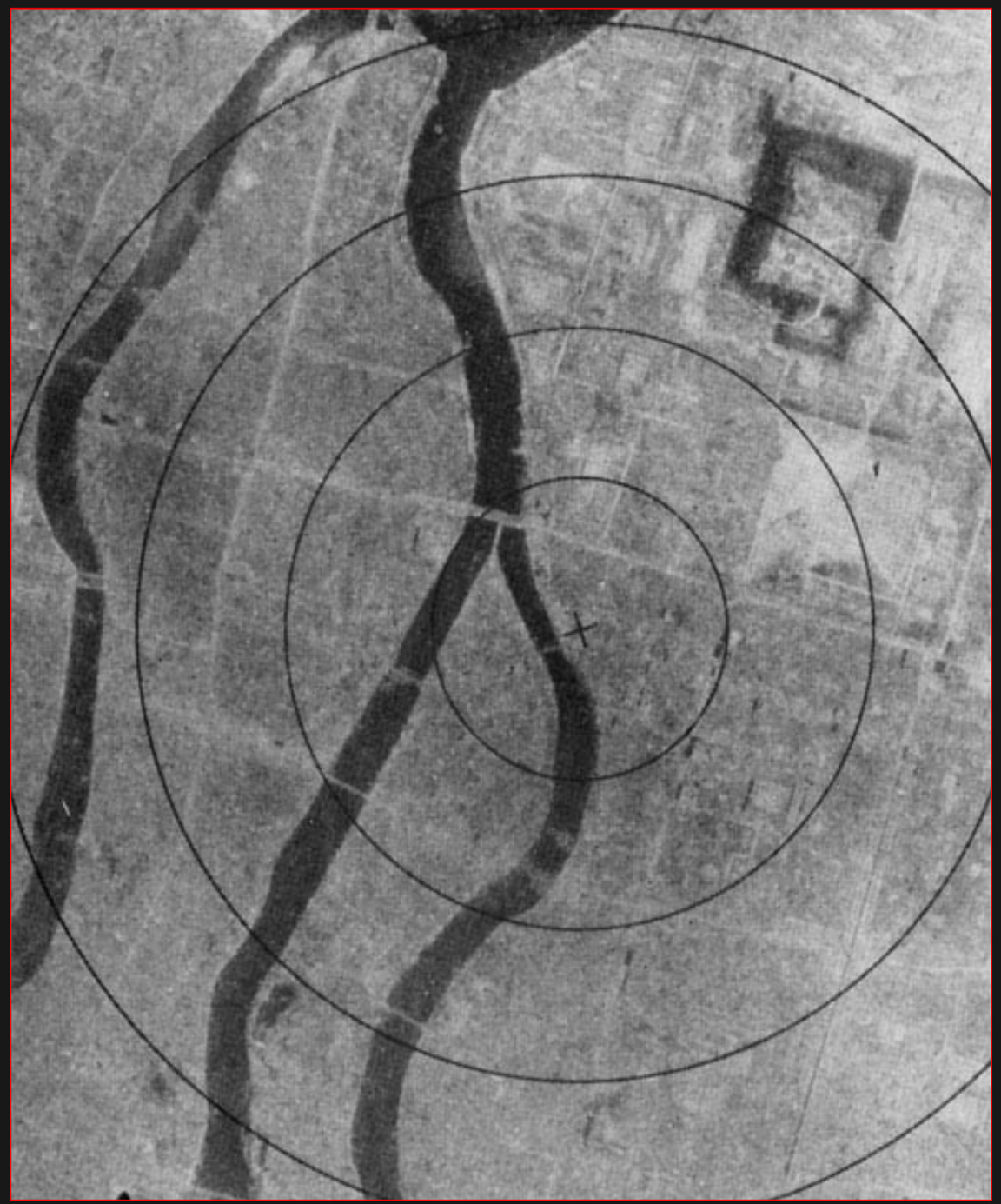
silently
lovingly
victim feeds victim
wars no longer televised
dangerous to humans
and all living things
they just don’t want you
to see it that way
they prefer our boys
killing their boys and
vice versa because
war is a racket ■ today unseen

An aerial overview of Hiroshima in autumn of 1945 from the U.S. National Archives. The hypocenter and Atom Bomb Dome are visible at top center.

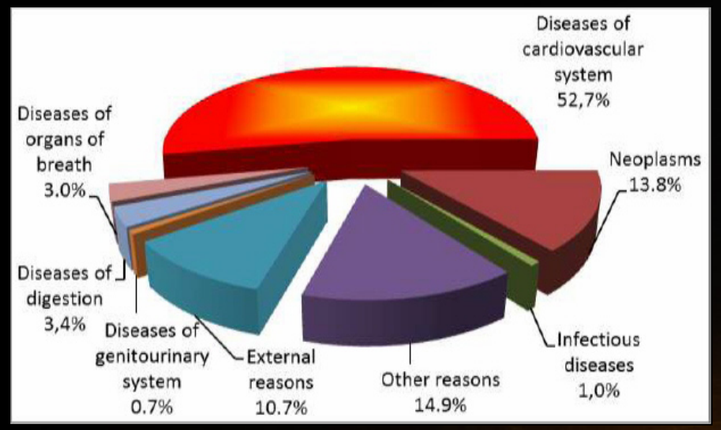
The Atomic Bombings of Hiroshima and Nagasaki, August 6th - 9th, 1945.
Of 320,000 people in Hiroshima that morning, 80,000 died immediately or were badly wounded by the Atomic bomb, nicknamed “Little Boy”. The site of the explosion reached a temperature of 5,400°F for milliseconds.
Three days after Hiroshima, Nagasaki was bombed, with up to 40,000 killed.

NAGASAKI BEFORE THE BOMB

NAGASAKI AFTER THE BOMB



the people that design, create and explode these weapons of mass human murder and destruction are psychopaths without empathy or value for humanity, you and me



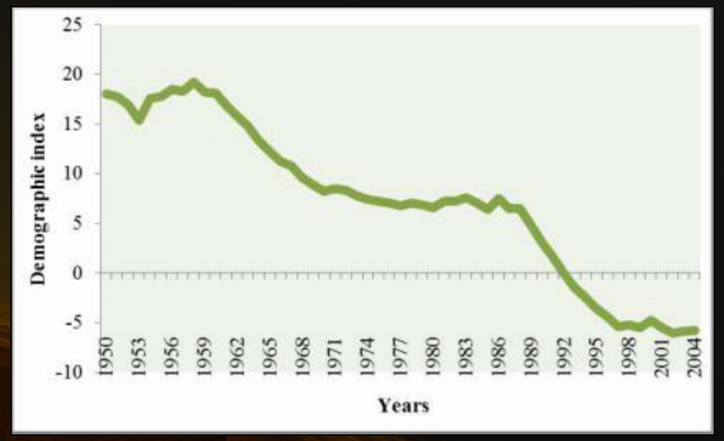


Chart top left- "*Structure of the causes of death in Belarus, 2008*." In addition to causing a much higher incidence of cardiac problems, radiation also causes premature aging.

Chart top right - "*Demographic index for the Republic of Belarus, 1950-2004 [Bandashevsky 2011]*." A premonition for what is in store for Japan, parts of North America, and even Europe that have been particularly hard hit with fallout and other forms of contamination. The increase in general background radiation in the United States and during the period 1950-2000 is measurable and deadly.

POWERED BY
THE FUSION COLECTIVE

WILL THE REAL DR. STEPHEN JONES PLEASE STAND UP?

Steven Earl Jones is an American physicist. *For most of his career, Jones was known mainly for his work on muon-catalyzed fusion* (think). In the fall of 2006, amid controversy surrounding his work on the collapse of the World Trade Center (*Jones produced alleged evidence showing the buildings were destroyed by an energetic compound in a controlled demolition during the September 11 attacks*), he was relieved of his teaching duties and placed on paid leave from Brigham Young University. He retired on October 20, 2006 with the status of Professor Emeritus.

Jones earned his bachelor's degree in physics, magna cum laude, from Brigham Young University in 1973, and his Ph.D. in physics from Vanderbilt University in 1978. Jones conducted his Ph.D. research at the Stanford Linear Accelerator Center from 1974 to 1977 and post-doctoral research at Cornell University and the Los Alamos Meson Physics Facility.

In the mid-1980s, Jones and other BYU scientists worked on what he then referred to as Cold Nuclear Fusion in a Scientific American article, but is today known as muon-catalyzed fusion to avoid confusion with the cold fusion concept of Pons and Fleischman. Muon-catalyzed fusion was a field of some interest in the 1980s, but its low energy output appears to be unavoidable (*due to alpha-muon sticking losses*). Jones led a research team that in 1986 achieved 150 fusions per muon (*average*), releasing over 2,600 MeV of fusion energy per muon, a record which still stands.

This record is based on a functional portion of a muon catalyzed fusion reaction that can be applied to and used in nuclear explosive devices.

Around 1985 Jones then became interested in the anomalous concentration of helium-3 found in the gases escaping from volcanoes. He hypothesized that the high pressures in the Earth's interior might make fusion more likely, and began a series of experiments on what he referred to as piezofusion, or high-pressure fusion. In order to characterize the reactions, Jones designed and built a neutron counter able to accurately measure the tiny numbers of neutrons being produced in his experiments. The counter suggested a small amount of fusion was going on. Jones said the result suggested at least the possibility of fusion, though the process was unlikely to be useful as an energy source. Useless as an energy source in a capitalist system of profit above all else but not useless as a component of a nuclear bomb.

Stanley Pons and Martin Fleischmann (*Pons and Fleischmann or P&F*) started their work around the same time. Their work was brought to Jones' attention when they applied for research funding from the Department of Energy, after which the DOE passed their proposal along to Jones for peer review. Realizing their work was very similar, Jones and P&F agreed to release their papers to Nature on the same day, March 24, 1989. However, P&F announced their results at a press event the day before. Jones faxed his paper to Nature.

A New York Times article says that while peer reviewers were quite critical of Pons and Fleishchmann's research they did not apply such criticism to Jones' much more modest, theoretically supported findings. Although critics insisted that his results likely stemmed from experimental error, most of the reviewing physicists indicated that he was a careful scientist. Later research and experiments supported the metallic cold fusion reports by Jones.

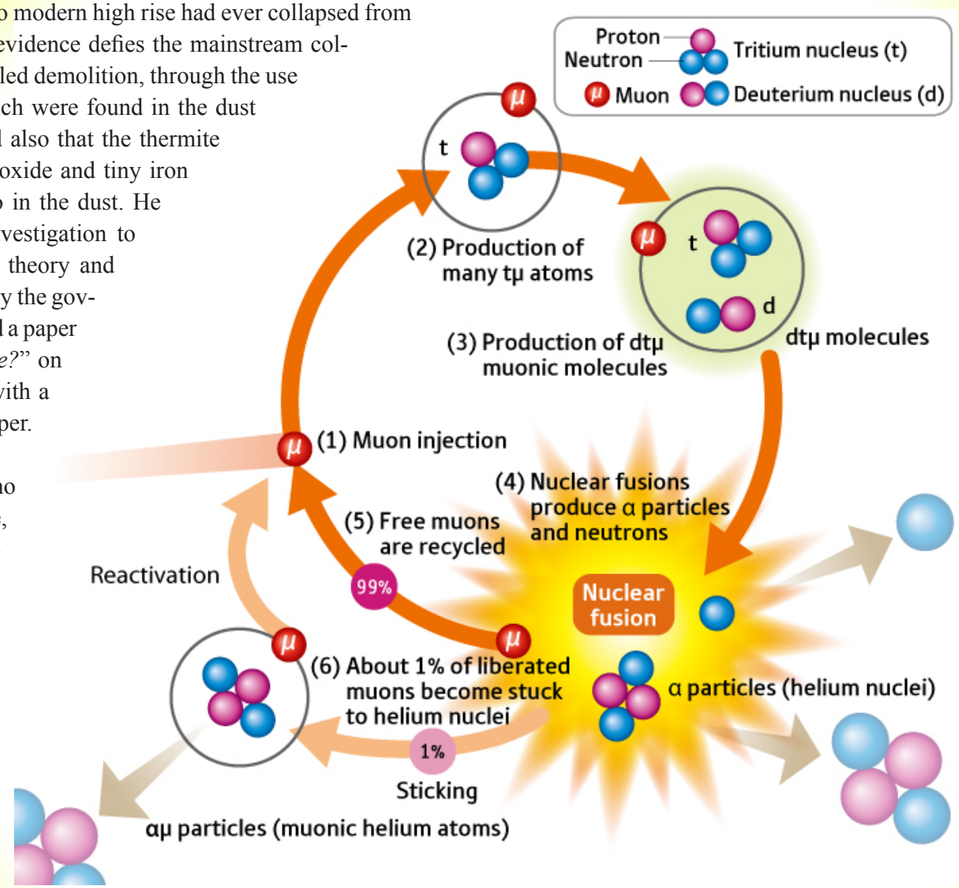
On September 22, 2005 Jones presented his views on the collapse of the World Trade Center towers and World Trade Center 7 at a BYU seminar attended by about 60 people. Pointing to the speed and symmetry of the collapses, the characteristics of dust jets, eyewitness reports of explosions down low in the buildings, partially corroded beams, molten metal in the basements which was still red hot weeks after the event, and the notion that no modern high rise had ever collapsed from fire, Jones suggested that the evidence defies the mainstream collapse theory and favors controlled demolition, through the use of nanothermite, traces of which were found in the dust as grey/red flakes. He claimed also that the thermite reaction products, aluminium oxide and tiny iron spheres (*iron oxide*) were also in the dust. He called for further scientific investigation to test the controlled demolition theory and the release of all relevant data by the government. Shortly after the seminar, Jones placed a paper "*Why Indeed Did the WTC Buildings Collapse?*" on his page in the Physics department website, with a note that BYU had no responsibility for the paper.

He subsequently defended the research at Idaho State University, Utah Valley State College, University of Colorado at Boulder and University of Denver, the Utah Academy of Science, Sonoma State University, University of California at Berkeley, and the University of Texas at Austin.

On September 7, 2006, Jones removed his paper from BYU's website at the request of administrators and was placed on paid leave. The university cited its concern about the "*increasingly speculative and accusatory nature*"

professor jones is
an expert in
muon catalyzed fusion

In April 2008, Jones, along with four other authors, published a letter in The Bentham Open Civil Engineering Journal, titled, 'Fourteen Points of Agreement with Official Government Reports on the World Trade Center Destruction'.



of Jones' work and the concern that perhaps it had "*not been published in appropriate scientific venues*" as reasons for putting him under review. The review was to have been conducted at three levels: BYU administration, the College of Physical and Mathematical Sciences, and the Physics Department. Jones' colleagues also defended Jones' 911 work to varying degrees, and Project Censored lists his 911 research among the top mainstream media censored stories of 2007.

Jones' placement on paid leave drew criticism from the American Association of University Professors and the Foundation for Individual Rights in Education. Both organizations are long time critics of BYU's record on academic freedom. Jones welcomed the review because he hoped it would "*encourage people to read his paper for themselves*," however the review was abandoned (*contrary to Jones' request*) when Jones elected to fully retire from the university effective January 1, 2007.

Jones has been interviewed by mainstream news sources and has made a number of public appearances. While Jones has urged caution in drawing conclusions, some believe that his public comments have suggested a considerable degree of certainty about both the controlled demolition of the World Trade Center and the culpability of elements within the U.S. government. In one interview, he asserted that the attacks were "*an 'inside job', puppeteered by the neoconservatives in the White House to justify the occupation of oil-rich Arab countries, inflate military spending, and expand Israel.*" His name is often mentioned in reporting about 911 conspiracy theories. But he's hiding the nuclear component.

Jones has published several papers suggesting that the World Trade Center was demolished with explosives, but his 2005 paper, "*Why Indeed Did the WTC Buildings Collapse?*" was his first paper on the topic and was considered controversial both for its content and its claims to scientific rigor. Jones' early critics included members of BYU's engineering faculty; shortly after he made his views public, the BYU College of Physical and Mathematical Sciences and the faculty of structural engineering issued statements in which they distanced themselves from Jones' work. They noted that Jones' "*hypotheses and interpretations of evidence were being questioned by scholars and practitioners,*" and expressed doubts about whether they had been "*submitted to relevant scientific venues that would ensure rigorous technical peer review.*"

Jones maintained that the paper was peer-reviewed prior to publication within a book "*9/11 and American Empire: Intellectuals Speak Out*" by D.R. Griffin The paper was published in the online "*Journal of 9/11 Studies*", a journal co-founded and co-edited by Jones for the purpose of "*covering the whole of research related to 9/11/2001*." The paper also appeared in a volume of essays edited by David Ray Griffin and Peter Dale Scott.

In April 2008, Jones, along with four other authors, published a letter in The Bentham Open Civil Engineering Journal, titled, '*Fourteen Points of Agreement with Official Government Reports on the World Trade Center Destruction*'. In August 2008, Jones, along with Kevin Ryan and James Gourley, published a peer-reviewed article in The Environmentalist, titled, '*Environmental anomalies at the World Trade Center: Evidence for energetic materials*'. In April 2009, Jones, along with Niels H. Harrit and 7 other authors published a paper in The Open Chemical Physics Journal, titled, '*Active Thermitic Material Discovered in Dust from the 9/11 World Trade Center Catastrophe*'. The editor of the journal, Professor Marie-Paule Pileni, an expert in explosives and nano-technology, resigned. She received an e-mail from the Danish science journal Videnskab asking for her professional assessment of the article's content.

Jones had been co-chair of Scholars for 911 Truth up until December 5, 2006. Following a dispute with co-chair James Fetzer over the direction the organization was taking, Jones resigned his membership and joined Scholars for 911 Truth & Justice. Dr. Jones is a member of The Church of Jesus Christ of Latter-day Saints and has been described as "*a devout Mormon*" and is co-editor of Journal of 911 Studies. Jones refuses to address the USGS and Delta Group data in their totality because the dust samples, when followed closely, prove 911 was nuclear.

Very simply, I can't help but wonder why Dr. Jones has abused science by suggesting that his 300mps velocity energetic compound is even in the same ballpark as TNT, RDX and HDX with velocities of close to 9,000mps. I don't understand why Dr. Jones, who studied muon catalyzed fusion extensively hasn't discussed that a deuterium tritium bomb leaves elevated levels of tritium and uranium both of which we see at Ground Zero. It also leaves very little radiation, for just a few days at most, yet Dr. Jones used a lack of radiation to explain away the nuclear aspect of 911. Think.

Muon-Catalyzed fusion detonations were studied extensively in underground demolition experiments after 1955

THE GOOD DOCTOR JONES

When Steven Earl Jones, then physics professor at Brigham Young University, burst on the 911 research scene in September 2005 to wide adulation, a few things didn't add up but I reassured myself that all would be well, eventually. After all, he was sincere, appealing demeanor, 'great uncle' giggle and all, and he was educated, right?

Jones announced his narrow thermite hypothesis, initially calling for "*a serious investigation of the hypothesis that WTC 7 and the Twin Towers were brought down not by impact damage and fires but through the use of pre-positioned cutter-charges.*" This statement appeared in a volume edited by David Ray Griffin and Peter Dale Scott, 911 and the American Empire: Intellectuals Speak Out (2006, p. 33). Controlled demolition was ***already established*** as a popular explanation for destruction of the WTC, so Jones was only adding thermite as the key ingredient. Sometime later Jones altered the sentence quoted above in his online version (*PDF link below*), adding the word "*just*" thereby changing the original phrase to read "*not just by impact damage and fires*," now set off by commas. This subtly preserves the fiction that airliners contributed to destruction of the twin towers. The government and media, of course, insist that airliner crashes were the sole cause of destruction.

Most in the 9/11 half-truth movement cling to Jones, his thermite science and alleged evidence in "*refereed journals.*" Truthlings labeled anyone else who dared criticize Jones as crackpots out to discredit the 9/11 truth movement via "*ridiculous claims.*"

Kevin Ryan, luminaries like Neils Harrit, Richard Gage, and a host of lesser names joined Jones in propping up the thermite legend. Few noticed that this version of events fails to depart significantly from the official Arab hijacker hoax and does not implicate the U.S. military-industrial-intelligence-media-complex because thermite is readily available. If Jones' version of 911 gained dominance (*hijacked airliners and thermite*), the real perpetrators would hardly be bothered. They would only ratchet up their lie another notch and claim the Islamists' bag of dirty tricks must have included thermite plus explosives planted a la the 1993 WTC bombing.

Finally, two irrefutable facts by themselves falsify conventional explosives or cutter-charges as explanations for how the towers were destroyed: 1) small seismic signals during each tower's destruction, and 2) an intact bathtub prevented the Hudson river from flooding the WTC site and lower Manhattan, thereby proving that each 500,000 ton tower never actually crashed to the ground but was, in fact, turned to dust. Otherwise, there would have been at least a Richter equivalent signal of 3.8+ instead of the recorded 2.1-2.3 plus a smashed bathtub, causing massive flooding. The twin towers were largely converted into extremely fine powder, "dustified," floating.

Recent work by chemical engineer Mark Hightower based on his review of the conventional science and engineering literature proves beyond doubt that thermite, nano thermite, thermate and sooper-dooper thermite have low or no explosive power, and hence are non-starters as candidates to cause anything like what happened at the WTC. This is not new information but Hightower's work has ignited enough attention to trigger initiation of collapse of Jonesian thermite doctrine. Unfortunately, Jones et. al. bought half-a-dozen years for the evil doers.

Can a Ph.D. physicist be that retarded? Contrary to the consternation expressed over such a question, of course we never believed the answer was 'yes.' The answer is no, Jones is not stupid. But how then do we account for his pied piper act leading the 911 movement astray for years with a false theory? If not honest error and stupidity, the only possibility left is that Jones is dishonest, disinfo, shucking and jiving, stalling and playing out the clock for the perpetrators. Now that professor Jones' act is on the wane, I raise a toast to our improved prospects for truth to triumph. For the fact that 911 was nuclear to rise to the surface.

Jones eventually announced he had been "*forced out*" of his job yet it became known that Jones had moved to a new residence, then a few months later retired and was promoted to Professor Emeritus, the highest level of achievement for a professor. Someone fired from his job is never promoted. Jones did not go without an income. So, if Jones was not fired but promoted, why is he playing the 'fired' martyr? The timing and focus strongly suggest it was a useful diversion. But no matter the motive, the conclusion remains that Jones is dishonest.

And the same can be said of Jones' thermite myth. Thermite is also a diversion, stalling and playing out the clock for the perpetrators. Thermite is used in welding. It does not turn a building to powder in mid air.

Source:
http://www.journalof911studies.com/volume/200609/Why_Indeed_Did_the_WTC_Buildings_Completely_Collapse_Jones_Thermite_World_Trade_Center.pdf

GOING UNDERGROUND

Underground Nuclear Power Plants

Several Underground Nuclear Power Plants
(UNPPs) have been operated since the early 1960s
in Europe and the Soviet Union.
Russia is studying plans to build more underground NPPs
using small "mini" naval reactors....

Chernobyl on the Hudson - 2009

In September 2004 the Union of Concerned Scientists published a report into the Indian Point nuclear power station, located on the Hudson River 35 miles north of New York... titled Secret Fallout.

"*Directly out of the business of nuclear weapons came the business of nuclear power, heralded in our country with the slogan, Atoms for Peace. Even that innocent-sounding slogan is part of the endless pattern of public deception that surrounds...*"

Source:
http://nomoregames.net/index.php?page=911&subpage1=trouble_with_jones

This is an article by Morgan Reynolds on Professor Steven Jones and his well known "*thermite*" theory for the destruction of the Twin Towers.

There are some very interesting photographs, of the streets being washed down afterwards. Cars were burned in a peculiar way, warped, with one half burned and the other half untouched. Plastic upholstery in the cars unburned. There are reports of paper being untouched, while metal burned and people were vaporized. Washing is standard practice to remove radioactive contamination. Everything at Ground Zero was washed daily.

The burning of metal but not paper or plastic is very interesting. As I go into in the report, there are aspects of the fallout which lead one to conclude that the "device" produced extremely intense neutron radiation.

It was not just an explosive device - it was also a Neutron Bomb.

Metal objects would block and absorb the neutrons and so heat up instantly, whereas paper and plastic would offer no resistance and the neutrons would just pass through. Hence metal burns while paper is untouched. The Human Body is 70% water. Water is one of the best neutron absorbers, used as a radiation shield. In an intense neutron flux, people would probably turn to plasma and evaporate. This was always one of the "*horrors*" of the Neutron Bomb scare in the 1970s, when it was proposed to stop the Russian tanks from rolling across the North European Plain. A Neutron Bomb could kill people but leave certain infrastructure intact.

Why the WTC "*device*" may have produced directed neutron beams from a central explosive source is intriguing. In the report we touch on the technological appearance of Koenig's Sphere, a sculpture which took pride of place in WTC Plaza and somehow managed to survive, largely intact. I doubt it was just "*modern art*". It looks like an eyeball - i.e. a wave collection and amplifying device. Mystery surrounds it.

The power output could be turned up
and down at will by turning a dial

In an advanced form of nuclear reactor, one would not simply create an "*atomic pile*" to create sufficient neutron density to initiate the fission chain reaction, by amassing enough "*critical mass*" of uranium together in a big lump. How crude. One would use a Laser approach to amplify the neutron emissions from a relatively small amount of material, by resonance, to build up the amplitude and energy into a concentrated and coherent neutron beam. A NASER - Neutron Amplification by Stimulated Emission of Radiation. Neutron pulses would then be fired at the fissile material to initiate nuclear fission.

By producing High Energy Neutrons, another vista opens up - nuclear fission using Uranium 238 rather than Uranium 235. In fact, that is the whole motivation to create High Energy Neutrons at all, so that nuclear reactors can be powered by the abundant U238 rather than scarce U235.

Over 99% of natural Uranium is in the form of the U238 isotope and 0.7% is in the form of the U235 isotope. In a conventional nuclear reactor only U235 can be used to generate power. U235 will fission when hit by the "*slow*" or low energy neutrons emitted by other U235 atoms when they decay. Therefore a "*critical mass*" of U235 must be accumulated, so that the neutrons emitted by the entire mass of U235 will sustain a fission chain reaction. This is why natural Uranium is "*enriched*" to about 5% U235 and 95% U238 for nuclear fuel. The chain reaction in the reactor is then controlled by the moderator rods, the cooling system, etc.

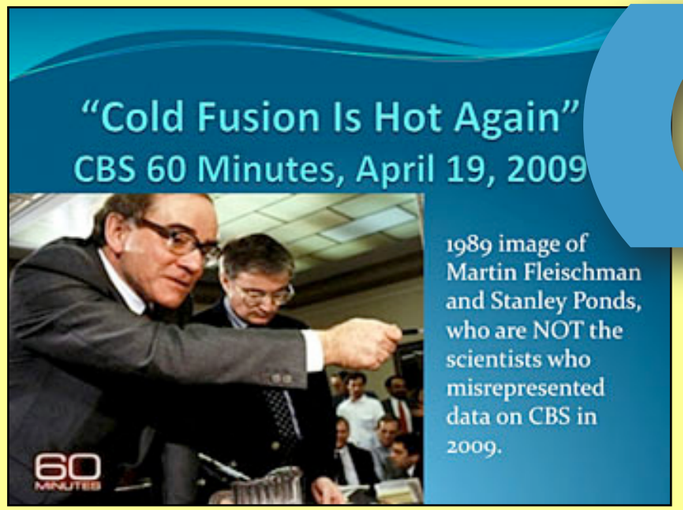
Uranium 238 is useless in this system because it will only fission when struck by High Energy Neutrons. Proposals have existed for decades to build reactors using the principle called Accelerator Driven Fission. High energy neutrons are produced in a particle accelerator and used to bombard U238, creating fission and power. One advantage of this is that it is much safer. There is no self sustaining chain reaction - if the accelerator is switched off, the reactor shuts down and there is no chance of a runaway core meltdown or Chernobyl Syndrome. Abundant U238 and existing nuclear waste stockpiles can be used as fuel, transmuting them into safe disposable by-products.

I do not believe that 60 years after the original Manhattan Project, that the US Military have not made this obvious next technological step.

Indeed, the next obvious step is not just to use a brute force "*particle accelerator*" to produce the neutrons but to develop a Neutron Laser as postulated above.

The reactor would look something like this. A central sphere containing the fissile material - U238, surrounded by say 32 Neutron Laser Guns. The rate of power production from the reactor would then be controlled by the Pulse Repetition Rate of the NASERS. The power output could be turned up and down at will by turning a dial. Just turning a dial ...

Some have suggested a nuclear reactor under the Twin Towers went critical. Let's discuss this. This brings us to how the whole reactor could be destroyed at once in a massive fission event. The NASERS would all be turned up to maximum. The U^{238} would all fission in a massive "*power excursion*" leaving a molten pool of material. As the whole system was destroyed, neutron pulses from the NASERS would escape, not to mention the intense secondary neutron emission from the entire mass of U^{238} and its daughter products fissioning in a confined space (*neutron leakage*). There would indeed be an enormous explosion, an atomic blast, but unlike a U^{235} blast there would be no self sustained chain reaction. Because High Energy Neutrons are required to fission the U^{238}, a relatively small explosion was produced in comparison to the quantity of U^{238} which must have fissioned.



This is of course now moving firmly into the domain of hypothesis. It is the purpose of hypothesis to try and explain or postulate explanations which best account for known facts, based on our state of knowledge.

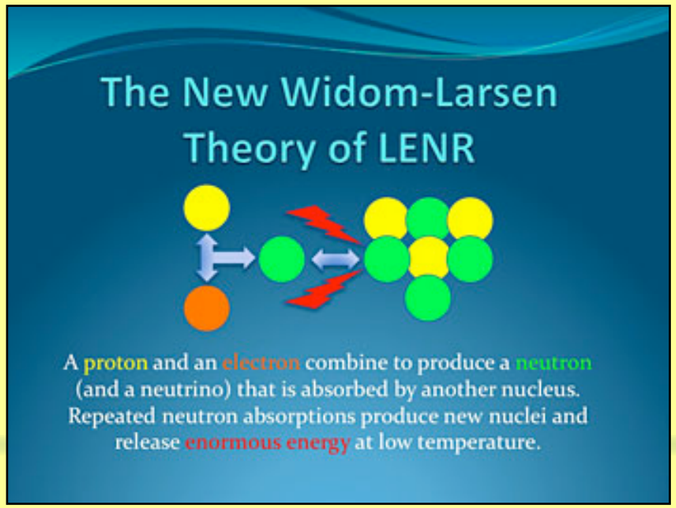
We know that over 700ppm of Strontium and over 500pm of Barium was present in the dust. We therefore know that at least 500 tons of Uranium were fissioned per tower. One possibility would be a nuclear device , some sort of reactor, and perhaps not an atomic bomb. We have evidence of intense radiation beams, consistent with neutron emission and we know that if 500 tons of Uranium from a conventional reactor had fissioned in a chain reaction all at once that the Atlantic Ocean would now be filling the crater where New York City used to be. Therefore, we postulate that the reactor was instead some form of High Energy Neutron reactor, using much more stable and abundant U^{238}, which produced much less explosive energy when hundreds of tons of it underwent instantaneous fission.

Koenig's Sphere may be a model of part of the device just as Stephen Jones may be the model designed to do everything possible to refute a nuclear component to the demolition of the Twin Towers – hidden in plain sight for all to see.

THE DARKER SIDE OF PROFESSOR JONES

The essay above is a detailed critique by Gerard Holmgren of Professor Jones' hypotheses. As I like to say, the controlled demolition of the World Trade Center is not a hypothesis - it is a fact proven by prima facie evidence. While I don't agree with all of the assertions in the essay it's important to me to address all possibilities. The essay can be found at the following link:

http://members.iinet.net.au/%7Eholmgren/darkside.html



COLD FUSION 101

Image 1 - left

Image from CBS 60 Minutes website about their story hyping cold fusion.

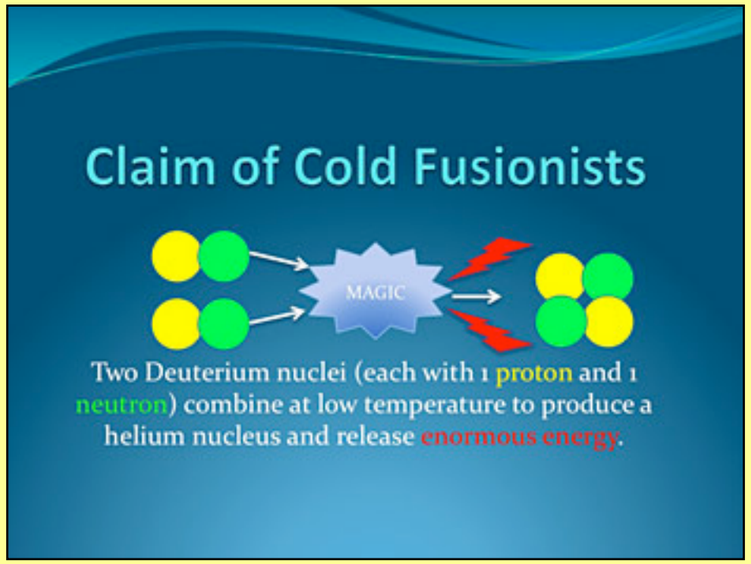


Image 2 - above

Cold Fusion scientists claimed they fused deuterium nuclei, producing helium and releasing vast heat energy, through an unidentified process that even at low temperatures can overcome the natural repulsion of positive charges.

Image 3 - left

The remarkable new Widom-Larsen theory of LENR, Low Energy Nuclear Reactions, explains how nuclear-scale energy can be produced without invoking any new laws of physics or any new and undedicated particles or forces. Electrons and protons combine through collective electromagnetic effects making low energy neutrons that easily initiate nuclear reactions; being neutral they are not repelled by nuclei.

WHO BENEFITS FROM THE FUSION CONSPIRACY?

Ludwik Kowalski • December 30, 2002
Department of Mathematical Sciences
Montclair State University, NJ

About a week ago a teacher from an Internet discussion list wrote that a conspiracy against "cold fusion," if its claims are correct, can not possibly be effective, in a long run. This made me think about the institutional conspiracy against the religious reputation of Galileo. Two days ago I got a private message on the topic of institutional conspiracy from Dr. Edmund Storms. He is the one whose letter to the editors of Scientific American was posted as item #9 on my web site:

http://pages.csam.montclair.edu/~kowalski/cf/index.html
and
http://csam.montclair.edu/~kowalski/cf/

The reply was a reaction to what I wrote in items # 26 and #21. Thinking that those who read my "cold fusion" items might be interested in the episode described by Dr. Storms I asked for (and received) permission to share it. What follows is his story, and additional comments. In reading the story keep in mind that DOE stands for the (US Department of Energy), ERAB stands for the highly negative 1989 report of the Energy Research Advisory Board and BYU stands for Brigham Young University where Dr. Stephen Jones was conducting research. Dr. Storms wrote:

"*You might like to know that in 1995, Steve Jones and I submitted a proposal to the DOE to test the claims ofPons and Fleischmann. I, as a believer, would show Professor Stephen Jones and Hansen at BYU, as skeptics, how to make the effect work and they would measure the resulting energy*."

"*We did this believing the DOE would abide by the statement in the ERAB report that "The Panel is, therefore, sympathetic toward modest support for carefully focused and cooperative experiments within the present funding system". This proposal was turned down. As far as I know, every proposal having anything to do with cold fusion was also turned down. For all practical purposes, the ERAB report killed the field in the US no matter what they said to the contrary*."

The message with the permission to post had a comment which, I suppose, can be added as an elaboration on the above. I wrote in reply:

"*The fact that DOE took a very hard stand in 1995 does not mean one should give up. Let us hope that 2003 will the year of the beginning of a reconciliation...*"

Dr. Storms then responded:

"*Like you, I hope for sooner rather than later. However, government bureaucrats and academics have invested so much in rejecting this idea that it is not possible for them to change. I expect the US will change only after Japan solves the problem and threatens to create a commercial product based on the process. Meanwhile the old will die off and administrations will change, allowing new people to take control of science. It is a very slow process to make such profound changes. Being retired, I look upon this as an interesting process with very little likelihood of an end any time soon.*"

So, with more than 1000 scientific papers supporting the reality of highly unusual phenomena are available but the leaders of our scientific establishments refuse to have another look. Something is not right. What should a confused science teacher do? Avoid the topic because authorities declared it to be non scientific 13 years ago? Risk his or her reputation and try to discuss the issue objectively? Play it safe and support official pronouncements? Those invited to look into Galileo's telescope were in a similar situation.

The more I think about it the more I am convinced that something similar to what was suggested in item #21 (*on my web site linked above*) is urgently needed. Read again what Dr. Storms wrote in the letter to the editors of Scientific American (*item #9 on my web site*) and think about it critically. Is he right or is he wrong that the issue is important in the context of support for science in our society?

By the way, a TV program last night was devoted to illnesses. They produced an example of institutional conspiracy against a researcher. The man had data proving that children's exposure to lead (*mainly from gasoline emission*) affected mental functioning. But the powerful lead industry launched an attack against him, and tried to discredit him. It took three years to show that his claims were not pseudo-science. Lead was removed from gasoline and its concentration in air has been reduced significantly. The motive of conspiracy, in this case, was obvious. But what motivates the DOE? Why was "*every proposal having anything to do with cold fusion ... turned down*" by our own government? Why do they ignore hundreds of serious papers authored, mostly by highly trained Ph.D. scientists?

Is the scientific establishment trying to protect us from some dangers? Why do they oppose a fair examination of the AE claims, in view of new evidence? Despite its criticism, which has been mostly justified, the ERAB report was "*sympathetic toward modest support for carefully focused and cooperative experiments within the present funding system.*"

Is it true that such support has not been available to reputable US scientists?

And why not? What are they hiding? Muon catalyzed fusion? Deuterium-Tritium explosives?

EXPLAINING DEUTERIUM TRITIUM EXPLOSIVES

In the muon-catalyzed fusion of most interest, a positively charged deuteron (d), a positively charged triton (t), and a muon essentially form a positively charged muonic molecular heavy hydrogen ion (d-μ-t)+. The muon, with a rest mass about 207 times greater than the rest mass of an electron, is able to drag the more massive triton and deuteron about 207 times closer together to each other in the muonic (d-μ-t)+ molecular ion than can an electron in the corresponding electronic (d-e-t)+ molecular ion.

The average separation between the triton and the deuteron in the electronic molecular ion is about one angstrom (100 pm), so the average separation between the triton and the deuteron in the muonic molecular ion is about 207 times smaller than that.

Due to the strong nuclear force, whenever the triton and the deuteron in the muonic molecular ion happen to get even closer to each other during their periodic vibrational motions, the probability is very greatly enhanced that the positively charged triton and the positively charged deuteron would undergo quantum tunnelling through the repulsive Coulomb barrier that acts to keep them apart. Indeed, the quantum mechanical tunnelling probability depends roughly exponentially on the average separation between the triton and the deuteron, allowing a single muon to catalyze the d-t nuclear fusion in less than about half a picosecond, once the muonic molecular ion is formed.

The formation time of the muonic molecular ion is one of the "rate-limiting steps" in muon-catalyzed fusion that can easily take up to ten thousand or more picoseconds in a liquid molecular deuterium and tritium mixture (D2, DT, T2), for example.

Each catalyzing muon thus spends most of its ephemeral existence of about 2.2 microseconds, as measured in its rest frame wandering around looking for suitable deuterons and tritons with which to bind.

GROUND ZERO URANIUM

The Uranium found on the girder coatings at Ground Zero was 7.57 parts per million (ppm) or 93 Becquerels per Kilogram (Bq/Kg). What's even more important is the amounts, parts per million or Becquerels per Kilogram, of Uranium and Thorium in the girder coatings as they correlate together. Both are only found in radioactive states. Uranium exists in the earth and is found in soil samples at levels between 12 and 40 Becquerels per Kilogram. 93 Becquerels per kilogram found in the girder coatings is high.

The Tritium found across Ground Zero is also high. When the Tritium and Uranium levels are considered together we have reason to believe a certain type of nuclear reaction occurred. Very good reason to believe so. Dust isn't deceptive. People are. There are dozens of elements in the dust that need to be explored by the 911 community from the anomalous levels of Sodium and Potassium to the extremely high levels we see of Zinc and other elements. Many of these elements form correlations of unity.

GENERALLY COLD LOCALLY HOT FUSION

Accelerator-based light-ion fusion is a technique using particle accelerators to achieve particle kinetic energies sufficient to induce light-ion fusion reactions. Accelerating light ions is relatively easy, and can be done in an efficient manner—all it takes is a vacuum tube, a pair of electrodes, and a high-voltage transformer; fusion can be observed with as little as 10 kV between electrodes. The key problem with accelerator-based fusion (and with cold targets in general) is that fusion cross sections are many orders of magnitude lower than Coulomb interaction cross sections. Therefore the vast majority of ions end up expending their energy on bremsstrahlung and ionization of atoms of the target. Devices referred to as sealed-tube neutron generators are particularly relevant to this discussion. These small devices are miniature particle accelerators filled with deuterium and tritium gas in an arrangement that allows ions of these nuclei to be accelerated against hydride targets, also containing deuterium and tritium, where fusion takes place.

Hundreds of neutron generators are produced annually for use in the petroleum industry where they are used in measurement equipment for locating and mapping oil reserves. Despite periodic reports in the popular press by scientists claiming to have invented "table-top" fusion machines, neutron generators have been around for half a century. The sizes of these devices vary but the smallest instruments are often packaged in sizes smaller than a loaf of bread. These devices do not produce a net power output.

FUSION"S", WITH AN "S"

Sonofusion or bubble fusion, is a controversial variation on the sonoluminescence theme, suggests that acoustic shock waves, creating temporary bubbles (cavitation) that expand and collapse shortly after creation, can produce temperatures and pressures sufficient for nuclear fusion.

The Farnsworth–Hirsch fusor is a tabletop device in which fusion occurs. This fusion comes from high effective temperatures produced by electrostatic acceleration of ions. The device can be built inexpensively, but it too is unable to produce a net power output. It is capable of leading to a nuclear fusion explosive device whether it produces a net power output or not.

The Polywell is a non-thermodynamic equilibrium machine that uses electrostatic confinement to accelerate ions into a center where they fuse together. Can this be used in a nuclear explosive device?

Antimatter-initialized fusion uses small amounts of antimatter to trigger a tiny fusion explosion. This has been studied primarily in the context of making nuclear pulse propulsion, and pure fusion bombs feasible. This is not near becoming a practical power source, due to the cost of manufacturing antimatter alone. Can this be the science behind miniature nuclear explosive devices?

Pyroelectric fusion was reported in April 2005 by a team at UCLA. The scientists used a pyroelectric crystal heated from -34 to 7 °C (-29 to 45 °F), combined with a tungsten needle to produce an electric field of about 25 gigavolts per meter to ionize and accelerate deuterium nuclei into an erbium deuteride target. Though the energy of the deuterium ions generated by the crystal has not been directly measured, the authors used 100 keV (*a temperature of about 109 K*) as an estimate in

their modeling. At these energy levels, two deuterium nuclei can fuse together to produce a helium-3 nucleus, a 2.45 MeV neutron and bremsstrahlung. Although it makes a useful neutron generator, the apparatus is not intended for power generation since it requires far more energy than it produces. Again, power generation in any nuclear explosion sequence might last just milliseconds so any particular source that fits in with the science becomes viable. And there's much more.

Sources

1. Naval Ocean Systems Center and U.S. Department of Energy (Washington)

"On the behavior of Pd deposited in the presence of evolving deuterium," S. Szpak (Navy), J.J. Smith (DoE), J. Electroanalytical Chemistry, 302 (March 11, 1991), pp. 255-260.

...Three sets of preliminary experimental results are presented here, i.e., the production of excess enthalpy, the production of tritium, and the presence of some form of radiation.

2. National Cold Fusion Institute

"Reproducible tritium generation in electrochemical cells employing palladium cathodes with high deuterium loading,"

by Fritz G. Will, Krystyna Cedzynska, and Denton C. Linton, Journal of Electroanalytical Chem., 360, 1993, pp. 161-176

3. Naval Air Warfare Center Weapons Division

"Anomalous Effects in Deuterated Systems," by Melvin H. Miles, Benjamin F. Bush, and Kendall B. Johnson, NAWCWPNS Technical Publication 8302, September 1996, 99 pages.

4. Los Alamos National Laboratory

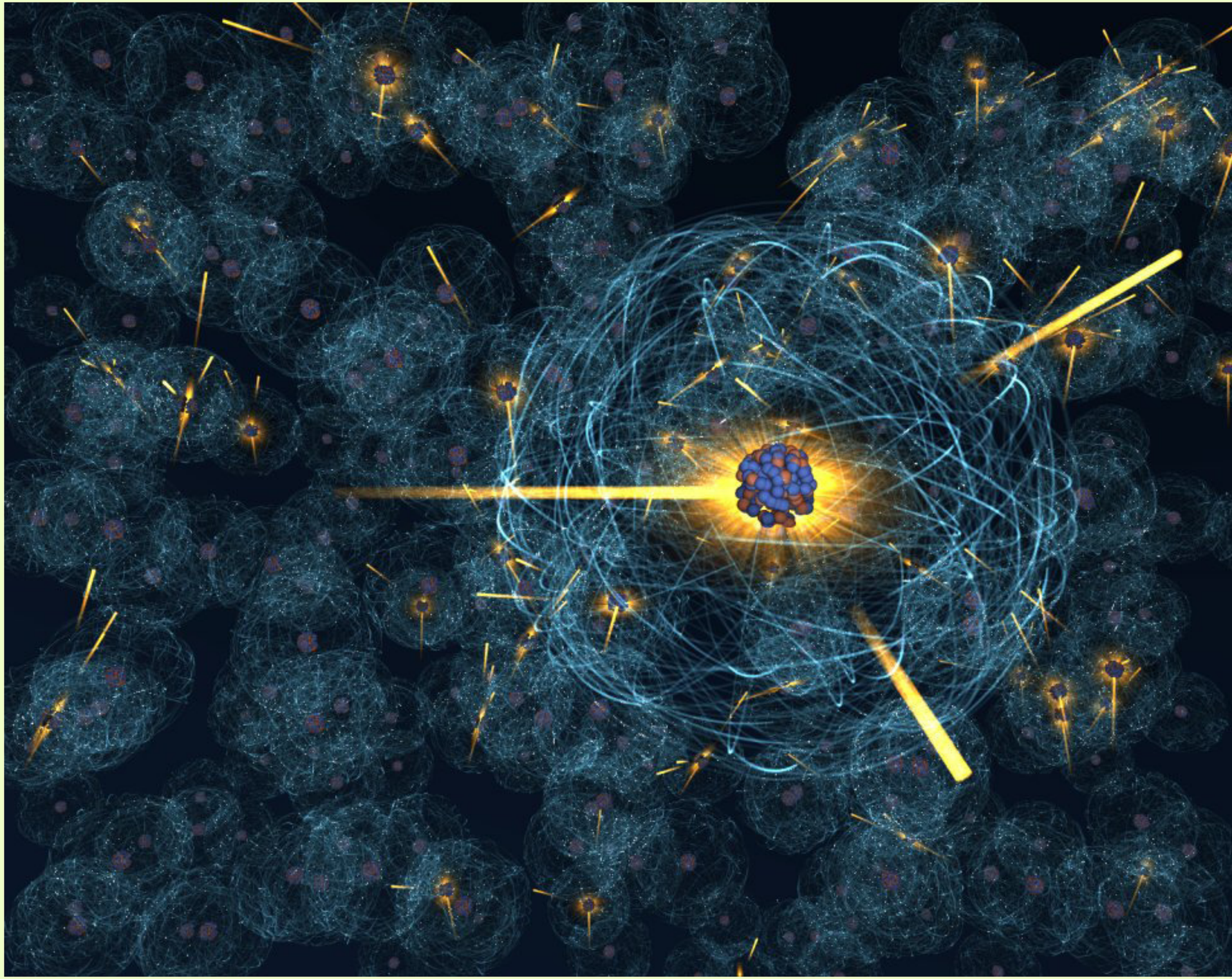
"Tritium Production from a Low Voltage Deuterium Discharge on Palladium and Other Metals," T.N. Claytor, D.D. Jackson, and D.G. Tuggle, published on WWW and reprinted in Infinite Energy, No. 7, March-April 1996, pp. 39-42.

5. Departement de Physique Faculte des Sciences de Luminy (France)

"Excess Heat Measurement in AlLaO3 Doped with Deuterium," Jean-Paul Biberian, Proceedings of the Fifth International Conference on Cold Fusion (ICCF-5), April 9-13, 1995, Monte Carlo, Monaco, pp. 49-56.

6. Los Alamos National Laboratory Nuclear Materials Technology Division

"Electrolytic Tritium Production," by Edmund Storms and Carol Talcott, Fusion Technology, Vol. 17, July 1990, pp. 680-695.



DR. CHRISTOPHER BUSBY

Battling Invisible Snake Bites
That Can Eventually Kill Us All

"It's all invisible. The trees are still trees, people are shopping, the birds are singing and dogs are walking in the street," said Chris Busby, a visiting professor at the University of Ulster's school of biomedical sciences, who visited Fukushima prefecture last week to provide information on health risks. "*When you bring out the (Geiger) machines, you can see everything is sparkling and everybody is being bitten by invisible snakes that will eventually kill them.*"

Prof. Chris Busby quoted in "Fukushima Teacher Muzzled on Radiation Risks for School Children" by Takahiko Hyuga - Jul 28, 2011, also on YouTube video Fukushima "A Disaster beyond imagining" - Prof. Chris Busby, uploaded 2 Aug 2011 - video link below.

Dr. Chris Busby, with his Green Audit Staff (*right, at left*) is director of the independent environmental consultancy, Green Audit. He has a first-class Honours degree in Chemistry from London University and a PhD in chemical physics from the University of Kent. He is Scientific Secretary of the European Committee on Radiation Risk and a member of the UK Department of Health Committee Examining Radiation Risk for Internal Emitters (CERRIE).

Chris also sits on the UK Ministry of Defence Depleted Uranium Oversight Board and is National Speaker on Science and Technology for the Green Party of England and Wales. Chris is a fellow of the University of Liverpool in the Faculty of Medicine. He is also scientific advisor of the Low Level Radiation Campaign which he helped to set up in 1995.

Dr. Christopher Busby is one of the preeminent experts on nuclear fallout and radiation. He was the scientific secretary for the European Committee on Radiation Risks and has held numerous influential positions in this field. In the aftermath of Fukushima, his expertise has been very much in demand, with Dr. Busby appearing on BBC and numerous other radio and TV shows.

Video Link:
http://www.youtube.com/watch?v=IcnwgfJfjFw

THE INTERVIEW

On Friday, 28 October 2011, it was my honor to host Leuren Moret and Christopher Busby as my guests on "The Real Deal", an internet radio program broadcast on M/W/F from 5-7 PM/CT over revereradio.net. Leuren Moret is an independent geoscientist who has done expert studies on the Fukushima disaster, radiation problems around the world including depleted uranium. Dr. Christopher Busby is a visiting biomedical studies professor at the University of Ulster and is the co-author of reports about the effects of depleted uranium in Iraq especially in relation to Fallujah. What Busby found much to his surprise was not DU but ***enriched uranium instead.***

The interview was extraordinary on many counts. During the first hour, Leuren reported on the latest research about Fukushima and laid out a background for understanding the issues that she and Busby and I would discuss during the second hour. It has become apparent from Busby's research that a new kind of bomb–which seems to be a neutron bomb–has been used in Fallujah, but also in other areas, including Lebanon. As though that discovery were not astonishing enough, listening to him, it struck me that this same weapon may have been used to destroy the Twin Towers, an explanation for which has remained elusive and where alternative theories about the possible use of mini-nukes, directed energy weaponry, and other causal mechanisms have been widely discussed–or, in some cases, actually suppressed.

So there are linkages of evidence and causation that tie together the commission of war crimes in Iraq with mechanisms of destruction that may have brought about the near-total conversion of two massive, 500,000 ton buildings into millions of cubic yards of very fine dust. We know that nano-energetic compounds do not have the capacity to bring about these effects we've seen, even though there are many staunch advocates. So what we have to learn from Dr. Christopher Busby may not only expose the existence of a new weapon of mass destruction but also provide a key to understanding what happened on 911. The transcription of the second hour of the program (*published on the following pages*) was done by Jeannon Kralj, to whom we are indebted for the excellence of her work.

~James Fetzer, Ph. D.

FIRST, A FEW QUOTES

"*If you think Cancer is a problem now, wait until more depleted uranium is released into the world*" Contacts: The Radiation and Public Health Project (RPHP), L. Moret, M. S. and J.D. Sherman, M. D., The European Committee on Radiation Risk (ECRR), A. Yablakov Ph.D. and C. Busby, Ph.D. This document reports known links between exposure to low-level nuclear radiation and cancer concerning the impending US war against Iraq.

"*If Dai Williams' analysis is correct the Shock and Awe missile and bomb inventory (which I can send anyone interested) is accurate. We are talking about 1900 tons of DU (or perhaps U) which is equivalent to 60TBq of alpha and beta particulate activity equivalent to the amount of alpha emitting radioactive material Sellafield put into the Irish Sea each year at the peak of its releases and about 50 times the present amount released annually to the Irish Sea. This DU will become widely dispersed and re: Israel I would not want to be living within 1000 miles of Baghdad. As a crime against humanity and a weapon of mass destruction this will be in a class of its own.*"

The European Committee on Radiation Risk (ECRR) concludes:

"*The present cancer epidemic is a consequence of exposure to global atmospheric weapons fallout in the periods 1959-1963 and that more recent releases of radioisotopes to the environment from the operation of nuclear fuel cycle will result in significant increases in cancer and other types of ill health.*"
(ISBN# 1-897761-24-4 - C. Busby)

The ECRR is based upon studies of chronic, internal exposure to low-level nuclear isotopes in diverse populations: leukemia in children on the Irish Sea Cost (Sellafield); Chernobyl children; and civilians and military exposed to Depleted Uranium (DU) armaments resulting in systemic harm and genetic damage.

"*Using both the ECRR's new model and that of the International Committee for Radiation Protection (ICRP), the committee calculates the total number of deaths resulting from the nuclear project since 1945. The ICRP calculation, based on figures for doses to populations up to 1989 given by the United Nations, results in 1,174,600 deaths from cancer. The ECRR model predicts 61,600,000 deaths from cancer, 1,600,000 infant deaths and 1,900,000 fetal deaths. In addition the ECRR predicts a 10% loss of life quality integrated over all diseases and conditions in those who were exposed over the period of global weapons fallout.*"

(San Francisco) – Dr. Chris Busby, world famous physicist, said, "*tests run at the respected Harwell Radiation Laboratory in England demonstrate the airborne radiation in Japan is 1,000 times higher than radioactive fallout at the peak in 1963 of H-Bomb detonations by the nuclear powers. The calculations were on radioactive Cesium 137.*"

"*The latest week 30 mortality statistics (through July 30) issued by the Centers for Disease Control and Prevention now indicate that the number of excess deaths in the U.S. since the Fukushima nuclear power plant disaster now stands at 27,752.*"

"*...You may think a professor at a university must actually know something about their subject. But this is not so. Nearly all of these experts who appear and pontificate have not actually done any research on the issue of radiation and health. Or if they have, they seem to have missed all the key studies and references...*"

Radioactive Jet Streams by Dr. Mark Sircus

The bottom line is that 10,000 terabequerels, that's ten with fifteen zeros, (10,000,000,000,000,000), of radioactive substances will be released into the atmosphere from the plant during the coming three months, according to simple calculations based on the estimated emission rate as of April 5. It is now safe to assume that there will be a lot of radiation circling at high altitudes and all that stuff is going to come down everywhere eventually, especially when it rains or snows. Where is all this radiation coming from?..

...Dr. Chris Busby said that three spent-fuel pools have burned, which he calculates puts the radiation levels at 24,000 Hiroshimas x 3 spent-fuel pools, or 72,000 times the radiation of Hiroshima now in the atmosphere. This amount represents only that from the spent-fuel pools. Radiation will continue to escape from the reactors until entombed. Perhaps it would have been better if we had fought a limited nuclear war instead!

Everything you ever wanted to know about Dr. Christopher Busby; almost every paper he's ever written, every study he's ever undertaken or participated in and every video interview including all of his sources used in this eMagazine:

Source: http://tinyurl.com/3k4zsty

Fukushima produced 72,000 times the radiation of Hiroshima

HEAVY FIRE POWER WAS USED IN FALLUJAH IN 2004

THE NEUTRON BOMB

U.S. Marines fire November 11th, 2004 (*image*), on Fallujah with a 155 mm Howitzer. One of the weapons originally designed for this artillery piece was a tactical nuclear weapon (*that could include a neutron warhead*) designed by Samuel Cohen, to be fired in eastern Europe on Soviet troops during President Ronald Reagan's term in office.

On Friday, 28 October 2011, it was my honor to host Leuren Moret and Christopher Busby as my guests on "The Real Deal", an internet radio program broadcast on M/W/F from 5-7 PM/CT over revereradio.net. Leuren Moret is an independent geoscientist who has done expert studies on the Fukushima disaster, radiation problems around the world including depleted uranium. Dr. Christopher Busby is a visiting biomedical studies professor at the University of Ulster and is the co-author of reports about the effects of depleteed uranium in Iraq especially in relation to Fallujah. What Busby found much to his surprise was not DU but ***enriched uranium*** instead.

The interview was extraordinary on many counts. During the first hour, Leuren reported on the lastest research about Fukushima and laid out a background for understanding the issues that she and Busby and I would discuss during the second hour. It has become apparent from Busby's research that a new kind of bomb–which seems to be a neutron bomb–has been used in Fallujah, but also in other areas, including Lebanon. As though that discovery were not astonishing enough, listening to him, it struck me that this same weapon may have been used to destroy the Twin Towers, an explanation for which has remained elusive and where alternative theories about the possible use of mini-nukes, directed energy weaponry, and other causal mechanisms have been widely discussed–or, in some cases, actually suppressed.

So there are linkages of evidence and causation that tie together the commission of war crimes in Iraq with mechanisms of destruction that may have brought about the near-total conversion of two massive, 500,000 ton buildings into millions of cubic yards of very fine dust. We know that nanothermite does not have the capacity to bring about these effects, even though it has many staunch advocates. So what we have to learn from Christopher Busby may not only expose the existence of a new weapon of mass destruction but also provide a key to understanding what happened on 911.

The Real Deal Radio Show

• October 28th, 2011 •

Hosted by James Fetzer Ph.D.
with Guests:

Dr. Christopher Busby, Ph.D.
Leuren Moret B.S., M.A., PhD (ABD)

Hour Two of Two Hours: (transcribed by Jeannon Kralj)

Jim Fetzer: This is Jim Fetzer, your host on "The Real Deal", continuing my conversation with Leuren Moret and now we have been joined by Professor Christopher Busby who is a visiting biomedical studies professor at the University of Ulster and is the co-author of reports about the effects of depleteed uranium in Iraq especially in relation to Fallujah. Now he's found enriched uranium in Iraq which puts a human hand to the processing,

Chris, welcome to "The Real Deal".

Dr. Busby: Yes, hello.

Jim Fetzer: Please do tell us about the results of your studies and the effects of the depleted uranium.

Dr. Busby: Okay, well, I've done two studies with colleagues in Iraq of the town of Fallujah, which I am sure everybody knows was attacked by US-led forces in 2004, and there was an enormous amount of fire-power used then. And following that there's been a lot of talk about increases in cancer and congenital malformations and various other conditions, but nobody had ever done any proper epidemiology or scientific study. So it was all anecdotal, although it had been reported in a lot of media.

So a colleague of mine, Malak Hamden, decided to get involved and she contacted me and together we developed an idea to conduct an epidemiological study. This was in 2010 and we organized a team of people in Fallujah to visit various houses and set up a randomized group of people in houses to tell us how many people there were, sexes, ages and so forth, and how many cancers they had and what the population was and so forth. And that study was published in the International Journal of Environmental

Dr. Christopher Busby Discusses The Twin Towers

Public Health, a Swiss journal, in 2010. And what it showed was that there was an enormous increase – there was – everybody had been right – all the anecdotal evidence was actually borne out. There was a very big increase in cancer in that population, highly statistically significant, and also there was a big increase in infant mortality and mostly driven by congenital disease, and there was a change in sex ratio, that is to the number of boys born to the number of girls, which is very indicative of a genomic or genetic effect on the sperm [in men] or the eggs of the women.

TOXIC ZONES IN IRAQ

High risk areas contaminated with depleted uranium and other toxins from 30 years of war have left large areas of environmental ruin. The largest towns and cities account for 25% of the contaminated areas. Higher rates of cancer and birth defects have been reported at these sites. Contaminated agricultural lands in southern Iraq have caused a decline in the health of the poorest people living in those parts of the country. Recently a severe drought has decreased the water flowing in the Tigris and Euphrates Rivers by 70%, causing additional unprecedented environmental disaster. In October 2010, news sources in Baghdad Province reported 1 billion cubic tons of garbage had been dumped into the Tigris River and was increasing every day. [Sources: Chulov, M., "Iraq littered with high levels of nuclear and dioxin contamination, study finds", Guardian, January 22, 2010. Kamal, F. "One million cubic tons of garbage dumped in Tigris River", Azzaman.com, Oct. 28, 2010]

And so there was evidently some other cause in order to answer to the fact that the levels of cancer were higher than had been reported following Hiroshima. So we're talking about some sort of agent which causes massive genetic damage in a population. And of course everyone said 'well it must be depleted uranium.' But of course this was an epidemiological study so we didn't we couldn't say anything about depleted uranium or what it was.

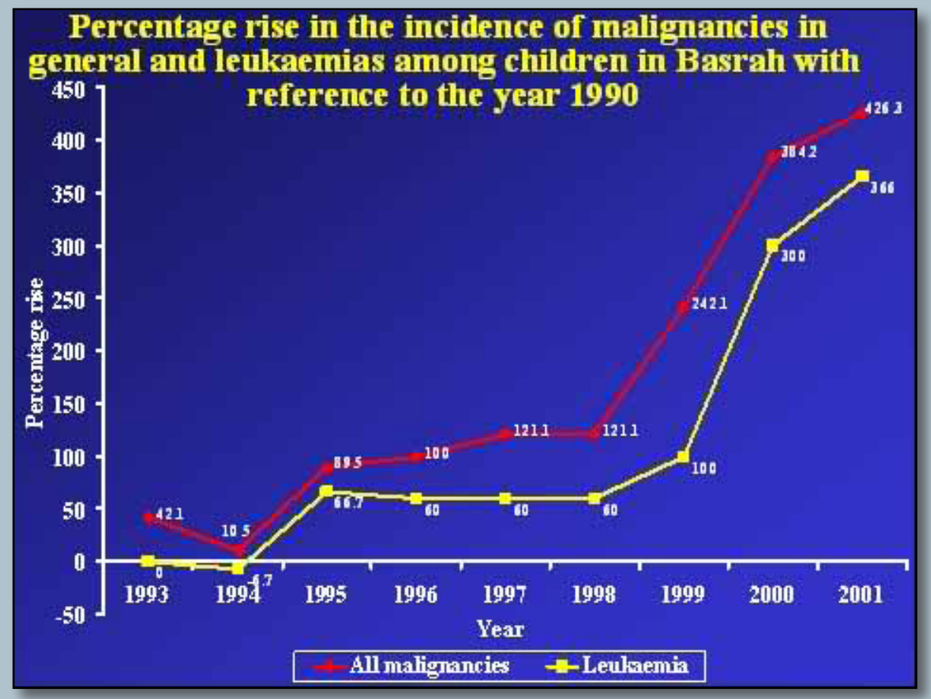
But in order to investigate it, we then decided to go ahead and have a look at a group of parents of children with congenital malformations. And so one of the team who was a pediatrician at Fallujah General Hospital organized 25 fathers and 25 mothers of children with serious congenital malformations, many of these died of course, and took hair samples from these people and we analyzed those hair samples using quite sophisticated technique, or Inductively Coupled Plasma Mass Spectrometry (ICPMS).

And we looked at 52 elements in the hair samples of these people and we found quite large increases in a whole range of elements but most of them were innocuous, things like calcium and aluminum and magnesium, which are not likely to cause congenital malformations. In fact, the only thing that we found apart from uranium that might have been implicated was mercury. But the source and levels of congenital malformations that we had found, and in fact there is another paper which hasn't been published yet which does show these levels at very high levels of congenital malformation. The only thing that could explain it was uranium.

The interesting thing about the uranium was that we were able to measure the isotopic ratio because we were interested to see whether it was, you know, natural uranium or was it DU, which is what we thought it would be. But in fact it turned out to be slightly enriched uranium [with U-235], so, that is to say, it was man-made enriched uranium. Now enriched uranium is a material that should only be found in a nuclear power station or inside an atomic bomb. So to find it in the hair of the parents of these children with congenital malformations was really astonishing. So we then went to look to see how this could be, and to cut a long story short, we concluded from various patents from the US patent office that we received from physicists, that it was quite entirely likely that there was a new secret weapon being used, an anti-personnel weapon of some sort which contained enriched uranium or else generated enriched uranium.

... we were able to measure the isotopic ratio because we were interested to see whether it was, you know, natural uranium or was it DU, which is what we thought it would be. But in fact it turned out to be slightly enriched uranium with U-235, so, that is to say, it was man-made enriched uranium used in Fallujah.

And so there are basically two possibilities. One is that they are using this enriched uranium. It's only mildly enriched uranium, to cover their tracks, so that afterwards nobody can come to them, you know, with a whole trail of people with cancer and congenital disease and say '*Hey look, we're going to sue you*' because then they can say '*Well, you know, there's no depleted uranium there*.'



And the alternative – which is sort of science fictional and which is entirely possible – I have to say, which is that they have developed a sort of neutron device which uses enriched uranium as part of its components to generate neutrons. And the way it does this is to dissolve tritium in uranium powder. Like deuterium, heavy hydrogen is very soluble in uranium, and when it is compressed, when the saturated solution is compressed, you can get a cold fusion reaction which produced helium-4 and neutrons, and so that too is a possibility. But of course we don't know what the answer is at this time. Or do we?

And interestingly enough, and also connected to this, is the fact that we know from various papers that have been published that the Gulf War veterans, the US Gulf War veterans, have also had a very high and statistically significant increase in congenital malformations in their children. But the uranium source of this has been excluded on the basis of urine tests which show that there is no depleted uranium. But of course, what we have discovered is that there wouldn't be depleted uranium because it is enriched uranium.

CANCER RATE INCREASES IN BASRA, IRAQ 1993–2001

Dr. Jawad Al-Ali, an oncologist in Basra, Iraq, reported large increases in cancer and leukemia in Basra following the 1990 Gulf War, and the introduction of depleted uranium weapons to the battlefield by the US govt. Cancer rates in Fallujah from the 2004 attack are even higher than Basra, and many times higher than after Hiroshima and Nagasaki (*blue chart, previous page*) [Source: Dr. Jawad Al-Ali, Basra, Iraq].

Jim Fetzer: Well Chris, this is fairly astonishing news. I must say, I am taken aback in that the belief that it has been depleted uranium that has caused these problems, so widespread, so ubiquitous, that your findings are truly astonishing, I think even revolutionary, in altering the paradigm with which we view these matters where the American government, once again, is complicit. Whereas the attack on Fallujah obviously involved war crimes on a massive scale in the use of chemical and other weapons that were banned under the Geneva Conventions, now we're talking about a whole new family of weapons that have devastating effects and that alter the genetics of the civilian and military population, which can have incalculable consequences from an evolutionary point of view. I am stunned.

Dr. Busby: Yes, well so were we. But I have to say that we weren't absolutely astonished as we might have been because we had already turned up enriched uranium in a bomb crater in Lebanon in 2006, and there are certainly no differences about that in two separate laboratories using two entirely different techniques. So in one laboratory they used ICPMS, which is this method we just used.

But in another one, they used the old fashioned but much more certain method which is called alpha spectroscopy. And so in that laboratory, they also found enriched uranium. So there is no doubt that enriched uranium is being used as some component of some modern weapons system.

And the other thing about it is that people are so "Oh well you know they use…, why do you find depleted uranium because there are no tanks." And of course the answer is that it is an anti-personnel method of attack. It is not a tank buster at all. It is a new system and I think that this is the message to the planet, that there is a secret new system and it is extremely dangerous.

LARGE INCREASE IN FALLUJAH BIRTH DEFECTS WERE REPORTED AFTER 2004 US ATTACKS

Defects in newborns were 11 times higher than normal, "war contaminants" from new exotic weapons including nuclear weapons, are the probable cause. [Source: Chulov, M., "Research links rise in Falluja birth defects and cancers to US assault", The Guardian (UK), Dec. 30, 2010]

Jim Fetzer: Yes, extremely dangerous, and you are observing it was found in Lebanon, where to the best of my knowledge, there was not an American incursion but rather an Israeli, and that the Israelis may even have developed this weapon or been provided with it by the American government.

Leuren Moret: Actually what happened is that during the attack, in the middle of the Israeli attack on Lebanon, the US sent 800, rushed, 800 special bombs, and I have photos of them on planes in England and landing and taking off in Scotland and also Ireland. And they expedited delivery of these special bombs to the Israelis to use on Lebanon in the second half of that attack, and I believe that those may have been the source of this exotic weapons signature that Dr. Busby has just mentioned.

Jim Fetzer: Chris, had you heard those reports before possibly …?

Dr. Busby: Well I know that the Americans did supply bombs to the Israeli because there was a lot of fuss when they were landing in Scotland. The Scottish people wanted to prevent them using the airports there as a staging place for refueling in order to supply the Israelis because there was a lot of opposition to that particular war, which was another illegal war [unintelligible] I think it was in this report.

> the crater that we found in Khiam, Lebanon was in fact radioactive, so not only did we find depleted uranium but we found enriched uranium in it also

The crater that we found in Khiam (Lebanon) that my colleague, that actually I sent my colleague out there to look at, was in fact radioactive. So not only did we find DU but we found enriched uranium in it. The reason that we went there in the first place was that one of the local physicists who had been looking at the various effects of these weapons in Lebanon detected the radiation signature of this particular crater was alarmingly high, so that's why we went to see why it was high. Now the radiation levels fell rapidly over about six weeks and went back to normal. Now that would be a signature for a neutron device because what happens is that the neutrons from the device cause an increased level of gamma radioactivity due to neutron activation of substances in the soil, but these are fairly short-lived, and so they do drop off over a short period of about three to six weeks, so that would fit in with that possibility.

TURBOCHARGED "SUPERBOMBS"

Reactive Materials can be used to replace inert metals in munitions, all different kinds of weapons. Even Explosively Formed Penetrators, or EFPs, the "superbombs" used to such deadly effect in Iraq and Afghanistan, are candidates for the reactive materials revolution. [Source: Hambling, D., "Reactive Revolution: Turbocharged 'Superbombs'", WIRED, May 9, 2008]

Jim Fetzer: Now Chris, perhaps you can confirm my impression that one of the benefits of these neutron weapons is that they kill people but don't damage property.

Dr. Busby: Well that's why they were developed, of course. Yes, that's correct, that is why they were developed.

I want to be very cautious about all of this. I have talked to a number of physicists who say that this is possible, who say that the model seems reasonable, but we have no real evidence apart from the existence of enriched uranium [I-235] in this crater in Lebanon, deuterium, anomalously high levels of radioactivity caused by neutron activation, and the rest is surmisable.

Jim Fetzer: Well, on the other hand, if you apply the principle of inference to the best explanation, if you con-

sider alternative hypotheses about the possible cause and calculate the probability of the effects if those causes were indeed what had brought about those effects, the causes with the highest probability have the highest degree of evidential support …

Fallujah, Iraq, 2004

Dr. Busby: Yes, of course. But the thing about this is that it is entirely possible also that what they are doing is just disposing of a load of old nuclear warheads. As you know, they have to have a lot of decommissioning of nuclear weapons and there are significant amounts, very large amounts of enriched uranium in those nuclear weapons, and so the point is that that stuff would have to normally be disposed of as nuclear waste. Now that would be a simple matter for them to just mix it in with depleted uranium until you got a mix which just took you on the correct side of the dose limits to the soldiers. That's the way these people think. I can tell you. They would mix it in so that the soldiers under some risk model approach would have less than one millisievert in a year or whatever the risk level is, and that would be a very neat

way of getting rid of all their warheads without having to find somewhere to put them which would cost them money. At the same time, of course, they could use them in this new weapon.

Now it doesn't have to be a neutron weapon. The patents that we've found include a weapon where the uranium is part of an explosive, and then this explosive is used in a shaped charge, a sort of shaped appliance so that it shapes and directs the actual explosion power.

Now there are various missiles and tank styles that are called TOW and these are directed-charge weapons. And I've seen pictures of these taken at tanks. They fly over the top of the tanks and they suddenly go "bang" and this enormous directed charge goes downward on to the top of the tank and atomizes it. And these are quite small missiles. So there is an alternative explanation so it doesn't have to be something nuclear.

Jim Fetzer: Goes down on the top of the tank and atomizes it?

Dr. Busby: Yes, yes, it does. It's the most extraordinary thing, that the missile doesn't hit the tank – it flies over the top of it and a sort of [shaped] charge shoots out from the bottom of the missile and blows the tank apart from the top.

Jim Fetzer: Could such a weapon then be used on steel structure high-rise buildings.

Dr. Busby: Well you could make a directed charge weapon that could do anything, and some of these weapons, of course… I think the point is… This has been described in various books about the battle of Fallujah. It's not me saying this. But they do have these missiles that can blow down walls, and the problem was that these guys, what they call "the insurgents," were inside buildings and were shooting out through windows and the easiest way to get them would be to just completely demolish the wall. So these directed-charge weapons are capable of doing that, which is to blow the wall away, presumably then the wall comes down with them. So there are lots and lots of modern weapons. Another thing about this is that a lot of very strange wounds have been found. You know there is actually a group of doctors who are trying to figure out how these wounds have been created. They are not the sort of wounds you get in combats in historic wars. They're entirely new. So there is some sort of new weapon out there, and I think probably it contains uranium – would be my guess.

FALLUJAH BURNS

During the 2004 US attack on Fallujah, strange wounds and burns were reported by Doctors treating Iraqi war casualties. These types of wounds had never been seen before.

Jim Fetzer: Could you sketch some of these wounds so that we would have a better idea of what you are talking about?

Dr. Busby: There are people who have been found that for no apparent reason their bodies are slightly swollen and they cut the bodies open to look inside and found nothing at all which could produce pain–explain why they are dead.

Now this could be the consequence of a thermobaric weapon. Now uranium explosives have been associated with the development thermobaric weapons because what these weapons do, instead of their "bang" very sharply with a kind of sharp shock wave, they produce a very slow shock wave, so the shock wave goes out and then it sucks back into a vacuum. It just destroys people by its sudden change in pressure. It sucks their lungs out, if you like. So that could be one of them.

burn wounds never seen before ... instead of their "bang" very sharply with a kind of sharp shock wave, they produce a very slow shock wave

Now I took photographs of a boy who was hit by one of these weapons and there's a stripe across his chest which is like a black stripe. The rest of him is perfectly all right. There is no problem with him, but where the stripe crosses his arm, the arm has been completely charred and its like you can just see two sticks where the bones are still there but they're carbonized. So this guy who has obviously standing by a window and some enormous heat has come through the window and has just totally wiped out parts of him and other parts are completely unharmed. There are a number of these pictures around which really don't make sense unless you have some kind of new weapon that we don't fully understand [yet] . . .

Jim Fetzer: Chris, this is nauseating, I mean, man's inhumanity to man, you know, seems to be on blatant display here.

Dr. Busby: It's an interesting philosophical point really, how these people can do it. But you see they put themselves in a different universe. They just sit there with their pencils and paper and they kind of just see it as a . . . I don't know, like an abstract plan on how to kill somebody. They don't see them as real people.

Leuren Moret: It's nothing personal, Chris. It's nothing personal. It's just another industry like making shoes to them.

Dr. Busby: I saw a very interesting video about three women who were walking along, Palestinians as well, and they were looking at a drone, one of these Israeli drones, and then two of the young daughters turned to the mother and smiled at her and sort of laughed and then pointed to it, and then the drone wiped them out. It sort of sent a missile down and blew them to pieces, these two children. And then later on in this same program, I saw a picture of the Israelis, young men sitting at computer screens with joy sticks, and they were controlling these drones and they were looking through the eyes of the drone, if you like, and seeing people walking about, and then they could press a button on the joy stick just like a computer game. And I had this vision of two of these guys sitting there and they saw these two beautiful young women turn round and laugh at them, you know, thought they were laughing at the drone, but who knows, they may have been laughing at some joke that they had made. You know, these guys saw them laughing at the drone and they just pressed the button and wiped them out. It is like that – this distance between people – that these modern weapons enable people to use.

Jim Fetzer: I've actually published a piece entitled, "On the Ethical Conduct of Warfare: Predator Drones", that was published by Global Research, and studies have shown that from these drone attacks they are killing on the average of 140 innocent civilians for every targeted insurgent.

And of course, as we well know, since the United States is the aiding and occupying force from the point of view of the Iraqis and the Afghans, these are "freedom fighters" as Ronald Reagan described the Contras in Nicaragua.

instead of their "bang" very sharply with a kind of sharp shock wave, they produce a very slow shock wave

The incapacity of Americans to see another point of view, Chris, is simply staggering, I must tell you, it's just staggering.

Dr. Busby: Well I agree with you, absolutely. I kind of know that. I know that. I don't know what you can do about it.

Jim Fetzer: The fact that you've been dealing with these exotic weapons, or at least their effects, leads me to ask the following question. One of the most puzzling aspects of research on 9/11 is how the Twin Towers were destroyed because their being converted into millions of yards of very fine dust from the top down, while all the floors were remaining stationary. The mass of the lower parts of the buildings is overwhelmingly greater than the mass of the top of the building – in relation to the North Tower, for example, the top 14 floors, because the steel is tapered from the base. Whereas in the sub-basement it is 6 inches thick, and then 5 and so forth up to a quarter inch thick at the top, represents that only 1.4 percent of the mass of the steel and the idea that that could overcome the lower 98.6 is simply a physical impossibility. And yet we have these buildings clearly being blown apart in every direction, not any effect of a unidirectional gravitational attraction downward. And the question becomes "what could possibly have brought this about?" And I just wonder if any of these extraordinary weapons you are talking about could have such effects.

Dr. Busby: Well, that is an interesting question there and it has to do with this story of tritium in the water in the basement of the Twin Towers. Now if you look at tritium in the Twin Towers, there is a proper, peer reviewed scientific paper by a number of quite eminent chemical analysts who measured the concentration of the element tritium, which is a form of radioactive hydrogen [used in nuclear weapons and produced in some nuclear reactions] in the basement waters of the Twin Towers, and they concluded that the amount of tritium there was absolutely impossible – it could not have got there except as a consequence of some "unusual happening".

Now the point about this weapon that I'm talking to you about, this weapon of deuterium and uranium, is that it does actually produce tritium. That's one of its major products. It produces helium-4 and tritium. So what you would need to look for if you were looking for, I suppose, this particular explosive's sort of footprint, you would look for tritium, and they did find tritium in the Twin Towers, so it is entirely possible that they were brought down with this same weapon.

Jim Fetzer: And it's a weapon that produces a neutron bomb effect...

Dr. Busby: Yes, by producing gamma rays

Jim Fetzer: ...by combining depleted uranium with enriched uranium. And could be blended so you could create any mixture you like to achieve the type of effect, the range of blast and so forth desired.

They were bragging
they had this weapon
about the size
of a
baseball

it was
a neutron bomb,
high density
it weighed
about 20 kilograms (44lbs.)

Leuren Moret: Chris, explain to Jim and the audience what you discovered about the structure of super-thermite or thermite that was developed at the Livermore Nuclear Weapons Lab and the similar structure in the layers, like a sandwich, of these fourth-generation nuclear weapons, and they were also developed at the Livermore Nuclear Weapons Lab.

Dr. Busby: Well I think that you'll have to do that. I don't know anything about super-thermite. People have talked to me about it, but I don't really know anything about it.

Leuren Moret: You were talking about the structure of the fourth-generation nuclear weapons where it is a layer of deuterium, a layer of U235 …

Dr. Busby: No no, it's a solution of deuterium in the uranium…

Leuren Moret: Oh, in the uranium.

Dr. Busby: Yes. The fact is that we know from work that was done by a colleague of mine called Martin Fleischmann, who first discovered what is called "cold fusion" at the University of South Hampton, and I was actually working with that a while ago. It was in the late 70s, beginning of the 80s. He discovered that if you dissolve deuterium and palladium and then electrolyze… use it for electrolysis, you get more energy out than you put in, and then that was called cold fusion. And everyone was running around trying to make free energy using cold fusion. And the Harwell Laboratory, at that time, the atomic energy research laboratory in the UK denied that and said "Oh, it doesn't work". He just kind of gave up on that, or at least it didn't go anywhere. But more recently, he has told my colleague in Italy that in fact a much better electrode to use, or a much better material to use, is uranium, but in fact not palladium. But uranium dissolves much more hydrogen or deuterium because it goes into the interstices between these enormous uranium atoms because you know it has an atomic number of 92. So it's a very very big atom and in the metallic matrix, there's lots of spaces between the atoms where hydrogen can pack in, so enormous amounts of deuterium will actually just dissolve in solution into the uranium matrix. Now if you then compress it, it causes a cold fusion reaction, according to this guy, Emilio Della Guidice, whom I met in London. He told me about this. If you then compress a supersaturated solution of deuterium in uranium, there is nowhere for the deuterium to go so it compresses to the extent that it turns itself into helium-4 and produces tritium and a great gamma ray pulse with neutrons. It's a two-stage reaction. So it is a cold fusion reaction.

So in principle what you have to do is take a shell and fill it up with uranium powder and then dissolve deuterium, heavy hydrogen, in that and then fire it at something. So there is that something it squashes. It gets compressed and then you get this gigantic pulse of energy as a result of this fusion reaction – cold fusion. That is what he suggest-

ed is what this cold fusion weapon is. In fact, the Russians did talk about a similar weapon which they called “Red Mercury”. And they referred to it in the late part of Ronald Reagan’s presidency, sometime when there was a discussion between Reagan and some General in the Soviet system. They were bragging about the fact that they had this weapon that was about the size of a baseball that was a neutron bomb, and it had a density such that it weighed about 20 kilograms or so many kilograms. Anyway I have worked out that in order to be the size of a baseball and weigh whatever they said it weighed, it had to be uranium because that was the only thing that had sufficient density to weigh that much. So I think this weapon has been around for some time actually. So that’s all I know, but I don’t know anything about the super-thermite. But if a weapon exists, that’s how it works.

Jim Fetzer: The research that has been done about the superthermite or nanothermite actually had shown that it does not have the explosive properties that would be required to perform these feats. I have worked in collaboration with a chemical engineer from NASA by the name of T. Mark Hightower. We have now published several articles demonstrating that the detonation velocity of nano-thermite is only 895 meters per second, whereas as you know from materials science the principle that you must have a detonation velocity equal at least to the speed of sound and the material wherein concrete is 3200 meters per second and in steel 6100 meters per second, so that nano-thermite doesn’t even have the potential to have brought about the effects that were observed, for example in the Twin Towers on 9-11.

Dr. Busby: … the tritium, that’s the point.

Jim Fetzer: The tritium, yes yes, elevated levels of tritium and I also understand that of barium, of strontium and of deuterium.

Dr. Busby: Well… if true… I didn’t know you got deuterium as well as tritium. If you’ve got deuterium as well as tritium, that pretty much nails it, doesn’t it?

Jim Fetzer: Well I would like for you to elaborate on that because this is a very important point. I have longed believed that it was the chemical residue that was going to tell us what was going on here.

Dr. Busby: Right. Well, from what I just said, from what Emilio Della Guidice told me, this weapon is deuterium dissolved in uranium. OK. Now if that’s the case, you’re not going to get a hundred percent fusion. I mean I’d be surprised if you got more than five percent fusion. And it could well be that you could regulate the level of fusion by regulating the gamma radioactivity of the uranium. So if you put more U235 into the mix, you might be able to increase the electron density and therefore, because of the ionization of the U235 is much more radioactive than U238, and then you might be able to regulate the percentage of the material that went to cold fusion. But I would be extremely surprised if the percentage of fusion was very high at all.

Because, if it were for me [to say], there would be all sorts of parts of this weapon that didn’t reach super-saturation. So some part of it would get this fusion reaction and it would blow the rest of it away. Just like the atom bombs. That’s why they had to put these big uranium casings on the atom bomb because the initial fission explosion would blow everything away and then the neutron density would fall down, so you would lose a lot of efficiency. And even the way in which they did it with atom bombs, they still only got about five percent fission. So there was an awful lot of wastage.

And the same here. So the wastage, of course, would lead to all that deuterium being released in the explosion as deuterium, not having been turned into anything else… like tritium and so forth and would be able to be there in the ground, see, and hence the deuterium.

Jim Fetzer: Let me pose the plausibility of the following scenario. We have firefighters who were reporting hearing ‘boom boom boom boom’. It was 110 stories and it took approximately 11 seconds to be completely destroyed, I believe we were listening to a series of explosions that were blowing out 10 floors at a time. Would that sound plausible using these types of weapons?

Dr. Busby: I really don’t know. I’m not a weapons expert. All I can say… I mean… all of this is the sort of back walk, I mean we walked away from what I know, which is that we discovered enriched uranium in Fallujah.

Jim Fetzer: Yes.

Dr. Busby: And walking back from that we then think well why is there enriched uranium in Fallujah and then we say ‘well look here, one of the possibilities is that they developed this weapon.’ And then you add all of the other stuff in and it means that maybe this weapon exists.

Jim Fetzer: Yes.

Dr. Busby: I have no idea how powerful it is, but I would suggest that it is very very powerful in terms of its size. So if you want something that’s small that somebody can walk and just stick it in the corner somewhere that has enough power to blow this building down, you know, then it’s a good bet. In other words, otherwise you’d have to take a suitcase of TNT, or maybe like, you know, suitcases that would make it more difficult…

Jim Fetzer: Oh it would be massive quantities of TNT, massive quantities… Just to mention in response to Leur-

why is there
enriched uranium
in Fallujah?

‘well look here,
one of the possibilities
is that they developed
this weapon.
And then you add all
of the other stuff in
and it means that maybe
this weapon exists.

Davy Crockett @1960

en's interest in the nano-thermite, it has less than 13 percent the explosive power of TNT.

Leuren Moret: A chemical explosive does not release enough energy to do what happened to the World Trade Center buildings, which was to nano-powder them. And they were in lower orbital space within 48 hours of the disaster. Those are very very tiny particles and I am an atmospheric dust expert. I've never heard of it going up into lower orbital space that fast.

Jim Fetzer: Doesn't what Chris is describing sound very plausible conjecture, admittedly as a conjecture? But of course the crucial part of scientific reasoning is speculation, identifying hypotheses for further investigation. You know I think…

Leuren Moret: The whole key to what happened at the World Trade Center is the energy budget. How much energy was necessary to break those building materials into nano-particles? And that could not come from a chemical explosive.

And secondly, the data that Dr. Thomas Cahill reported from his air monitoring of the World Trade Center for five months beginning October 5th after 9-11 was…He's the one that reported high levels of uranium, elevated levels of uranium in the dust that was released from the WTC, the highest concentration of fine particles ever measured in an air sample in the US and the highest concentration of metal ever measured in an air sample in the US. And also he reported deuterium, tritium, and like I said the elevated uranium levels.

Jim Fetzer: Go ahead Chris, yes.

Dr. Busby: Well, there you are. You have all those three ingredients, don't you? The tritium, the deuterium and the uranium – yes, that's all you need. It seems quite a plausible hypothesis.

Jim Fetzer: It does indeed and I just want to clear, Chris, about the ingredients. You have the deuterium that is a solution of uranium, or depleted uranium, powder that is diluted with deuterium, and then all you have to do is project it or impose some pressure upon it to cause it to…

Dr. Busby: That's right. That's how it works.

Jim Fetzer: That's astounding! That's just simply astonishing!

Leuren Moret: And then to add to that…to add to that, New York City is still radioactive after 9-11.

And when I started a depleted uranium Geiger counter movement in Hawaii in 2007, the police chief of New York City tried to get a law passed, he panicked because New Yorkers were contacting me and wanted to do a Geiger counter survey in New York City. And he tried to get a law passed in New York City that prohibited citizens from having or using Geiger counters or any air-monitoring instruments. It failed.

Jim Fetzer: What an arbitrary, capricious and tyrannical step to propose! I mean, that's just stunning, Leuren. We're talking about health hazard detection devices. They were supposed to be made illegal in New York City?

Leuren Moret: That's right. Because as long as the government agencies are measuring the radiation levels, we'll never get the truth. But once American citizens, or Japanese citizens or people in other countries start making the measurements themselves, then the cat is out of the bag. It's extremely empowering and very powerful and it really pushes the military and the government up against the wall. And so it's very important for Americans and citizens around the world to have measuring devices. Dr. Busby just went to Japan. Tell them what happened, Chris.

Dr. Busby: Oh, well, sure. I said I wasn't going to go very close to Fukushima because I was scared of dying, basically. So they said, "*You can come 100 kilometers and we'll get the citizens of Fukushima to come to you*", which they did.

So I went to a place called Aizu Wakamatsu, and they said "*Oh, the levels of radioactivity there are quite low*." Now I have a portable gamma-spectrometer. It's really quite a sophisticated piece of kit, which I got from the East Germans – call it the Germans now – but basically I still think of them as the East Germans, in Dresden. A very very nice piece of equipment, which consisted of a germanium-scintillation

counter, a two and a half inch sodium iodide detector and then a little mini-computer and stuff.

And we found in Aizu Wakumatsu, we found using a Geiger counter that there were levels of about 5.5 microsieverts per hour, which is about 5, 6, 7 times higher than background. And we set up this thing and made it the spectrum there and found enormous levels of cesium-137 and cesium-134, and also the signal appeared to show the presence of uranium-235.

And since then, I have brought that sample back to England and had it tested in another laboratory using a high-resolution camera and what this shows is that there is a signal from U235, uranium-235. And that the ratio of U238 to U235 is quite anomalous. Again, it's very highly enriched uranium, but it's much more highly enriched than Fallujah. As far as the signal is concerned, based on the thorium daughter isotopes, it seems that there is at least a 4 to 1 ratio of enriched U235 to U238, whereas it should be about 140 [to 1]. So there is something causing a lot of U235 and it could well be the presence of plutonium-239. Because U235 is the daughter of plutonium-239, and of course there was one of the one of the reactors at Number 3 that had MOX fuel [MOX: mixed uranium and plutonium oxide fuel] which burned and exploded and so on. So I think there is quite a lot of contamination of plutonium all over the whole area there. But of course all of this has been covered up by the Japanese authorities…

Jim Fetzer: And with complicity from the American government, it appears, and I think…

Dr. Busby: And I would say probably encouragement from the American government.

Jim Fetzer: And in part, no doubt, on behalf of the nuclear power industry because they don't want Americans to be alarmed by the massive risks they are confronting by having these power plants distributed all over the country.

Leuren Moret: Of course, of course. There is just an absolute massive global cover-up.

Dr. Busby: In my country in Britain, I managed to get on to the BBC right at the beginning before they figured out what was going on and I haven't been on air since then. And there is a whole stream of people out there on television saying 'oh, really no problem' and 'very low doses and nobody will be harmed' and so forth. It's an entire cover-up operation. It's quite sickening.

Jim Fetzer: And I found the same with the BBC in covering research that I and others had done about 9-11. They were very adept when I'd be discussing one feature reported by photographic evidence. When they broadcast, they showed another photograph with different features and they did that in a pattern suggesting I hadn't known what I was talking about, when in fact I had explained to them when they were here at my home, this most recent taping for four hours, the differences that were involved here, and nevertheless, they performed a sleight-of-hand during their documentaries.

Dr. Busby: How interesting. How interesting.

A bombed out hospital in Iraq as a result of NATO coalition forces military destruction of civilian infrastructure

J***im Fetzer:*** I published a piece titled "The BBC's Instrument of 911 Misinformation" on Veterans Today. "*In 2004 alone 71 medical professors have been killed or been intimidated to leave the country. There is complete insecurity in Iraqi hospitals that has resulted in many casualties*" said Dr. Salam Ismael, General Secretary, Doctors for Iraq. "*Thousands of doctors, many of them highly experienced have already left the country*" he said. Doctors For Iraq is an independent association of medical professionals that was set up in October 2003. In May this year US forces laid siege to a hospital in Hadeeth, western Iraq on the suspicion that there were insurgents hiding inside. They subsequently raided the hospital and smashed medical equipment, killing one patient with random gunfire. Targetting civilian population and medical fa-

cilities and personnel is a blatant violation of Geneva conventions. "*This is a war crime of the first order*" said Dr. Bert De Belder of International Action for Liberation, Belgium.

But Chris I've got to say how much I admire what you have been doing here. This Fallujah catastrophe is going to go down as one of the great war crimes in history, comparable to the bombing of Guernica which Picasso immortalized. It is just grief inducing to hear about the consequences, and I gather, based upon your research, it is evident that this contamination is reaching around the globe, that it has the potential to effect the entire human species genetically.

Dr. Busby: Yes, that's right. That's right. We have measured this stuff in places like in the atomic weapons establishment in the United Kingdom. And it is not surprising at all because these particles are basically gas, and they are so small, you know, 50 nanometers, a hundred nanometers, they can't really be considered to be solids. They are aerosols and they just behave as a gas, and they float all over the place. They float all around the globe and they contaminate everybody, so no man is an island in this case. Absolutely.

Jim Fetzer: It seems to me that between the catastrophes in Fallujah, in Iraq generally, in the Gulf of Mexico, and Fukushima that we are doing a pretty good job of contaminating our environment and making the planet uninhabitable at least for the long run for the human species because of genetic abnormalities which are going to lead to such a high percentage of deaths. And really it is going to stem the reproduction of the species. It seems to me it's inevitable at this point in time.

Dr. Busby: Well you say "we" but it's not you or me, James. These are actual people and they've got names and addresses, and we're talking about a split in the human race between the bad guys and the good guys. It's a bit like the Lord of the Rings. There are bad guys and they do have names and ultimately I hope that they will send them to jail for a very long time.

Jim Fetzer: But the consequences, I fear, is not merely, you know, those who are responsible, but the enduring effects, which, it seems to me, are going to prove to be insurmountable, that there's going to be no way to circumvent the consequences to the human species with respect to its capacity for reproduction based upon the genetic defects that are being induced by these calamities. It includes, of course, not just the radioactive disaster at Fukushima but also those induced by the use of Corexit in the Gulf of Mexico, and everything you have been describing in Iraq, which is horrendous by itself.

Dr. Busby: Yes, they were of course. And I can tell you one thing…that the Israelis, for example, carried out a study in Jerusalem about two years ago of sperm counts in young men. And what they found was that there was such a reduction in sperm counts [*a 40% decline in sperm count/quality*

Dr. Busby states:

these particles are basically gas, and they are so small, you know, 50 nanometers, a hundred nanometers, they can't really be considered to be solids. They are aerosols and they just behave as a gas … they contaminate everybody, so no man is an island in this case.

in last ten years] that the authors of this article, which was in a peer-reviewed journal, said that if this rate in reduction of sperm count continued at the same rate, by the time 2020, there will be no more Israelis. That will be it – finished. It will be like the Newfoundland cod.

Jim Fetzer: By the year when? How distant was their projection?

Dr. Busby: By 2020. Their project was 2020. If it continues…

Jim Fetzer: 2020 !

Dr. Busby: By 2020, that would be the end of Israel.

Jim Fetzer: 2020 — and this is already 2011!

Leuren Moret: The sperm count in the last ten years has declined 40 percent in Israeli men. It was already at least 20 percent in decline because of nuclear technology, but at this rate, by 2020, just as Dr. Busby has said, basically Israeli men will be sterilized. At 20 percent sperm count, men are considered to be sterile. [See Haaretz: "Study: Quality of Israeli sperm down 40% in past decade" by Ofri Ilani (11.05.09)]

Jim Fetzer: Are we aware of what might be the specific causes of this reduction in sperm count among the Israeli …

Dr. Busby: It's uranium. It's the uranium. The uranium is floating all around the Middle East.

Jim Fetzer: Including, at part, perhaps their own production of weapons where they have one of the larger stock piles, the largest in the Middle East, but also a large one worldwide.

Dr. Busby: It's the uranium in the atmosphere. It's the uranium. That's what it is. Its inhaled and then it goes directly into the system…

Jim Fetzer: So we're just talking about these Israeli men as a sample of a larger population problem worldwide?

Leuren Moret: No. What happened is I have photographs during the Gaza attack of the Israeli Defense Forces [IDF] dropping 8 and 10 depleted uranium bunker busters at a time [carpet bombing with DU] along the Israeli Gaza border, which is up on the heights. There's nobody living up there. The Gaza population lives along the ocean, the Mediterranean coastline, and the Israeli Defense Forces were deliberately bombing their own border and I have airflow charts and photographs of the wind blowing from the Mediterranean, up to the heights, and blowing all that uranium dust into Israel.

Jim Fetzer: Wow. And I presume a comparable reduction in sperm count is taking place in the Palestinian population.

Leuren Moret: Actually their population is expanding. The Israeli population is shrinking.

Jim Fetzer: That's stunning, isn't it? Stunning!

Leuren Moret: Well, they have a lot more children than the Israelis.

Jim Fetzer: Yes, but if the sperm count was being affected on both sides, it wouldn't be happening this way either.

Dr. Busby: The Palestinians have a lot more babies, that's all, same percentage…doesn't matter same effect.Jim Fetzer: Oh, so you are suggesting they could have the lower sperm count but because of reproducing, having more children than the Israelis, which of course is a well known socioeconomic phenomenon…

Leuren Moret: Right!

Jim Fetzer: …that the higher educated, the higher socioeconomic…

Dr. Busby: Have you noticed in the West, well I don't know about America, but I certainly know in this country that it is getting more and more difficult to have babies. I mean there is all of this technology going into IVF (*in vitro fertilization*) now and so forth. You know when I was young, you know, you only had to shake hands with a woman and she would be pregnant.

Jim Fetzer: (laughs)

Dr. Busby: I mean, I can tell you ...

Jim Fetzer: I got it, Chris, yes. That's great.

Dr. Busby: But nowadays its not like that. You have to get fancy doctors and have all sorts of treatments.

Jim Fetzer: Don't you imagine it is also a function of the increased use of electronic equipment and wireless transmissions and cell phones?

Dr. Busby: Yes, I think I know about that too. If you want to start me on that one, I think we figured that one out.

Jim Fetzer: Yes, give us a few words about that before we have to part because this has been simply superb.

Dr. Busby: OK. This is how it works. All of the effects of ionizing radiation are transmitted in the body in the form of charged particle tracks and most of these are electrons. So what happens is a gamma ray is absorbed by material in the body water, in the cell, and it generates a photoelectron. So the electron is wheeling off. And it is the photoelectron that causes all of the ionization that leads to the genetic damage. So it is charged particle tracks that cause cancer. Now if you put a charged particle track in the body electric into an electric field, then the energy of the electron or the particle is absolutely added to by the electric field.

And this is how television works. You shoot an electron down a cathode ray tube and you perturb its motion by putting it an electric field or a magnetic field, so you put any body contaminated with radiation into an electromagnetic field, the energy is transferred to the body and it is transferred to the charged particles, to the electron. So obviously what you are doing is merely increasing the impact, if you like, the momentum, of the ionizing radiation…

Leuren Moret: The energy release. Yes.

Dr. Busby: And so that…what you are doing is augmenting the ionizing radiation dose.

Jim Fetzer: Say the last part…you're ionizing the radiation…?

Dr. Busby: You're augmenting the radiation, you're increasing the ionizing radiation dose. So the ionizing radiation that you would normally get in the absence of a mobile phone, so you haven't got a mobile phone, you're sitting in a room with all the electrons whirling around causing genetic damage, and that's called background radiation. So then you pick up your mobile phone, you switch it on and say "Hello mum it's me' all right, and what happens then is quite a few milliwatts per cubic centimeter then go into your brain, and all of that energy is electromagnetic energy.
Now as far as the electron tracks are concerned, they see no difference between that and an electric field or a magnetic field. So instead of whizzing along in a straight line, [an electric field causes the electrons to] wiggle about. So they're increasing the amount of energy they deposit in the tissue over the amount that they normally would in the absence of the mobile phone radiation. Well, this is really quite remarkable.

We tried to do research on this at the Karolinska Institute [where the Nobel prizes are awarded in Norway]. We put in an application for funding and they freaked out and they shut down my main laboratory. They got so upset about this that my colleague, Olav Johansen, who is like a world authority on this – he and I were going to do research on this and show that it is true, using all sorts of techniques, you know, Monte Carlo modeling and cloud chambers and all sorts of…

Jim Fetzer: So the greatest risk from cell phone usage may not be a form of brain cancer but rather some kind of genetic damage?

Dr. Busby: No, no, it is a form of brain cancer. That's how cancer forms. Cancer forms because of genetic damage. You get cancer from genetic damage, so all I'm saying is that the genetic damage that you normally get from ionizing radiation increases because the ionizing radiation borrows [absorbs] energy from the electromagnetic field. That's it. The point is what they say is that it is not possible for the electromagnetic field on its own to interact with genetic material because the quantum energy is not high enough. But that is not the point…what I say is that it is not about the quantum energy being ionized, it adds its energy to the electron [from internal exposure to ionizing radiation]…

Jim Fetzer: It's additive. Yes yes yes, so it does that much more damage between what the body is used to and not used to, the threshold is transcended and therefore it brings about…

Dr. Busby: No, normally you get cancer because of radiation. In other words, in a year you get two millisieverts, and then over the years the millisieverts add up and when you're 70, you get cancer. OK So, you multiply that by say 140 millisieverts and your body starts to fall apart. But if you sit there with an electromagnetic field, with a mobile phone, that just doubles it, so instead of two millisieverts in a year, you're now getting four millisieverts in a year.

Jim Fetzer: Yes Yes. and all the concomitant effects that will bring about…

Dr. Busby: Well it just doubles your rate of cancer and it doubles your rate of aging.

Leuren Moret: It's a multiplier effect.

Jim Fetzer: It's a multiplier effect, not merely additive.

Dr. Busby: Yes, correct, it is a multiplier effect.

Jim Fetzer: Christopher Busby, I cannot tell you how much I admire what you have been doing and the value of your contributions is immeasurable. This has been a most important conversation, and I am so grateful you could join me. Leuren, of course, I have long admired your many contributions and I am so grateful to have the both of you here together today. So I want to profess my profound appreciation to you, Leuren Moret, and to you, Christopher Busby for the exceptional quality of your work and your contributions to humanity. I admire you both.

Leuren Moret: Well we appreciate you.

Dr. Busby: You're welcome.

Jim Fetzer: So this is Jim Fetzer, your host on "The Real Deal" thanking my specials guests today, Christopher Busby from the UK, Leuren Moret from California, and all of you for listening.

THE SCIENCE OF PYROCOOL

Pyrocool™ has been used effectively against a wide variety of fires from chemical fires to magnesium fires and everything in between. Here we examine Pyrocool™ and we ask the reader to consider why 1000s of gallons of Pyrocool™ didn't work to put out the fires at Ground Zero.

Pyrocool® Technologies, Inc., was founded in 1991 to address the need to research, develop and create a new generation of industrial and commercial fire-fighting products. Its primary goal was to develop fire-fighting foams grounded in new technologies to replace conventional fire-fighting methods. Although very good in certain instances, existing fire-fighting foams had proven to cause harmful environmental side effects as well as the potential for long- term potential toxicity to humans. Pyrocool® Technologies' efforts led to the development of Pyrocool® Fef, the most versatile fire fighting foam available today. Unlike other foams, Pyrocool® Fef can be used effectively on both pressurized and 3 dimensional fires, as well as on Class D combustible metal fires.

In recognition of its outstanding technology, Pyrocool® Technologies, Inc. received the 1998 Presidential Green Chemistry Challenge Award from the Environmental Protection Agency in a ceremony held in Washington, D.C. at the National Academy of Sciences. This is the highest award given by the EPA for environmental contribution to the United States.

Immediately thereafter, Pyrocool® Technologies. Inc. responded to an urgent request for resources and personnel issued by numerous fire departments in Florida. As a pro Bono effort, product and personnel were immediately dispatched to Brevard County to fight the encroaching wildland fires on Cape Canaveral and the Kennedy Space Center. Pyrocool® Fef has successfully extinguished many large-scale fires including the oil tanker Nassia in the Bosporus Strait near Istanbul, Turkey. Lloyd's of London had estimated that the fire would take at least one week to extinguish using conventional methods; however, using Pyrocool®

NOTE: This product is no longer in production. For service and repair, please contact Akron's Customer Service at 800.228.1161 or 330.264.5678.

STYLE 950 PYROCOOL® FEF FOAM

MATERIAL SAFETY DATA SHEET

HAZARD RATINGS	
Health	1
Flammability	0
Reactivity	0
Personal Protection	A

SECTION I
GENERAL

Product Identity: Pyrocool FEF
Product Application: Fire Fighting Foam Concentrate at 0.4%

Manufacturer:
Baum's Castorine Co, Inc.
200 Matthew Street
Rome, N.Y. 13440 U.S.A.
800-825-8154

Exclusive Supplier:
Pyrocool Technologies, Inc.
3540 South Amherst Highway
PO Box 160
Monroe, VA 24574 U.S.A.
800-289-7976

SECTION II
HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components: (chemical identity; common names)
OSHA PEL ACGIH TLV Other Limits Recommended % Optional

The product contains no hazardous components as defined by the Occupational Safety and Health Administration's Hazard Communication Standerd 29CFR 1910.1000 and 29CFR 1910.1200

Reportable Quantity (RQ)
EPA Regulation 40CFR 3029CERCLA Section 102: No RQ for this product
Threshold Planning Quantity (TPG)
EPA Regulation 40CFR 355 (SARA Sections 301-304): No TPQ for this product
Toxic Chemical Release Reporting
EPA Regulation CFR 372 (SARA Section 313): NONE
Hazard Chemical Reporting
EPA Regulation 40 CFR 370 (SARA Section 311-312): Not Applicable

SECTION III
PRODUCT DESCRIPTION / COMPOSITION

Pyrocool FEF is a blend of organic surfactants being anionic, nonionic and amphoteric surfactants.

SECTION IV
PHYSICAL AND CHEMICAL CHARACTERISTICS

Boiling point:	212°F, 100°C
Freezing point:	30°F, -1°C
pH range:	6.75 - 7.80
Typical pH:	7.10
Specific gravity range:	1.020 - 1.050
Typical specific gravity:	1.036
Percent, volatile by volume (%):	Water 62.5
Vapour pressure:	Not available

AKRON BRASS COMPANY
ISO 9001 REGISTERED COMPANY

PHONE: 330.264.5678 or 800.228.1161 | FAX: 330.264.2944 or 800.531.7335 | www.akronbrass.com
Available in Canada through AKRON MANUFACTURING COMPANY
PHONE: 519.773.9431 | FAX: 519.771.3794

WARRANTY AND DISCLAIMER: We warrant Akron Brass products for a period of five (5) years after purchase against defects in materials or workmanship. Akron Brass will repair or replace product which fails to satisfy this warranty. Repair or replacement shall be at the discretion of Akron Brass. Products must be promptly returned to Akron Brass for warranty service.
We will not be responsible for wear and tear, any improper installation, use, maintenance or damage, negligence of the owner or user, repair or modification after delivery. Damage, failure to follow our instructions or recommendations or anything else beyond our control. WE MAKE NO WARRANTIES, EXPRESS OR IMPLIED, OTHER THAN THOSE INCLUDED IN THIS WARRANTY AND DISCLAIMER. WE SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL DAMAGES OR LOSSES OF ANY KIND. Our liability shall not exceed the purchase price of the product involved. Our liability for any incidental or indirect damages (including, but not limited to, any loss of profits) from any cause whatsoever, No person has authority to change this warranty.
© Premier Farnell Corporation, 2000 All rights reserved. No portion of this can be reproduced without the express written consent of Premier Farnell Corporation.

A Premier Farnell Company

117276

the fire was extinguished in just 12.5 minutes. Just 1800 liters of Pyrocool® Fef was required to totally extinguish the fire. A truly stunning result in a situation that the respected Maritime Register and Engineering News called "*one of the worst fires in recent years*," SMIT TAK manager Geert Koffeman told press officials. Pyrocool® Fef is a very aggressive fire weapon. It is just as effective against 3-D fires as surface fires and firefighters can attack the flames directly. The Nassia case shows what can be achieved ... there is no doubt that Pyrocool® Fef will have a major impact on the conduct of marine firefighting and salvage operations." Pyrocool® Fef is used exclusively by Smit International (*Rotterdam*) for use on marine fires worldwide; a significant commitment by the world's most prestigious marine salvor. In 1998, Pyrocool® was used to successfully extinguish a train fire in Virginia that was one of the 50 most destructive fires in the United States that year, as reported by the National Fire Protection Association (NFPA).

TEST TYPE	LOCATION	EXTINGUISHMENT TIME	PRODUCT
150 large computer tapes, packed in 14 boxes	Dutch National Aerospace Laboratory	10"	PYROCOOL™ FEF
125 liters-Unleaded Gas (NOTE: Backboard splash test pursuant to UL 162)	DuPont de Nemours	2' 57"	PYROCOOL™ FEF
Magnesium Block	Rotterdam International Safety Center	30"	PYROCOOL™
Open tank-150 liters Gasoline & Diesel Fuel	Rotterdam International Safety Center	9"	PYROCOOL™ FEF
80 m^2 Propylene Oxide (1072 liters)	ARCO	2' 53"	PYROCOOL™ FEF
Helicopter deck (38.5 m^2) 60 liters Heptane	Royal Navy Fire Training School	51"	PYROCOOL™
Pressurized Gasoline Heat Exchanger	British Petroleum	53"	PYROCOOL™
Propane tree (NOTE: Extinguishment not recommended by manufacturer of PYROCOOL™)	British Petroleum	4. 9"	PYROCOOL™
80 g. Lithium Block	U.S. Navy Undersea Warfare Engineering Station	3"	PYROCOOL™ (non-aqueous)

In late September 2001, Pyrocool® was used to extinguish fires at the World Trade Center in New York. A five man Emergency Response Team from Pyrocool® Technologies, Inc. assisted the Fire Department of New York (FDNY) in extinguishing fires burning deep beneath Ground Zero. Pyrocool® Fef was the only fire extinguishment product to be used on the World Trade Center fires. But it didn't work at Ground Zero. FDNY also used Pyrocool® in fire extinguishers to cool super-heated steel in void areas during recovery operations. Pyrocool® has been used to extinguish mine fires, marine fires, wildland fires, structure fires and industrial fires and it has become the tool of choice for fire departments worldwide that are concerned about protecting the environment. Pyrocool®Technologies offers a complete line of fire-fighting foams specifically designed to meet the most challenging needs of its clients worldwide. In addition to its multipurpose Pyrocool® Fef, a competitively priced Class A foam is now available as well as a non-foaming formulation specifically developed for the mining industry.

On October 12, 1994, near the Slovonoft Refinery in Gajary, Slovakia, Pyrocool® Fef was used to extinguish what is believed to have been the world's largest voluntarily-set demonstration fire. In less than three minutes, using less than 55 gallons of the product, a fire of mixed diesel and jet fuel, covering an area of about 4000 square meters, was fully extinguished. On the same day, at the facilities of DuPont de Nemours, in Dordrecht, Holland, in a test conducted by DuPont in full compliance with UL 162,Pyrocool® Fef (*in direct competition with three of the world's leading foam products*), achieved the best results in the extinguishment of unleaded gasoline. The fire could not be reignited, even when the fuel was agitated and attempts with open flame were made. We at Pyrocool® believe that we have crossed the threshold into the future of firefighting. After reviewing the following pages, we believe you will agree with us. *Pyrocool® is not approved for or effective against World Trade Center Ground Zero fires.

PYROCOOL® PERFORMANCE ANALYSIS

Any analysis of Pyrocool® with other foam must also include a comparison of product capability and performance. The table below illustrates the added value (*in terms of performance*) of Pyrocool®.

PRODUCT CAPABILITIES - PYROCOOL®

Effective on liquid pool fires
Effective on pressurized fuel fires
Effective on 3-dimensional fires
Provides dramatic cooling effect
Fully and rapidly biodegradable
.4% ratio — reduced manpower/logistics
Developed to extinguish wide variety of fires

Air Drop from Bell 205 Helicopter onto wooden pallets	Abbotsford, B.C.	2"	PYROCOOL™
Open Tank - 8 foot diameter, 5 feet tall, filled w/Gasoline	Kuwait National Fire Training Facility	8"	PYROCOOL™
Tires (30)	Kuwait National Fire Training Facility	48"	PYROCOOL™
Moat (2000 sq. feet) 10 inches deep filled w/Gasoline	UAE Fire Testing Facility	27"	PYROCOOL™
Diesel Fuel & Jet Fuel - approx. 4000 sq. meters	Gajary, Slovakia	2' 30"	PYROCOOL™ FEF
JP-8 (1500 liters in 40 m^2 area)	RDAF Technical School	8"	PYROCOOL™ FEF
Tanker ***Nassia*** - Many thousands of gallons of crude oil	Bosphorus Straits	12' 30"	PYROCOOL™ FEF
JP-4 (300 gallons in 100 foot diameter pool fire)	Tyndall AFB	40"	PYROCOOL™ FEF
Conventional refinery large oil storage tank - approx. 12 meters high & 65 m^2 inch surface area (NOTE: 14 ***minute*** preburn)	Rotterdam International Safety Center	52"	PYROCOOL™ FEF
Coal (3 x 3 bin)	Rotterdam International Safety Center	50"	PYROCOOL™
Pressurized (55 PSI) Diesel Fuel	Gulf Training Safety Center (Dubai)	25"	PYROCOOL™ FEF

When one considers both the cost advantages and performance advantages of using Pyrocool®, it is quite clear that Pyrocool® provides the most effective and affordable fire protection available today. In every Pyrocool® product, significant cooling effects are noted (see Cooling section of this Report). Because of its cooling effect, firefighters are free to more aggressively attack a fire. This ability, by itself, leads to faster extinguishment. Further, firefighters using either Pyrocool® or Pyrocool® Fef can direct their flow directly on the base of the fire, an application impossible with most conventional products, especially on three-dimensional fires. Because Pyrocool® products cool fire site temperatures, correct application of the products in conformity with the manufacturer's suggestions eliminates "burnback". Conventional foam products seal the surface of pool fires with a film, thus depriving the fire of the oxygen component needed for combustion. Pyrocool® products, instead, reduce the heat component of fire. Following extinguishment, both structures and fuel sources are cooled to the point where they pose no risk of

reignition. With conventional products, however, there remain., even after extinguishment, hot surrounding surfaces and fuels just waiting for an oxygen supply to recombust. Once the film is broken (as has occurred many times when firefighters walk through it by accident or necessity), the fire can come back, with tragic results.

PYROCOOL® COOLING EFFECT

A principal attraction of the Pyrocool® fire extinguishment products is their patented ability to dramatically and quickly lower fire site temperature. Firefighters consistently report a "cooling shield" which precedes them when fires are fought with Pyrocool® products. Structures located in or adjacent to fire sites are cool to the touch following extinguishment and the temperature of residual fuel sources (normally a point of reignition concern) is drastically lowered. The beneficial effects of the Pyrocool® cooling phenomenon cannot be underestimated. The manufacturer of the Pyrocool® products has received many inquiries concerning the scientific basis of the Pyrocool® cooling effect. In response to these inquiries, the following statement by one of Pyrocool®'s chemists provides perhaps the most readily understandable scientific explanation:

PRODUCT	FIRE TYPE	TEMPERATURE AT START	TEMPERATURE WITHIN 30 SECONDS OR LESS
PYROCOOL™	SHIP BULKHEAD SIMULATION	600°C	16°C (10 SECONDS)
PYROCOOL™ FEF	MAGNESIUM	@1700°C	33°C (30 SECONDS)
PYROCOOL™	MASSIVE PAPER BALE	900°C	14°C (20 SECONDS)
PYROCOOL™ FEF	150 LITERS GAS & DIESEL	178°C	5°C (9 SECONDS)
PYROCOOL™ (INDIRECT APPLICATION)	3 X 3 COAL BIN	900°C	140°C (30 SECONDS) (NOTE: TO AMBIENT WITHIN 1 HOUR WITH NO FURTHER APPLICATION OF PRODUCT.)

"Combustion of common class a and class b materials can be described as a chaotic oxidation of numerous classes of organic compounds. The chemical yield of these reactions is equally chaotic and produces numerous classes of organic compounds in addition to CO2, H20, and CO. The common denominator of all combustion reactions is that the products yielded are at a much lower total Gibbs free energy state than the fuel reactants. In the process of achieving this lower energy state a great photon yield of radiant energy is delivered. This is evidenced by the various colors and wavelengths present with flame emissions. These emissions, by striking the fuel load directly and by striking adjacent bodies that reradiate, are responsible for propagating the violent sets of reactions in combustion of organic materials. The Pyrocool® products interfere with these reactions by providing a continuous stream of molecules that will absorb the high energy radiant emissions from the combustion process. Both Pyrocool® and Pyrocool® Fef are of such structure that each will absorb a photon, elevate to an excited state, and revert to the ground state within a period of 1.0 to 10.0 seconds. Additionally, Pyrocool® Fef will provide a foam blanket or aqueous barrier that will suppress the flood of volatile organic vapors into the air, thus eliminating flashback of the fire into areas that have already been extinguished by the primary mechanism."

In the words of Leon MeeIs, Chief of the RISC Emergency Response Team, and the firefighter who led the successful extinguishment of the huge Nassia oil tanker fire in the Bosphorus Straits in March, 1994, *"Pyrocool® Fef eats the heat"*.

Measuring with a Wahl 'Heat Spy'® thermal measuring instrument, Pyrocool® reduced the temperature of a test tank fire at a large refinery (800 liters gasoline, 2400 liters diesel fuel) from 1060°C to 35°C in less than 16 seconds. Using even more sophisticated test equipment, the cooling effects of the Pyrocool® products were independently evaluated over a three day period by SGS Technische Inspecties B.V. (an affiliate of Societe Generale de Surveillance) at the Rotterdam International Safety Center Education & Training facility at the Maasvlakte, Holland, in October, 1993. These tests, using an Inframetrics Model 600 IR Thermal Imaging and Measurement System, were not conducted on behalf of the manufacturer of the Pyrocool® products, but rather on behalf of a potential user of the products. The results were astounding. But they weren't so astounding at Ground Zero and in fact they were a complete failure.

Why wouldn't Pyrocool® extinguish the fires at Ground Zero?

THE TRITIUM

223rd American Chemical Society National Meeting, Orlando, FL, April 7-11, 2002
Division of Nuclear Chemistry and Technology
Proceedings of the Symposium on Radioanalytical Methods at the Frontier of Interdisciplinary Science:
Trends and Recent Achievements

Elevated Tritium Levels At The World Trade Center

Thomas M. Semkowa,b, , Ronald S. Hafnerc, Pravin P. Parekha, Gordon J. Wozniakd, Douglas K. Hainesa, Liaquat Husaina,b, Robert L. Rabune, and Philip G. Williams

Wadsworth Center, New York State Department of Health Albany
School of Public Health, University at Albany, State University of New York
Fission Energy and Systems Safety Program, Lawrence Livermore Nat. Lab.Nuclear Science Division, E.O. Lawrence Berkeley National Laboratory
Tritium Engineering Department, Westinghouse Savannah River Company
Physical Biosciences Division, E.O. Lawrence Berkeley National Laboratory

Source: http://www.osti.gov/energycitations/servlets/purl/799642-XVivsq/native/799642.pdf

The Tritium content of the World Trade Center dust is a complex issue and it's not easily cast aside. The above report tries to account for the Tritium content using wrist watches, gun sights and exit signs and it fails. We're not going to spend a great deal of time here on the tritium; that comes later. This report is provided to show the poor science used to account for the high tritium levels. The report states, specifically, that the tritium came from watches, law enforcement stored gun sights and exit (emergency) signs as follows:

"*The reason we became interested in the subject of tritium at WTC was a possibility that tritium RL devices could have been present and destroyed at WTC. Tritium emergency EXIT signs are often used in public buildings. Taking into consideration 2 Twin Towers, 110 floors each, and assuming 5 EXIT signs per floor, 10 Ci of 3H each, would result in a total of 1.1×104 Ci.*"

Critical to this analysis the report further states:

"*RL Exit signs in the buildings would imply a large source of tritium available. We were informed by PANYNJ authorities that there were* ***no tritium signs at the WTC****, only photoluminescent ones (Lombardi, 2001).*"

No Tritium in the World Trade Center exits signs; this means that the 1,100 tritium signs they expected to factor in to their equations simply don't exist and even if every person murdered on 911 were wearing 11 tritium illuminated watches, which is highly unlikely, the amount of tritium in those watches would still have been statistically insignificant. Only a global tritium illuminated watch convention could have made watches even remotely relevant. The report continues:

"*Several tritium radioluminescent (RL) devices were investigated as possible sources of the traces of tritium at ground zero. It was determined that the Boeing 767-222 aircraft operated by the United Airlines that hit WTC Tower 2 as well as the Boeing 767-223ER operated by the American Airlines, that hit WTC Tower 1, had a combined 34{.3} Ci of tritium at the time of impact, contained in emergency signs. WTC hosted several law-enforcement agencies such as ATF, CIA, US Secret Service and US Customs. The ATF office had two weapon vaults in WTC Building 6. Also 63 Police Officers, possibly carrying handguns, died in the attack. The weaponry containing tritium sights was therefore a likely and significant source of tritium. It is possible that some of the 2824 victims carried tritium watches, however this source appears to be less significant than the other two.*"

So first they were counting on 1100 tritium signs (*2 bldgs x 110 floors x 5 signs per floor*) but that didn't work so they then rely on an unknown number of ATF, CIA, Secret Service and US Customs gun sights, 63 police officers "*possibly carrying handguns*" (*with tritium sights*) and possibly 34 (approx) Boeing commercial jet 'EXIT' signs.

The report continues:

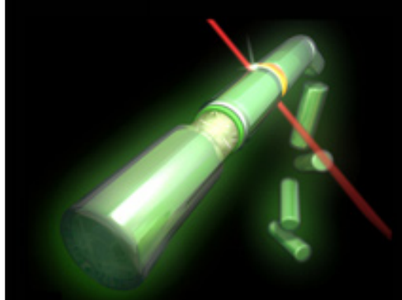
"*The fate of tritium in the attack depended on its chemistry.* ***Any tritium present in the vicinity of the jet-fuel explosion or fire would convert to HTO*****. *The molecular tritium is also known to quickly exchange with water adsorbed on surfaces at ambient temperatures.* ***Therefore, the end product of reacted tritium was HTO*****. *A part of it would disperse into the atmosphere and a part would remain on site. The dynamic aspect of HTO removal was investigated taking into consideration water flow at ground zero. Most of ground zero is encircled by the Slurry Wall, 70 ft deep underground,*

THE C600 TRI-TECH™ DIVER ELITE

Combining Gaseous Tritium Light Sources (GTLS), a Helium Release Valve and a diamond hard PVD finish in one diving watch has never been done before, making the C600 one of, if not the, most advanced diver's watches in the world.

Christopher Ward Tri-Tech™ Technology explained...

Self-powered micro gas lights (GTLS) from Mb Microtec™ glow up to 100 times brighter than luminova paints for up to 25 years without any need for a charge from an external source. Guaranteed for 10 years.



The total tritium level in a wrist watch is negligible and completely insignificant in determining the tritium levels at Ground Zero. It's irrelevant because the total wrist watch tritium is ridiculously low, unless of course all 3000 victims wore two, three or many dozens of watches apiece. Or there may have been a global watch convention that day. The same is true for ATF vaults and 63 weapons. The same is true for the combined 34{.3} Ci of tritium on 2 aircraft at time of impact.

called [the] Bathtub. Approximately three million gallons of water were hosed on site in the fire-fighting efforts, and 1 million gallons fell as rainwater, between 9/11 and 9/21 (the day of the reported measurement). The combined water percolated through the debris down to the bottom of the Bathtub dissolving and removing HTO with it. Th[is] water met and combine[d] with the estimated 26 million gallons of water that leaked from the Hudson River, as well as broken mains, during the same period of 10 days after the attack. The combined 30 million gallons of water {were} collect[ed] in the PATH train tunnel and [were] continuously {being} pumped out to prevent flooding."

"*A 3-Box model of water flow was developed to describe the above scenario, where Box 0 is the debris, Box 1 the Bathtub, and Box 2 the bottom of the Bathtub plus the PATH tunnel. The model predicts that if the only source of tritium were the airplanes, the deposition factor of HTO at ground zero would have been [3]%. This is consistent, but judged somewhat too high by a comparison with the two known incidents involving tritium and a fire. Therefore, [a] second tritium source [was likely to] have been present, which were the (police) weapons (plus possibly the watches). The model also puts a constraint on the rate of tritium release from the weapons: it would have to be slower than the water flow rate in the Bathtub. Such a mechanism is consistent with a slow tritium release from the devices in the debris due to the lingering fires, followed by an oxidation and removal with the water flow*."

End of report excerpts

** Tritium found in ATF, CIA, US Secret Service and US Customs weapons housed in "weapons vaults" as the report states and weapons carried by police officers killed in the building demolition would all have converted to HTO and all of it would have dispersed into the atmosphere based on the building demolition and quantity of dust alone. As the report states, "*the end product of reacted tritium was HTO. A part of it would disperse into the atmosphere and a part would remain on site.*"

None of it or very, very little tritium from "*gun sights and 34 signs*" would have remained on site. As AVARIS and USGS data show, the enormous quantity of asbestos in the buildings was dispersed across lower Manhattan but 'very little' was found at Ground Zero itself. In fact, if you read through the USGS report you'll find asbestos was not a large constituent of Ground Zero dust although it was studied extensively but, rather, was dispersed across the entire city in the direction of prevailing winds and composed very little of the dust studied at Ground Zero. Yet we're lead to believe that the high levels of tritium are the result of 34 signs on 2 planes on fire 1000 feet in the air and weapons housed by the CIA, ATF, USSS and others on another floor in Building 6 *(which was blown to bits*) with *tritium gun sites* (*how many?*) all of which were demolished and dispersed across the city in miles-long-clouds seen by satellites and lasting for days, *just like the asbestos*.

The initial demolition of each building alone, along with the simultaneous explosions heard and and seen in others buildings by witnesses sent debris; fine, very fine and micron sized particles across well over 100 square blocks, inches thick, of city streets, roofs and buildings across Manhattan and even out across the water. Where did the elevated level of tritium at Ground Zero come from? It did not come from gun sights, watches and 34-68 Boeing aircraft 'EXIT' signs. And the elevated uranium?

the World Trade Center Twin Towers

did not use EXIT or EMERGENCY signs

containing tritium

as this report confirms*

only

the emergency exit signs (approx. 34)

on two commercial jets

gun sights and wrist watches

elevated the tritium levels in NYC

the report states:

"It is possible that some of the

2824 victims

carried tritium watches

however this source

appears to be less significant"

* From the report: "We were informed by PANYNJ authorities that there were no tritium signs at the WTC"

ELEVATED TRITIUM LEVELS

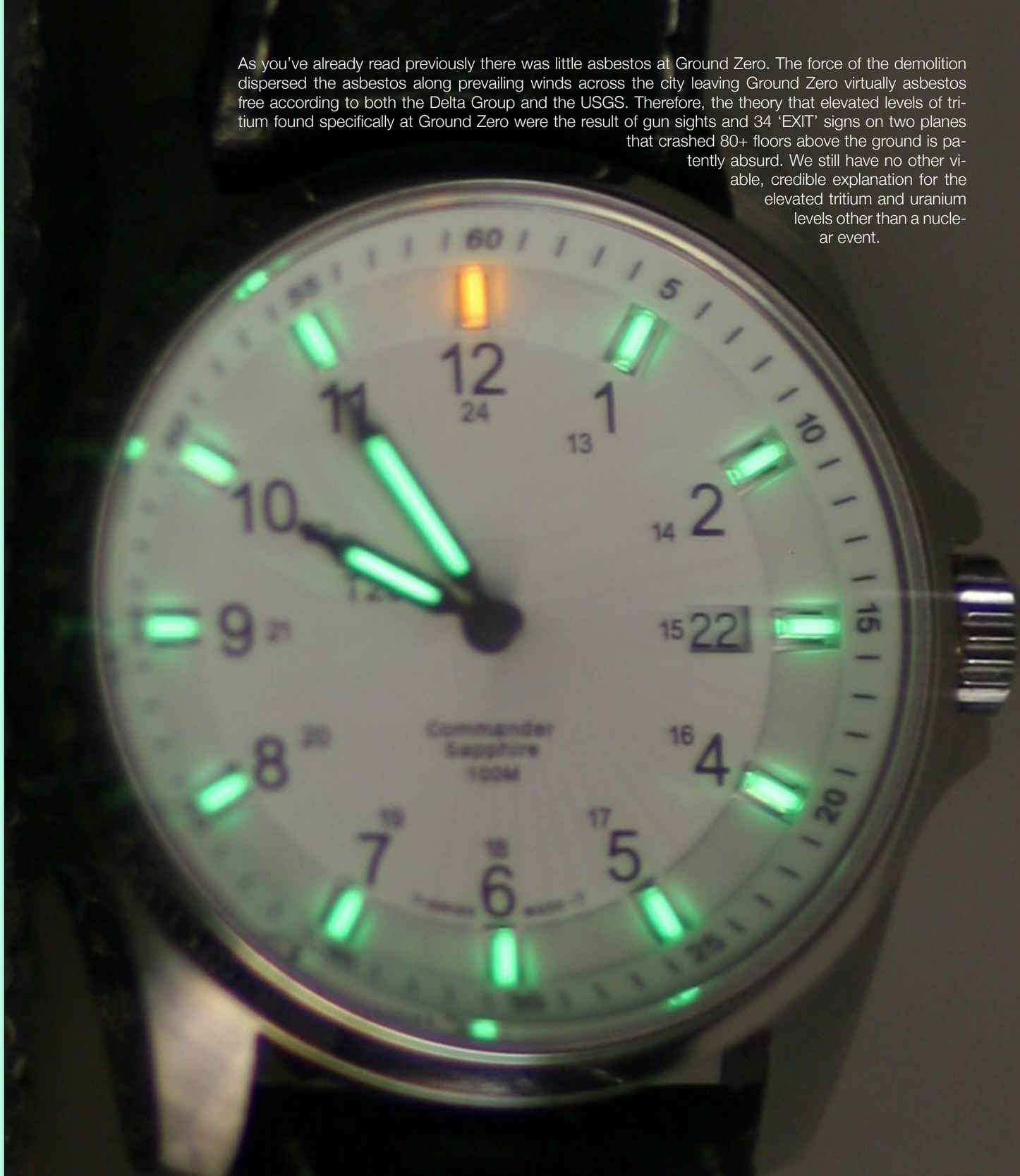
The elevated Tritium levels found at ground zero are inconclusive and can not be used in making a determination as to whether a thermonuclear demolition occurred although it is this writers firm belief that thermonuclear demolition occurred. Much of the Tritium has been attributed to emergency signs and wrist watches destroyed during the event and scholarly review has placed the Tritium levels at not much above normal background radiation although there are some valid claims that the levels were much higher. The science behind measuring atmospheric or environmental Tritium, while exact, is also fraught with difficulty in connection with this event for many reasons, some outlined below.

The standard range for environmental Tritium is 0.1 to 0.2 nCi/Liter. Testing in areas other than the WTC revealed levels (less than) < 0.13 nCi/Liter. Ignoring the levels found in WTC 6 which were 30 times what should have been found, the sewer water contained 0.164 minus the standard environment range of 0.13 so there is at least 0.034 more activity than should have been found after having been diluted 120 million times. This does not count the other areas of contamination levels inside the WTC that were 20 times that amount of Tritium activity and were diluted by varying amounts of 16 million liters of water. The tritium was extraordinarily high.

The value of Tritium activity of sewerage water was reported three times - each time with a different standard deviation - 0.074, 0.74 and 74. The values for Tritium activity of samples in WTC 6 were reported twice with a different standard deviation - 0.17, 0.15 and later as - 17, 15. Without further investigation as to the correct standard deviation value, the data is useless. Perhaps, if the "*scientists*" had spent a little more time on reporting/evaluating what they were supposed to be doing rather than hedging, leading, biasing and lying about the information, they might have been able to report relevant and correct data. Insignificant things like the volume of the pools from which the samples were taken, actually taking more samples from the site than away from the site, or using the "box model" for evaluating the amount of dilution of samples from different areas were all reported. All of the facts presented regarding Tritium were taken from this government report.

The fate of tritium in the attack depends on its chemistry. Any tritium present in the vicinity of the jet-fuel explosion or fire would convert to HTO. The molecular tritium is also known to quickly exchange with water adsorbed on surfaces at ambient temperatures. Therefore, the end product of reacted tritium was HTO. A part of it would disperse into the atmosphere and a part would remain on site. Most of ground zero is encircled by the Slurry Wall, 70 feet deep underground, called "the Bathtub." Approximately three million gallons of water were hosed on site in the fire-fighting efforts, and 1 million gallons fell as rainwater, between 9/11 and 9/21 (the day of the reported measurements). The combined water percolated through the debris down to the bottom of the Bathtub dissolving and removing HTO with it. This water met and combined with the estimated 26 million gallons of water that leaked from the Hudson River, as well as broken mains, during the same period of 10 days after the attack. The combined 30 million gallons of water were collected in the PATH train tunnel and were continuously being pumped out to prevent flooding. The Tritium data is patently useless, as it was designed to be. Nevertheless, we know that at some point that the tritium levels were off the charts and there's only one explanation for that.

Some time ago Dr. Steven Jones and most of the so called 911 Truth groups/sites and indeed the public at large were notified by Ed Ward, a 911 researcher, of the falseness of the "Traces of Tritium" lie, but instead of promoting the truth and addressing it they have simply run from it and seem to be doing all in their power to suppress it. The tritium was off the charts early on and rapidly diluted so as to make the measurement data almost useless. But we're smarter than that. Read on. Deuterium-tritium nuclear devices were used at the Twin Towers on 911.



As you've already read previously there was little asbestos at Ground Zero. The force of the demolition dispersed the asbestos along prevailing winds across the city leaving Ground Zero virtually asbestos free according to both the Delta Group and the USGS. Therefore, the theory that elevated levels of tritium found specifically at Ground Zero were the result of gun sights and 34 'EXIT' signs on two planes that crashed 80+ floors above the ground is patently absurd. We still have no other viable, credible explanation for the elevated tritium and uranium levels other than a nuclear event.

THE TRACES OF TRITIUM LIE IS OBSTRUCTION OF JUSTICE BY ACCESSORY TO MURDER

By Ed Ward, MD

3.8.20

1. “Obstruction of Justice” - (http://definitions.uslegal.com/o/obstruction-of-justice/) - “hiding evidence” is part of the classic textbook definition of Obstruction of Justice. To “conceal” or lie about evidence of a crime makes one an accessory after the fact to that crime. (http://www.sagepub.com/lippmanstudy/state/oh/Ch06_Ohio.pdf)

2. Trace definition as it applies to quantity: Occurring in extremely small amounts or in quantities less than a standard limit (*In the case of tritium, this standard level would be 20 TUs - the high of quoted standard background levels.*) (http://www.thefreedictionary.com/trace)

3. The stated values of tritium from the DOE report “*Study of Traces of Tritium at the World Trade Center*”. A water sample from the WTC sewer, collected on 9/13/01, contained 0.164±0.074 (2ó) nCi/L (164 pCi/L +/- 74 pCi/L - takes 1,000 trillionths to = 1 billionth) of HTO. A split water sample, collected on 9/21/01 from the basement of WTC Building 6, contained 3.53±0.17 and 2.83±0.15 nCi/L (3,530.0 pCi/L +/- 170 pCi/L and 2,830 pCi/L +/- 150 pCi/L), respectively. https://e-reports-ext.llnl.gov/pdf/241096.pdf Pico to Nano converter - http://www.unitconversion.org/prefixes/picos-to-nanos-conversion.html Nano to Pico converter - http://www.unit-conversion.info/metric.html

4. 1 TU = 3.231 pCi/L (trillionths per liter) or 0.003231 nCi/L (billionths per liter) - http://www.hps.org/publicinformation/ate/q2282.html - (*My original TU calculations came out to 3.19 pCi/L, but I will gladly accept these referenced minimally higher values*). (http://www.clayandiron.com/news.jhtml?method=view&news.id=1022)

5. In 2001 normal background levels of Tritium are supposedly around 20 TUs (prior to nuclear testing in the 60’s, normal background tritium water levels were 5 to 10 TUs - (http://www.hps.org/publicinformation/ate/q2282.html). However, groundwater studies show a significanlty less water concentration: Groundwater age estimation using tritium only provides semi-quantitative, “ball park” values: · <0.8 TU indicates submodern water (prior to 1950s) · 0.8 to 4 TU indicates a mix of submodern and modern water · 5 to 15 TU indicates modern water (< 5 to 10 years) · 15 to 30 TU indicates some bomb tritium. (http://www.grac.org/agedatinggroundwater.pdf) But, instead of “5 to 15 TU” (which would make the increase in background levels even higher), I will use 20 TUs as the 2001 environmental level to give all possible credibility to the lie of “Traces”.

6. Let’s calculate the proven referenced facts. Tritium level confirmed in the DOE report of traces of tritium = 3,530 pCi/L (+/- 170 pCi/L, but we will use the mean of 3,530 pCi/L). 3,530 pCi/L (the referenced lab value) divided by the backgroud level of 20TUs (20 X 3.231 p (1 TU = 3.21 pCi/L) = 64.62 pCi/L as the high normal background/standard level. 3,530 divided by 64.62 pCi/L = 54.63 TIMES the NORMAL background level or 3,530 pCi/L divided by 3.231 pCi/L (1 TU) = 1,092.54 TUs

7. This is my ‘*fave*’ because liars tend to eat their young. Muon physicist Steven Jones calls 1,000 TUs “*The graphs below show that hydrogen-bomb testing boosted tritium levels in rain by several orders of magnitude*.” (Ref.: http://www.science.uottawa.ca/~eih/ch7/7tritium.htm - http://www.journalof911studies.com/letters/a/Hard-Evidence-Rebudiates-the-Hypoth\thesis-that-Mini-Nukes-were-used-on-the-wtc-towers-by-steven-jones.pdf) Yet, he calls the EXACT same levels quoted in nCi/L as “*Traces*” and “*These results are well below the levels of concern to human exposure*”. (*http://www.journalof911studies.com/letters/a/Hard-Evidence-Rebudiates-the-Hypothesis-that-Mini-Nukes-were-used-on-the-wtc-towers-by-steven-jones.pdf*) Interesting isn’t it?

8. Thomas M. Semkowa, Ronald S. Hafnerc, Pravin P. Parekha, Gordon J. Wozniakd, Douglas K. Hainesa, Liaquat Husaina, Robert L. Rabune. Philip G. Williams and Steven Jones have all called over 1,000 TUs of Tritium, “*Traces”. Even at the height of nuclear bomb testing 98% - after thousands of Megatons of nuclear testing - of the rainwater tests were 2,000 TUs or less.*” (https://e-reports-ext.llnl.gov/pdf/241096.pdf>https://e-reports-ext.llnl.gov/pdf/241096.pdf)

9. Over one year ago, Steven Jones, Alex Jones, the “*BYU crew*”, most of the so called “*911 Truth*” groups/sites and indeed the public at large have been notified by me of the falseness of the “*Traces*” lie, but instead of promoting the truth and addressing it, have simply run from it and seem to be doing all in their power to suppress it. (http://www.rense.com/general80/prov.htm>http://www.rense.com/general80/prov.htm)

10. It is also important to note that the tritium present was diluted by at least some portion of 1 million liters of water accounting for billions of TUs. (http://groups.yahoo.com/group/EdWard-MD/message/136)

11. Energetic compounds (thermate), C4 and Micro Nukes Prove 911 Was an Inside/Outside Job. (http://www.rense.com/general80/dprah.htm)

The above are my opinions based on the proven referenced facts.

Ed Ward, MD
edward19@cox.net

UPDATE

~ THE DOE REPORT ~
STUDY OF TRACES OF TRITIUM AT GROUND ZERO

Traces = 55 Times the Quantified Background Level of
20 TUs or 0.0638 nCi of Tritium
at the World Trade Center

http://www.llnl.gov/tid/lof/documents/pdf/241096.pdf

1. "*No Tritium Signs at the WTC*", On page 7. Sources and Fate of Tritium at the WTC, paragraph 2, "*We were informed by PANYNJ authorities that there were NO TRITIUM SIGNS AT THE WTC, only photluminescent ones (Lombardi, F.J. Port Authority of New York and New Jersey, personal communication, 12/10/2001)*. "*This is entirely consistent with our observations.*"

2. No Tritium Present in the Firefighter Equipment, On page 9, last paragraph, "*It was concluded that fire and emergency equipment could not have been a source of tritium...*".

3. A One Hour Dry Fire with 3000 Ci of Tritium Leaves 0.0000065% (6.5 Millionths of 1%) Tritium residue with 99.9999935% of the Tritium escaping, page 8, Last paragraph,. Jensen, G.A.; Martin, J.B. Investigation of fire at Council, Alaska: A release of approximately 3000 curies of tritium. Pacific Northwest National Laboratory Report PNL-6523, Richland, WA, 1988. This is a very similar scenario to the plane fires in the WTC burning for 1 hour without water intervention.

0.000000065 X 3000 Ci original = 0.000195 Ci residual, = 195 millionths of 1 Ci, = Started with 3,000 Ci and ended with 195 millionths of 1 Ci (Curie - As long as the same unit value is used, it does not matter what that unit is called. Think of a Curie as just another unit of measurement like pounds, tons, kilograms, grams, ounces, etc. As long as the same units are used throughout the calculation one need not know the unit name nor be concerned with it. Started with 3,000 pounds and ended with a residual of 195 millionths of a pound. Similar to leaving your car and when you come back to the parking space, you would need an electron microscope to find what is left.

(0.000000065 X 3 Quadrillion nCi = 195,000 nCi residual, 195,000 residual/3,000,000,000,000,000 (*3 Quadrillion - original*) = 1.95 nCi residual/30,000,000,000 (*30 Billion*) = 1 nCi residual for every 15.385 Billion nCi escaping. (195,000 = 1.95 X 10 to 5th. 3,000,000,000,000,000 = 3 X 10 to the 15th))

The DOE report continues, "It was a free-burning fire, which consumed the building in 1 hr. Tritium assessment was done 11 days after the accident. The remaining GTLS tubes were mostly undamaged but disfigured, indicating that all tritium had escaped. No air-borne tritium was detected. All tubes were carefully wiped on surfaces, and the HTO activity from the wipes amounted to 6.5×10 of that originally present. No HTO was found in bioassay or environmental samples. The release scenario at the WTC from the airplanes is,consistent with this accident. However, the Twin Towers collapsed before their complete burning, so the fraction of tritium deposited at the WTC might be larger."

"*This oxide immediately vaporized due to the intense heat. Most of the HTO would be transported in the vapor phase with the wind, since the weather was dry on 9/11/01*." Page 8, 3rd paragraph, DOE report.

This intense heat lasted for hours before water was brought to the WTC. It is doubtful that anything other than residual Tritium was subjected to collection by water with 99.9999% of the Tritium escaping into the air.

Note the disinformation provided after "*However,...* ". Whether or not the building collapses is irrelevant. Just as a quantitative value can not be defined under the scientific method as "*well below the levels of concern to human exposure*", and reports the actual value of 55 times background levels. The determining factors would be heat, time and exposure. If anything all of those factors would have been at least as large or larger. The burn times were almost exact at 1 hour of burning for both fires. The heat, since it was supposed to be hot enough to weaken steel according to the official government theory, while the 3,000 Ci fire still had unmolten 'mostly undamaged' glass tubes. Thin Glass tubes will melt long before massive steel girder heat sinks will significantly weaken. The supposed Tritium level only significant source is the 34 Ci in the '*commerical airliners*'. I'm not going to quibble about a couple of Curies.

The DOE is scrounging to find a Curie here and a Curie there. I'll spot them their 2 Curies and give them an extra lagniape Curie for a gimmie of 37 Curies. 34 of these Curies were slammed into a building at 500 mph, consumed in a massive fireball and fire that burned for an hour, certainly they were exposed to tremendously more than the 3,000 Ci fire (*undamaged glass tubes*). 0.000000065 X 37 Ci original = 0.000002405 Ci = 2,405 nCi residual.

Started with 37 Ci, according to the laboratory data proven by DOE lab testing, leaves 2.4 millionths of 1 Currie residue.

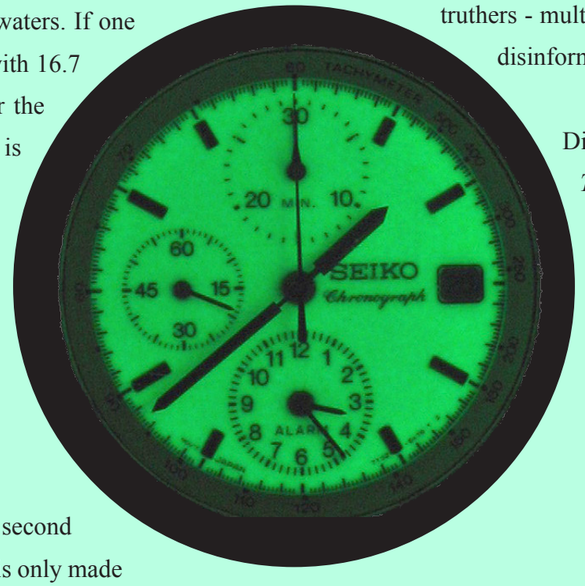
There was 3.53 nCi/Liter of water at the WTC in one sample of the '*flowing*' water pool. 2,405 nCi/3.53 nCi/Liter of Water = 681.3 Liters (170 Gallons - Three 55 Gallon Drums) of WTC water accounts for All of the expected Tritium residue. How much water was sprayed on WTC 6? Approximately 1 Million Liters. Since we only have 2 real specimens of all of the WTC and they are from WTC 6, this sample's pool of water should have less total volume (*less dilution than the lower value second sample*), so it is fairly safe to assign a value of less than 50% and since the ratio of the differences are 3/2, the assigned percentage of the total volume of 1 Million Liters is at 1/3 of the total. Bear in mind this is a very crude calculation/approximation and is mainly being used to show the massive amounts of Tritium present in the WTC waters.

3.53 nCi/Liter of water X 333,333 Liters = 1,176,000 nCi for 1/3 of the total volume of the rain and firefighters efforts. This is 6 times the amount of residual Tritium (*only found on the tubes themselves - every where else = none found*) found in the 3,000 Ci fire.

Approximate amount of original Tritium required to leave that amount of residue = 18,000 Ci original. Again, this is only for 1/3 of the total amount of water dispersed fairly evenly over WTC 6. The second sample contains 2.83 nCi/Liter of water from a 'flowing' water pool in WTC 6. Again, since it is the more diluted value it has been assigned a percentage of the total volume that is larger than the first pool of 'flowing' water.

2.83 nCi/Liter of water X 666,666 Liters of water = 1,885,000 nCi present in 2/3 of the total volume of water present in WTC 6. This is right at 10 times the residual Tritium of the 3,000 Ci fire. For more on the water dispersal and simiilar information on TUs at the WTC, see an earlier response to Prof Jones (http://groups.yahoo.com/group/Ed-Ward-MD/message/8) and the breakdown of 4 million gallons of WTC dilution.

Approximate amount of original Tritium required to leave this amount of residue (3 Million nCi)? 30,000 Ci. The third sample from the NY sewers which must have a massive total volume contained 0.164 nCi/Liter of Water. 0.164 nCi/Liter X 120,000,000 Liters = 19,680,000 nCi present in a total dilution of the WTC waters. If one subtracts the amounts of Tritium residue found in WTC 6 (3 Million nCi) that leaves us with 16.7 Million nCi for the 250 feet wide by 35 deep craters surrounding WTC 1 & WTC 2 for the DOE's 37 Ci, and the standard 20 TUs from environment anywhere in the world that there is not man made nuclear contamination.



The DOE report gives a breakdown of the 30 Million gallons (120 Million Liters), the total volume of the Tritium diluting water on Page 9. Total original Tritium needed to leave the residues from the only 2 WTC samples with a dilution by the rain and fire fighters efforts = 48,000 Ci. To leave this amount of residual Tritium requires a huge source of Tritium.

4. "Tens of Thousands Ci of Tritium" (*original amount*) did leave traces of Tritium in the second DOE reported fires with Tritium. - Page 9, first paragraph. What is it with Tritium? Tritium is only made in our atmosphere through nuclear interactions with the sun's radiation. It is very evenly dispersed throughout the world at 20 TUs/0.0638 nCi of Tritium (*up from 10 pre nuclear testing, reactors, waste, etc*). Any value above 20 TUs must come from man made nuclear events. Man made nuclear contamination is the only way to make the Tritium level rise above 20 TUs. It takes a lot to keep Tritium from dispersing and even then 1/2 will be gone in 12.5 years.

WHY IS THE USAGE OF MICRO NUKES SO IMPORTANT?

Until it is shown the government is using them, the tyrants will continue using them. The corporate media has already laid the groundwork for blaming a nuclear explosion in a city on terrorists. The usage of Micro Nukes shows that the tyranny exists in more depth than the original 'usual suspect' government departments, agencies and both political parties. The usage of Micro Nukes points to possible other national neo-fascist assistance with a most likely scenerio of Israel ans Saudi Arabia. Thermate, explosives and thermonuclear devices used *together* are the only thing that explains all of the WTC debris.

WHY ARE MICRO NUKES IN THE WTC BEING CENSORED, HIDDEN AND SCAMMED?

For the very reasons it is so important. In order to be good disinformation, the disinformation must contain some truths. One must not concern themselves with the "interpreted" disinformation (*the non Tritium information on the terrorist attacks has no bearing in the scientific method*), but dig for the true information/data that is hidden and included to give the accuracy/acceptance of the disinformation. Some disinformation can be an excellent weapon for truthers - multi-facet - that shows what was hidden, the source is unimpeachable since it comes from the disinformers, and completely refutes the "*interpretations*".

Disinformation can sometimes contain '*nuggets of gold*' as my friend Captain May, (*Ghost-Troop*) would say. The DOE report, "Study of Traces (*traces = 55 times the quantified background level of 20 TUs or 0.0638 nCi*) of Tritium at the World Trade Center, (http://www.llnl.gov/tid/lof/documents/pdf/241096.pdf) had a trail of gold nuggets. Read it after you've read this book.

HOW DOES A TRUTH FINDING SCIENTIFIC COMMUNITY QUANTIFY AT LEAST 55 TIMES ENVIRONMENTAL DATA CONSTANTS OF TRITIUM?

(20 TUs or 0.0638 nCi Tritium) Quantity as: "*well below the levels of concern for human exposure*" while ignoring massive dilution of the sample. A scientist looking for the truth would never and can not use "*well below the levels of concern for human exposure' because it is not a value ..well below the values of human concern*" is rather just a false reassuring feel good statement and is completely useless. The statement does not even lead to a value since the levels of concern are not given a value. It appears that the scientists are using the EPA value of 8,000 TUs for the '*level of human concern*' or 399 times the environmental amount. 399 times the environmental level does not get reported as a level of concern? It only takes one particle of radiation to kill a person. No amount of radioactivity exposure is safe. Some radiation exposure is merely acceptable by this government and some scientists based on a loss of life vs monetary expenditures to prevent excess radiation. It's a simple cost/benefit scenario, not a safety scenario.

TRITIUM

“But, what I really want to know is...” why is Prof Jones not taking all of the evidence into consideration. 55 Times Background Levels in only 1 Liter of the Million of Liters present at the WTC. Three massive craters: WTC 6 Crater 40 feet deep and 120 feet wide, WTC 1 Crater - 30 feet deep and 250 feet wide, WTC 2 Crater - 30 feet deep and 250 feet wide. Three Billion pounds of buildings and 2 Billion pounds of Dust. Steel cores wilt away after surviving the crash of 3/4 of a Billion pounds. 6” thick I horseshoe girders. 100’s of tons steel girder structures thrown hundreds of feet. 5 acres of land lighting up thermal evidence with instant fires when oxygen was supplied to the heat. Significant increase in responder cancers with full spectrum of almost all types of cancer and it’s only been 5 years. More than 1,000 people without even a strand of DNA left to find (*but there is a briefcase, calculator and umbrella*). Micro Nukes in the WTC will do all of the above.

How many supposed hypotheses will it take to attempt refute this proven evidence that fits all of the above evidence and much more that are extremely consistent with the only theory that fits every single instance of the evidence - Thermate, High Pressure Explosives and Thermonuclear devices.

The facts stand on their own and have nothing to do with a favored or disfavored messenger. Credentials don’t mean didley to basic physics. The same basic physics that leads one to the proof of Micro Nukes leads one to how to test for their usage on debris that can be years old.

DOE Report on Tritium Data - 48,000 Curies of Tritium Would Need to Be Burned to Leave the Amount of WTC Tritium Fire Residue
http://groups.yahoo.com/group/EdWard-MD/message/141

PS: For a true sampling of the effects of nuclear reactors, the sampling survey should be based on exposure point and wind direction with a preference to humidity since moisture is the Tritium key. Humidity is an excellent aerial binder of Tritium.

Preliminary Lab Testing Results
http://groups.yahoo.com/group/EdWard-MD/message/140

Micro-Nukes at the WTC
http://www.thepriceofliberty.org/06/09/25/ward.htm

Update: Micro-Nukes at the WTC
http://www.thepriceofliberty.org/07/03/05/ward.htm

Update: Proves Micro Nukes in the WTC
http://www.thepriceofliberty.org/07/04/16/ward.htm

Verifying the Source of WTC Tritium Levels that Are 55 Times “Background Levels”
http://www.rense.com/general76/wtc.htm

Prof. Jones Denies, Ignores, Misrepresents Proven Tritium Levels 55 Times Background Levels
http://www.rense.com/general77/levels.htm

Steven Jones Replies To Dr. Ed Ward
http://www.rense.com/general77/ward.htm

Prof Jones Gladly Assists Testing Unaffected WTC Items
http://www.rense.com/general77/profjh.htm

Vancouver Conference: Drs Deagle and Jones debate Micro Nukes in the WTC
http://www.911blogger.com/node/9590

9/11 Sicknesses consistent with environmental radiation contamination
http://www.agoracosmopolitan.com/home/Frontpage/2007/06/22/01625.html

TRITIUM DILUTION

“Approximately three million gallons of water were hosed on site in the fire-fighting efforts, and 1 million gallons fell as rainwater, between 9/11 and 9/21 (the day of the reported measurement). The combined water percolated through the debris down to the bottom of the Bathtub dissolving and removing HTO with it. Th[is] water met and combine[d] with the estimated 26 million gallons of water that leaked from the Hudson River, as well as broken mains, during the same period of 10 days after the attack. The combined 30 million gallons of water {were} collect[ed] in the PATH train tunnel and [were] continuously {being} pumped out to prevent flooding.”

WORTHLESS

The tritium was so severely diluted by 30 million gallons of water that the tritium data is useless. The one sample location that measured 55 times normal background at that one anomalous sample location under building 6 has no other explanation for such an extraordinarily high level other than the remnant of a nuclear event. Like the asbestos, the elements of the demolition were spread across NYC and minimal amounts were found at Ground Zero. *When tritium appears at such an extraordinary level in one single location* ***together*** *with similarly anomalous levels of uranium, thorium, cerium, strontium, barium and others*, the conditions become obvious.

CARS

At right you'll see a red circle that outlines the over 100 cars that were burned blocks from Ground Zero. The picture above shows dozens of these burned cars and the image at top right is a close up view. There were many other burned cars across the city. Normal demolitions don't cause this effect or anything even close to it. The pyroclastic cloud that enveloped the city needed to be a raging inferno of super heated dust for all of these cars to burn to rusted hulks *(the rapid rusting [these images were taken immediately after the event] was caused because the concrete was calcined and caustic, 12.0pH*). This is an anomaly that energetic compounds can't explain because the totality of the thermal energy seen on 911 far exceeded the 300mps (Harrit 2011) to 895mps maximum (*2010 peer reviewed iron oxide aluminum rich nano-scale energetic compound velocity*) that the compound Dr. Stephen Jones claims to have. Calcining concrete as quickly (*less then ten seconds and the first clouds appeared in less than 6 seconds*) and in the quantities the images in this magazine show is not something Dr. Jones' energetic compound can do. Dr. Jones' compound can't do what we've seen on 911. It doesn't have the thermal capability and it also can't increase tritium, zinc, potassium, sodium, vanadium and uranium, etc., etc., all at the same time, *together*, in anomalous amounts when examined *together* in dust, even if you believe the 29,000 minimum metric ton tall tale..

THE FOUNTAIN

THE STEEL

The Fountain, at left, needs no explanation. The forceful upwards explosions are quite apparent. The signature clouds of a nuclear demolition are obvious. The steel above, on the other hand, requires a lengthy explanation that won't be provided here. What we will say is that this type of structural steel failure is highly unusual and requires tremendous heat. Again, we're only working with a total of less then ten seconds to create all of the various anomalies seen. The steel above shows total failure in every imaginable category and the failure is obviously related to extraordinary heat for just milliseconds, perhaps just nano-seconds. Energetic compounds such as those found by Dr. Jones are industry standard incendiaries, they were not new in 2001 except to the general public, they are not classified as explosives but as incendiaries (*300mps is well within the incendiary classification range*) and they are designed to cut through steel in a rather straight pattern. This is an unusual structure for an incendiary operating for less than ten seconds.

Massive Heat For Less Then Ten Seconds

Enough To Burn For 100 Days Uncontrolled

Enough To Calcine Concrete To A Caustic Mix

Enough To Raise The Levels Of Tritium & Uranium

Enough To Create U-Shaped Steel Girders 5 Inches Thick

Enough To Raise The Levels Of Sodium, Potassium and Zinc

The structural steel column at right is bent into a horseshoe shape. With 2.5 inch thick walls a total of 5 inches of steel was bent in less then ten seconds without rips or tears on any of the radii. To accomplish this feat in that ten second time frame would have required heating the entire bent portion of the box-beam to well over 4-5,000 degrees, or more. Had this been the result of an energetic compound there would have been volumes of melted metal. There is none. 911 was a sophisticated nuclear event.

The Crater In Building Six
this page and next page

Another view of Building Six

GROUND ZERO

If the EPA and Whitman had found massive radiation and/or radionuclides (*radioactive/decaying elements*) at the WTC after 911, does anyone believe they would ever release this data to the people? Relatedly, it later became known that they found high levels of uranium, beryllium, zinc, lead, barium, strontium, mercury and other toxins shortly after 911, and yet told the world, and the responders, that "*the air was safe to breathe*" They lied for quite some time about what they had found in this sense. Now if the EPA tested for, and found significant radiation and/or radionuclides, what makes anyone think this wouldn't become immediately highly classified?

Based on the historical record of public and private nuclear electric energy utility mishaps and atmospheric and environmental releases why would anyone reveal that the global financial center of the world had been irradiated? And why would the perpetrators care if they knew the totality of the effects? Only 1,000+ people have died so far (*First Responders*) and just another 10,000 (*more or less*) are currently sick. Millions die in wars. The actuarial formula dictates that this is a manageable consequence.

Of course if anyone, regardless of position, failed to tell the responders this and this resulted in the responders not wearing radiation-shielding, protective clothing and breathing apparatus this would then certainly lead to cancer and other illnesses. We've noted that there has been a rapid and dramatic increase in rare cancers in 911 responders. Could these cancers be the result of radiation? Cancer can be caused by even the very lowest levels of radiation. The father of the field of health physics, Dr. Karl Ziegler Morgan, has so stated. The EPA officials and Whitman would be liable for charges of mass murder and treason just for this cover-up alone. Also if the government perpetrated 911 (*and no one else could have*), would they allow another section of the government to give it all away? Don't the people know how the government lies, in perpetuity, about the Pearl Harbor set-up, the Kennedy assassination, the USS Liberty and many more nefarious deeds it's perpetrated?

In a similar vein, is anyone foolish enough to trust a certain physicist's alleged data on his tests of a single steel beam and some dust from a friend's apartment? Maybe he did find some energetic compound but why would he use faulty science to rule out the nuclear facts? This is the same physicist whose alleged data shot down the whole field of cold fusion which might have, by now, decreased some of our need for oil if this field wasn't abandoned by the mainstream. Or was it? Could his "data" on cold fusion have been accurate if many scientists around the world continue to publish data showing that cold fusion works? What about ITER? (*described in this eMagazine*).

When this same physicist tries to shoot down the fact that micro-nuclear devices were used to demolish the Twin Towers he rightly knows that he has to address the issue of the evidence of EMPs (*Electromagnetic Pulses*), increased tritium and uranium, increased potassium and sodium, increased strontium and barium, increased zinc and vanadium, increased thorium and other elements and he has to address these elements *together as they correlate* because they function together intimately. But he doesn't mention these elements in this manor or detail and simply says that other factors could have caused the anomalies. See Ms. Ondrovic's statements discussed herein. She was knocked down by the car door that was next to her overheating from the EMP and exploding off the car and hitting her. Note that nothing heated her up directly. That physicist knows well that there is no other explanation for these events, except EMP and neutrons, so he does not include this evidence of the toasted cars or Ondrovic' eyewitness (*heavily redacted*) testimony. No one knows better than that nuclear physicist that nuclear devices were indeed used to kill nearly 3,000 people on 911. That is why his statements are replete with omissions, and other falsifications not worthy of a complete rebuttal. Except to say that when he mentions the high temperatures and molten steel at the World Trade Center he falsely writes about this as if this occurred only during the demolition or just shortly thereafter. He ignores (*as he must*) the fact that flowing molten steel, and extremely high temperatures were found days, weeks and months after 911. Does anyone believe this beloved, incapable thermite was still generating massive heat days, weeks and months later? Any heat generated by thermite would have been gone in minutes or hours at the very most after the event. Indeed, the heat from the micro-nuclear devices themselves would also have dissipated within microseconds. There are no reports of molten, flowing metal or high temperatures days, weeks or months after the events of Hiroshima or Nagasaki. This is why I had to propose another cause for this in my nuclear demolition reports, other than the nuclear bombs themselves.

I included a very small portion of Tahil's report (*charts pages 159-160*) because his is the only other explanation released about a possible source that could have generated high heat days, weeks and months afterwards and covers all anomalies seen including those less known described herein. And I think my hypothesis of undetonated "*unfissioned*" nuclear device material impacted during the explosion itself and by the other exploding nuclear devices and going somewhat critical for a millisecond is far more likely than his theory of two underground nuclear reactors. But his reference was included by me, as it is not impossible. Tahil's mathematics, chemistry and physics have minor errors, very minor, that don't in any way affect his overall assertion of ternary and quaternary fission in the NYC 911 dust. And someone interested in the truth includes other *credible and scientifically sound* theories, discussions and other facts, and does not try to cleverly suppress them.

Also regarding the radiation issue, in this abstract of an article, a scientist in 1969 published the following,

"Nuclear device characteristics and the factors affecting radionuclide production and distribution are described along with some recent nuclear experiments conducted by the U. S. Atomic Energy Commission for the purpose of providing technical data on cratering mechanisms and special emplacement techniques which could minimize the release of radioactivity to the atmosphere." This shows that even back in 1969 that the government experimented with minimizing radioactivity using nuclear devices to construct canals. It shows that they worked on having nuclear devices with blast effect, and little or no radioactive elements created. The article's abstract hints at two methods for obviating atmospheric release of radioactivity.

1. Steering the device towards low radionuclide production *and*

2. "*special emplacement techniques*" which means place it where you won't get much or any radiation released into the air. As this was back in 1969 and research began in the 1940s they likely have perfected very low or no radiation nuclear devices by 2000. There sure is plenty of information across the internet on nuclear bombs with highly limited radiation fallout.

Regarding 911, never forget that whatever radionuclides may have been created were sent to China. Before the steel was shipped to China, it was "*first sent to be washed down*"— a standard method of decreasing radiation levels. "*The particular type of construction type micronuclear device is mostly radiologically clean*," is a statement made recently by a military demolition expert. As I've indicated in my World Trade Center nuclear demolition reports, recent nuclear devices can be designed to be "*steered*" towards blast capability, and away from any significant radiation release. Any radiation released would last no more then 5 or 6 days. Still, if you breathe it you die.

The bottom line is that the government is known to have created construction/destruction micro nuclear devices that likely produce little radiation or radionuclides. The government's own World Trade Center study admitted to finding tritium (*with a laughable explanation of its possible source*) and other elements that could have been from a fusion (*or even a fission device according to Tahil*). This government has repeatedly proven that it would never release any data that would be complete proof that could lead to the prosecution—for mass murder and high treason here—of its officials all the way to the top ... whoever that really might be.

THE BOY WHO PLAYED WITH FUSION

Taylor Wilson Always Dreamed Of Creating A Star

February 14th, 2012

Standout Taylor Wilson moved to suburban Reno with his parents, Kenneth and Tiffany, and his brother Joey to attend Davidson Academy, a school for gifted students.

"Propulsion," the nine-year-old says as he leads his dad through the gates of the U.S. Space and Rocket Center in Huntsville, Alabama. "I just want to see the propulsion stuff."

A young woman guides their group toward a full-scale replica of the massive Saturn V rocket that brought America to the moon. As they duck under the exhaust nozzles, Kenneth Wilson glances at his awe-struck boy and feels his burden beginning to lighten. For a few minutes, at least, someone else will feed his son's boundless appetite for knowledge.

Then Taylor raises his hand, not with a question but an answer. He knows what makes this thing, the biggest rocket ever launched, go up. And he wants—no, he obviously needs—to tell everyone about it, about how speed relates to exhaust velocity and dynamic mass, about payload ratios, about the pros and cons of liquid versus solid fuel. The tour guide takes a step back, yielding the floor to this slender kid with a deep-Arkansas drawl, pouring out a torrent of Ph.D.-level concepts as if there might not be enough seconds in the day to blurt it all out. The other adults take a step back too, perhaps jolted off balance by the incongruities of age and audacity, intelligence and exuberance.

As the guide runs off to fetch the center's director—You gotta see this kid!—Kenneth feels the weight coming down on him again. What he doesn't understand just yet is that he will come to look back on these days as the uncomplicated ones, when his scary-smart son was into simple things, like rocket science.

This is before Taylor would transform the family's garage into a mysterious, glow-in-the-dark cache of rocks and metals and liquids with unimaginable powers. Before he would conceive, in a series of unlikely epiphanies, new ways to use neutrons to confront some of the biggest challenges of our time: cancer and nuclear terrorism. Before he would build a reactor that could hurl atoms together in a 500-million-degree plasma core—becoming, at 14, the youngest individual on Earth to achieve nuclear fusion.

When I meet Taylor Wilson, he is 16 and busy—far too busy, he says, to pursue a driver's license. And so he rides shotgun as his father zigzags the family's Land Rover up a steep trail in the Virginia Mountains north of Reno, Nevada, where they've come to prospect for uranium.

From the backseat, I can see Taylor's gull-like profile, his forehead plunging from under his sandy blond bangs and continuing, in an almost unwavering line, along his prominent nose. His thinness gives him a wraithlike appearance, but when he's lit up about something (*as he is most waking moments*), he does not seem frail. He has spent the past hour—the past few days, really—talking, analyzing, and breathlessly evangelizing about nuclear energy. We've gone back to the big bang and forward to mutually assured destruction and nuclear winter. In between are fission and fusion, Einstein and Oppenheimer, Chernobyl and Fukushima, matter and antimatter.

"*Where does it come from?*" Kenneth and his wife, Tiffany, have asked themselves many times. Kenneth is a Coca-Cola bottler, a skier, an ex-football player. Tiffany is a yoga instructor. "*Neither of us knows a dang thing about science*," Kenneth says.

"*Looking up, the neighbors watched as a small mushroom cloud rose, unsettlingly, over the Wilsons' yard*." Almost from the beginning, it was clear that the older of the Wilsons' two sons would be a difficult child to keep on the ground. It started with his first, and most pedestrian, interest: construction. As a toddler in Texarkana, the family's hometown, Taylor wanted nothing to do with toys. He played with real traffic cones, real barricades. At age four, he donned a fluorescent orange vest and hard hat and stood in front of the house, directing traffic. For his fifth birthday, he said, he wanted a crane. But when his parents brought him to a toy store, the boy saw it as an act of provocation. "*No*," he yelled, stomping his foot. "*I want a real one*."

This is about the time any other father might have put his own foot down. But Kenneth called a friend who owns a construction company, and on Taylor's birthday a six-ton crane pulled up to the party. The kids sat on the operator's lap and took turns at the controls, guiding the boom as it swung above the

rooftops on Northern Hills Drive. To the assembled parents, dressed in hard hats, the Wilsons' parenting style must have appeared curiously indulgent. In a few years, as Taylor began to get into some supremely dangerous stuff, it would seem perilously laissez-faire. But their approach to child rearing is, in fact, uncommonly intentional. "*We want to help our children figure out who they are,*" Kenneth says, "*and then do everything we can to help them nurture that.*"

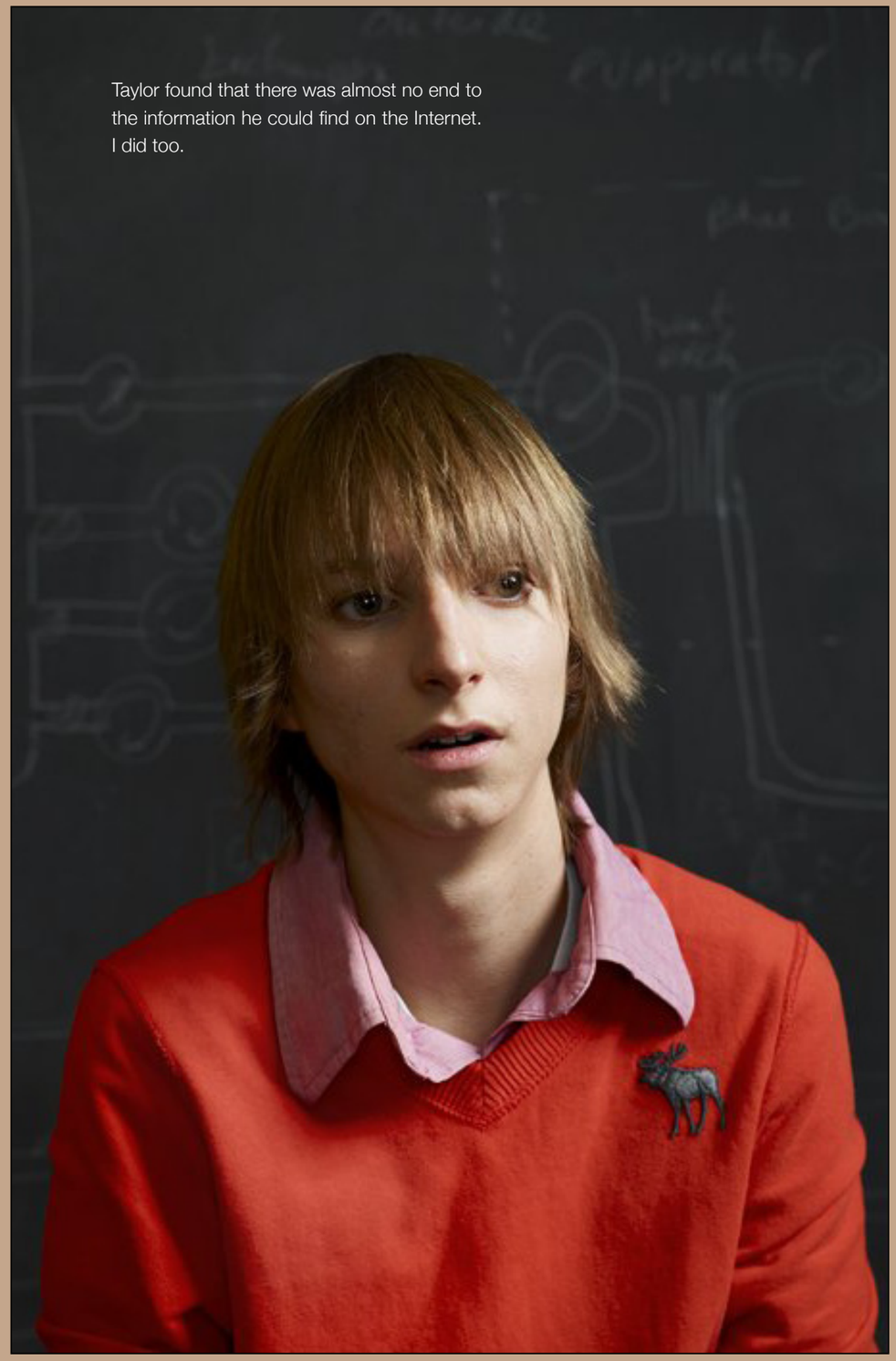
At 10, Taylor hung a periodic table of the elements in his room. Within a week he memorized all the atomic numbers, masses and melting points. At the family's Thanksgiving gathering, the boy appeared wearing a monogrammed lab coat and armed with a handful of medical lancets. He announced that he'd be drawing blood from everyone, for "*comparative genetic experiments*" in the laboratory he had set up in his maternal grandmother's garage. Each member of the extended family duly offered a finger to be pricked.

The next summer, Taylor invited everyone out to the backyard, where he dramatically held up a pill bottle packed with a mixture of sugar and stump remover (*potassium nitrate*) that he'd discovered in the garage. He set the bottle down and, with a showman's flourish, ignited the fuse that poked out of the top. What happened next was not the firecracker's bang everyone expected, but a thunderous blast that brought panicked neighbors running from their houses. Looking up, they watched as a small mushroom cloud rose, unsettlingly, over the Wilsons' yard.

For his 11th birthday, Taylor's grandmother took him to Books-A-Million, where he picked out The Radioactive Boy Scout, by Ken Silverstein. The book told the disquieting tale of David Hahn, a Michigan teenager who, in the mid-1990s, attempted to build a breeder reactor in a backyard shed. Taylor was so excited by the book that he read much of it aloud: the boy raiding smoke detectors for radioactive americium . . . the cobbled-together reactor . . . the Superfund team in hazmat suits hauling away the family's contaminated belongings. Kenneth and Tiffany heard Hahn's story as a cautionary tale. But Taylor, who had recently taken a particular interest in the bottom two rows of the periodic table—the highly radioactive elements—read it as a challenge. "*Know what?*" he said. "*The things that kid was trying to do, I'm pretty sure I can actually do them.*"

A rational society would know what to do with a kid like Taylor Wilson, especially now that America's technical leadership is slipping and scientific talent increasingly has to be imported. But by the time Taylor was 12, both he and his brother, Joey, who is three years younger and gifted in mathematics, had moved far beyond their school's and parents' ability to meaningfully teach them. Both boys were spending most of their school days on autopilot, their minds wandering away from course work they'd long outgrown.

David Hahn had been bored too—and, like Taylor, smart enough to be dangerous. But here is where the two stories begin to diverge. When Hahn's parents forbade his atomic endeavors, the angry teenager pressed on in secret. But Kenneth and Tiffany resisted their impulse to steer Taylor toward more benign pursuits. That can't be easy when a child with a demonstrated talent and fondness for blowing things up proposes to dabble in nukes.



Kenneth and Tiffany agreed to let Taylor assemble a "*survey of everyday radioactive materials*" for his school's science fair. Kenneth borrowed a Geiger counter from a friend at Texarkana's emergency-management agency. Over the next few weekends, he and Tiffany shuttled Taylor around to nearby antique stores, where he pointed the clicking detector at old radium-dial alarm clocks, thorium lantern mantles and uranium-glazed Fiesta plates. Taylor spent his allowance money on a radioactive dining set.

Drawn in by what he calls "*the surprise properties*" of radioactive materials, he wanted to know more. How can a speck of metal the size of a grain of salt put out such tremendous amounts of energy? Why do certain rocks expose film? Why does one isotope decay away in a millionth of a second while another has a half-life of two million years?

As Taylor began to wrap his head around the mind-blowing mysteries at the base of all matter, he could see that atoms, so small but potentially so powerful, offered a lifetime's worth of secrets to unlock. Whereas Hahn's resources had been limited, Taylor found that there was almost no end to the information he could find on the Internet, or to the oddities that he could purchase and store in the garage.

On top of tables crowded with chemicals and microscopes and germicidal black lights, an expanding array of nuclear fuel pellets, chunks of uranium and "pigs" (*lead-lined containers*) began to appear. When his parents pressed him about safety, Taylor responded in the convoluted jargon of inverse-square laws and distance intensities, time doses and roentgen submultiples. With his newfound command of these concepts, he assured them, he could master the furtive energy sneaking away from those rocks and metals and liquids—a strange and ever-multiplying cache that literally cast a glow into the corners of the garage.

Kenneth asked a nuclear-pharmacist friend to come over to check on Taylor's safety practices. As far as he could tell, the friend said, the boy was getting it right. But he warned that radiation works in quick and complex ways. By the time Taylor learned from a mistake, it might be too late.

Lead pigs and glazed plates were only the beginning. Soon Taylor was getting into more esoteric "*naughties*"—radium quack cures, depleted uranium, radio-luminescent materials—and collecting mysterious machines, such as the mass spectrometer given to him by a former astronaut in Houston. As visions of Chernobyl haunted his parents,

Taylor tried to reassure them. "*I'm the responsible radioactive boy scout,*" he told them. "*I know what I'm doing.*"

One afternoon, Tiffany ducked her head out of the door to the garage and spotted Taylor, in his canary yellow nuclear-technician's coveralls, watching a pool of liquid spreading across the concrete floor.

"Tay, it's time for supper."
"I think I'm going to have to clean this up first."
"That's not the stuff you said would kill us if it broke open, is it?"
"I don't think so," he said. *"Not instantly."*

That summer, Kenneth's daughter from a previous marriage, Ashlee, then a college student, came to live with the Wilsons. "*The explosions in the backyard were getting to be a bit much*," she told me, shortly before my own visit to the family's home. *"I could see everyone getting frustrated. They'd say something and Taylor would argue back, and his argument would be legitimate. He knows how to out-think you. I was saying, 'You guys need to be parents. He's ruling the roost.'* "

"*What she didn't understand*," Kenneth says, "*is that we didn't have a choice. Taylor doesn't understand the meaning of 'can't.*"

"*And when he does*," Tiffany adds, "*he doesn't listen*."

"*Looking back, I can see that*," Ashlee concedes. "*I mean, you can tell Taylor that the world doesn't revolve around him. But he doesn't really get that. He's not being selfish, it's just that there's so much going on in his head.*"

Tiffany, for her part, could have done with less drama. She had just lost her sister, her only sibling. And her mother's cancer had recently come out of remission. "*Those were some tough times,*" Taylor tells me one day, as he uses his mom's gardening trowel to mix up a batch of yellowcake (*the partially processed uranium that's the stuff of WMD infamy*) in a five-gallon bucket. "*But as bad as it was with Grandma dying and all, that urine sure was something*."

Taylor looks sheepish. He knows this is weird. "*After her PET scan she let me have a sample. It was so hot I had to keep it in a lead pig."*

"*The other thing is...*" He pauses, unsure whether to continue but, being Taylor, unable to stop himself. "*She had lung cancer, and she'd cough up little bits of tumor for me to dissect. Some people might think that's gross, but I found it scientifically very interesting*."

What no one understood, at least not at first, was that as his grandmother was withering, Taylor was growing, moving beyond mere self-centeredness. The world that he saw revolving around him, the boy was coming to believe, was one that he could actually change.

The problem, as he saw it, is that isotopes for diagnosing and treating cancer are extremely short-lived. They need to be, so they can get in and kill the targeted tumors and then decay away quickly, sparing healthy cells. Delivering them safely and on time requires expensive handling—including, often, delivery by private jet. But what if there were a way to make those medical isotopes at or near the patients? How many more people could they reach, and how much earlier could they reach them? How many more people like his grandmother could be saved?

"*He told me he wanted to build the reactor in his garage, and I thought, 'Oh my lord, we can't let him do that.'*" As Taylor stirred the toxic urine sample, holding the clicking Geiger counter over it, inspiration took hold. He peered into the swirling yellow center, and the answer shone up at him, bright as the sun. In fact, it was the sun—or, more precisely, nuclear fusion, the process (defined by Einstein as E=mc2) that powers the sun. By harnessing fusion—the moment when atomic nuclei collide and fuse together, releasing energy in the process—Taylor could produce the high-energy neutrons he would need to irradiate materials for medical isotopes. Instead of creating those isotopes in multimillion-dollar cyclotrons and then rushing them to patients, what if he could build a fusion reactor small enough, cheap enough and safe enough to produce isotopes as needed, in every hospital in the world?

At that point, only 10 individuals had managed to build working fusion reactors. Taylor contacted one of them, Carl Willis, then a 26-year-old Ph.D. candidate living in Albuquerque, and the two hit it off. But Willis, like the other successful fusioneers, had an advanced degree and access to a high-tech lab and precision equipment. How could a middle-school kid living on the Texas/Arkansas border ever hope to make his own star?

When Taylor was 13, just after his grandmother's doctor had given her a few weeks to live, Ashlee sent Tiffany and Kenneth an article about a new school in Reno. The Davidson Academy is a subsidized public school for the nation's smartest and most motivated students, those who score in the top 99.9th percentile on standardized tests. The school, which allows students to pursue advanced research at the adjacent University of Nevada–Reno, was founded in 2006 by software entrepreneurs Janice and Robert Davidson. Since then, the Davidsons have championed the idea that the most under-served students in the

country are those at the top.

On the family's first trip to Reno, even before Taylor and Joey were accepted to the academy, Taylor made an appointment with Friedwardt Winterberg, a celebrated physicist at the University of Nevada who had studied under the Nobel Prize–winning quantum theorist Werner Heisenberg. When Taylor told Winterberg that he wanted to build a fusion reactor, also called a fusor, the notoriously cranky professor erupted: "*You're 13 years old! And you want to play with tens of thousands of electron volts and deadly x-rays?*" Such a project would be far too technically challenging and hazardous, Winterberg insisted, even for most doctoral candidates. "*First you must master calculus, the language of science,*" he boomed. "*After that,*" Tiffany said, "*we didn't think it would go anywhere. Kenneth and I were a bit relieved.*"

But Taylor still hadn't learned the word "can't." In the fall, when he began at Davidson, he found the two advocates he needed, one in the office right next door to Winterberg's. "*He had a depth of understanding I'd never seen in someone that young*," says atomic physicist Ronald Phaneuf. "*But he was telling me he wanted to build the reactor in his garage, and I'm thinking, 'Oh my lord, we can't let him do that.' But maybe we can help him try to do it here.*"

Phaneuf invited Taylor to sit in on his upper-division nuclear physics class and introduced him to technician Bill Brinsmead. Brinsmead, a Burning Man devotee who often rides a wheeled replica of the Little Boy bomb through the desert, was at first reluctant to get involved in this 13-year-old's project. But as he and Phaneuf showed Taylor around the department's equipment room, Brinsmead recalled his own boyhood, when he was bored and unchallenged and aching to build something really cool and difficult (*like a laser, which he eventually did build*) but dissuaded by most of the adults who might have helped.

Rummaging through storerooms crowded with a geeky abundance of electron microscopes and instrumentation modules, they came across a high-vacuum chamber made of thick-walled stainless steel, capable of withstanding extreme heat and negative pressure. "*Think I could use that for my fusor?*" Taylor asked Brinsmead. "*I can't think of a more worthy cause,*" Brinsmead said.

Now it's Tiffany who drives, along a dirt road that wends across a vast, open mesa a few miles south of the runways shared by Albuquerque's airport and Kirkland Air Force Base. Taylor has convinced her to bring him to New Mexico to spend a week with Carl Willis, whom Taylor describes as "*my best nuke friend*."

Cocking my ear toward the backseat, I catch snippets of Taylor and Willis's conversation.

"*The idea is to make a gamma-ray laser from stimulated decay of dipositronium.*"

"*I'm thinking about building a portable, beam-on-target neutron source.*"

"*Need some deuterated polyethylene?*"

Willis is now 30; tall and thin and much quieter than Taylor. When he's interested in something, his face opens up with a blend of amusement and curiosity. When he's uninterested, he slips into the far-off distractedness that's common among the super-smart. Taylor and Willis like to get together a few times a year for what they call "*nuclear tourism*"—they visit research facilities, prospect for uranium, or run experiments.

Earlier in the week, we prospected for uranium in the desert and shopped for secondhand laboratory equipment in Los Alamos. The next day, we wandered through Bayo Canyon, where Manhattan Project engineers set off some of the largest dirty bombs in history in the course of perfecting Fat Man, which leveled Nagasaki.

Today we're searching for remnants of a "*broken arrow,*" military lingo for a lost nuclear weapon. While researching declassified military reports, Taylor discovered that a Mark 17 "Peacemaker" hydrogen bomb, which was designed to be 700 times as powerful as the bomb detonated over Hiroshima, was accidentally dropped onto this mesa in May 1957. For the U.S. military, it was an embarrassingly Strangelovian episode; the airman in the bomb bay narrowly avoided his own Slim Pickens moment when the bomb dropped from its gantry and smashed the B-36's doors open. Although its plutonium core hadn't been inserted, the bomb's "*spark plug*" of conventional explosives and radioactive material detonated on impact, creating a fireball and a massive crater. A grazing steer was the only reported casualty.

Tiffany parks the rented SUV among the mesquite, and we unload metal detectors and Geiger counters and fan out across the field. "*This,*" says Tiffany, smiling as she follows her son across the scrubland, "*is how we spend our vacations.*"

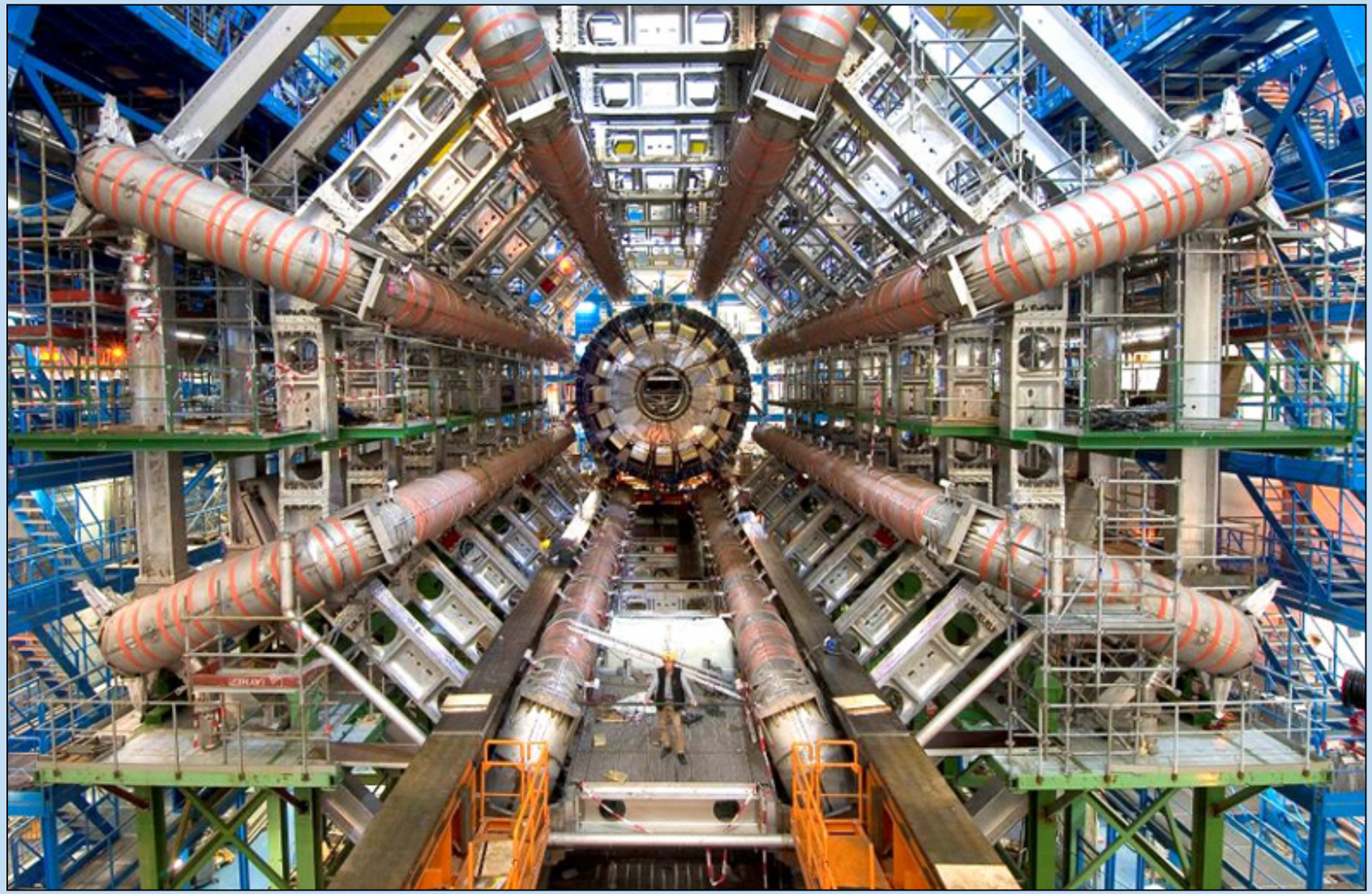
Willis says that when Taylor first contacted him, he was struck by the 12-year-old's focus and forwardness—and by the fact that he couldn't plumb the depth of Taylor's knowledge with a few difficult technical questions. After checking with Kenneth,

Willis sent Taylor some papers on fusion reactors. Then Taylor began acquiring pieces for his new machine.

Through his first year at Davidson, Taylor spent his afternoons in a corner of Phaneuf's lab that the professor had cleared out for him, designing the reactor, overcoming tricky technical issues, tracking down critical parts. Phaneuf helped him find a surplus high-voltage insulator at Lawrence Berkeley National Laboratory. Willis, then working at a company that builds particle accelerators, talked his boss into parting with an extremely expensive high-voltage power supply.

With Brinsmead and Phaneuf's help, Taylor stretched himself, applying knowledge from more than 20 technical fields, including nuclear and plasma physics, chemistry, radiation metrology and electrical engineering. Slowly he began to test-assemble the reactor, troubleshooting pesky vacuum leaks, electrical problems and an intermittent plasma field.

Shortly after his 14th birthday, Taylor and Brinsmead loaded deuterium fuel into the machine, brought up the power, and confirmed the presence of neutrons. With that, Taylor became the 32nd individual on the planet to achieve a nuclear-fusion reaction. Yet what would set Taylor apart from the others was not the machine itself but what he decided to do with it.



If we adults can build the Large Hadron Collider and our children can build fusion reactors in their basements that reach more then a million degrees what do you suppose the war-mongering psychopaths in charge, with unlimited resources, are up to?

While still developing his medical isotope application, Taylor came across a report about how the thousands of shipping containers entering the country daily had become the nation's most vulnerable "*soft belly*," the easiest entry point for weapons of mass destruction. Lying in bed one night, he hit on an idea: Why not use a fusion reactor to produce weapons-sniffing neutrons that could scan the contents of containers as they passed through ports? Over the next few weeks, he devised a concept for a drive-through device that would use a small reactor to bombard passing containers with neutrons. If weapons were inside, the neutrons would force the atoms into fission, emitting gamma radiation (*in the case of nuclear material*) or nitrogen (*in the case of conventional explosives*). A detector, mounted opposite, would pick up the signature and alert the operator.

He entered the reactor, and the design for his bomb-sniffing application, into the Intel International Science and Engineering Fair. The Super Bowl of pre-college science events, the fair attracts 1,500 of the world's most switched-on kids from some 50 countries. When Intel CEO Paul Otellini heard the buzz that a 14-year-old had built a working nuclear-fusion reactor, he went straight for Taylor's exhibit. After a 20-minute conversation, Otellini was seen walking away, smiling and shaking his head in what looked like disbelief. Later, I would ask him what he was thinking.

"All I could think was, 'I am so glad that kid is on our side.' "

For the past three years, Taylor has dominated the international science fair, walking away with nine awards (*including first place overall*), overseas trips and more than $100,000 in prizes. After the Department of Homeland Security learned of Taylor's design, he traveled to Washington for a meeting with the DHS's Domestic Nuclear Detection Office, which invited Taylor to submit a grant proposal to develop the detector. Taylor also met with then–Under Secretary of Energy Kristina Johnson, who says the encounter left her "*stunned*."

"*I would say someone like him comes along maybe once in a generation*," Johnson says. "*He's not just smart; he's cool and articulate. I think he may be the most amazing kid I've ever met.*"

And yet Taylor's story began much like David Hahn's, with a brilliant, high-flying child hatching a crazy plan to build a nuclear reactor. Why did one journey end with hazmat teams and an eventual arrest, while the other continues to produce an array of prizes, patents, television appearances, and offers from college recruiters?

The answer is, mostly, support. Hahn, determined to achieve something extraordinary but discouraged by the adults in his life, pressed on without guidance or oversight—and with nearly catastrophic results. Taylor, just as determined but socially gifted, managed to gather into his orbit people who could help him achieve his dreams: the physics professor; the older nuclear prodigy; the eccentric technician; the entrepreneur couple who, instead of retiring, founded a school to nurture genius kids. There were several more, but none so significant as Tiffany and Kenneth, the parents who overcame their reflexive—and undeniably sensible—inclinations to keep their Icarus-like son on the ground. Instead they gave him the wings he sought and encouraged him to fly up to the sun and beyond, high enough to capture a star of his own.

After about an hour of searching across the mesa, our detectors begin to beep. We find bits of charred white plastic and chunks of aluminum—one of which is slightly radioactive. They are remnants of the lost hydrogen bomb. I uncover a broken flange with screws still attached, and Taylor digs up a hunk of lead. "*Got a nice shard here*," Taylor yells, finding a gnarled piece of metal. He scans it with his detector. "*Unfortunately, it's not radioactive.*"
"*That's the kind I like*," Tiffany says.

"*We've got about 60 pounds of uranium, bomb fragments and radioactive shards. This thing would make a real good*

dirty bomb." Willis picks up a large chunk of the bomb's outer casing, still painted dull green, and calls Taylor over. "*Wow, look at that warp profile!*" Taylor says, easing his scintillation detector up to it. The instrument roars its approval. Willis, seeing Taylor ogling the treasure, presents it to him. Taylor is ecstatic. "*It's a field of dreams!*" he yells. "*This place is loaded!*"

Suddenly we're finding radioactive debris under the surface every five or six feet—even though the military claimed that the site was completely cleaned up. Taylor gets down on his hands and knees, digging, laughing, calling out his discoveries. Tiffany checks her watch. "*Tay, we really gotta go or we'll miss our flight.*"

"*I'm not even close to being done!*" he says, still digging. "*This is the best day of my life!*" By the time we manage to get Taylor into the car, we're running seriously late. "*Tay,*" Tiffany says, "*what are we going to do with all this stuff?*"

"*For $50, you can check it on as excess baggage,*" Willis says. "*You don't label it, nobody knows what it is, and it won't hurt anybody.*" A few minutes later, we're taping an all-too-flimsy box shut and loading it into the trunk. "*Let's see, we've got about 60 pounds of uranium, bomb fragments and radioactive shards*," Taylor says. "*This thing would make a real good dirty bomb.*"

In truth, the radiation levels are low enough that, without prolonged close-range exposure, the cargo poses little danger. Still, we stifle the jokes as we pull up to curbside check-in. "*Think it will get through security?*" Tiffany asks Taylor. "*There are no radiation detectors in airports,*" Taylor says. "*Except for one pilot project, and I can't tell you which airport that's at.*"

As the skycap weighs the box, I scan the "*prohibited items*" sign. You can't take paints, flammable materials or water on a commercial airplane. But sure enough, radioactive materials are not listed. We land in Reno and make our way toward the baggage claim. "*I hope that box held up,*" Taylor says, as we approach the carousel. "*And if it didn't, I hope they give us back the radioactive goodies scattered all over the airplane.*" Soon the box appears, adorned with a bright strip of tape and a note inside explaining that the package has been opened and inspected by the TSA. "*They had no idea*," Taylor says, smiling, "*what they were looking at*."

Apart from the fingerprint scanners at the door, Davidson Academy looks a lot like a typical high school. It's only when the students open their mouths that you realize that this is an exceptional place, a sort of Hogwarts for brainiacs. As these math whizzes, musical prodigies and chess masters pass in the hallway, the banter flies in witty bursts. Inside humanities classes, discussions spin into intellectual duels.

Although everyone has some kind of advanced obsession, there's no question that Taylor is a celebrity at the school, where the lobby walls are hung with framed newspaper clippings of his accomplishments. Taylor and I visit with the principal, the school's founders and a few of Taylor's friends. Then, after his calculus class, we head over to the university's physics department, where we meet Phaneuf and Brinsmead.

Sunao Tsuboi was 20 years old when he suffered terrible radiation burns in Hiroshima's atomic inferno

Taylor's reactor, adorned with yellow radiation-warning signs, dominates the far corner of Phaneuf's lab. It looks elegant—a gleaming stainless-steel and glass chamber on top of a cylindrical trunk, connected to an array of sensors and feeder tubes. Peering through the small window into the reaction chamber, I can see the golf-ball-size grid of tungsten fingers that will cradle the plasma, the state of matter in which unbound electrons, ions and photons mix freely with atoms and molecules.

"*OK, y'all stand back,*" Taylor says. We retreat behind a wall of leaden blocks as he shakes the hair out of his eyes and flips a switch. He turns a knob to bring the voltage up and adds in some gas. "*This is exactly how me and Bill did it the first time,*" he says. "*But now we've got it running even better.*"

Through a video monitor, I watch the tungsten wires beginning to glow, then brightening to a vivid orange. A blue cloud of plasma appears, rising and hovering, ghostlike, in the center of the reaction chamber. "*When the wires disappear,*" Phaneuf says, "*that's when you know you have a lethal radiation field*."

I watch the monitor while Taylor concentrates on the controls and gauges, especially the neutron detector they've dubbed Snoopy. "*I've got it up to 25,000 volts now*," Taylor says. "*I'm going to out-gas it a little and push it up*." Willis's power supply crackles. The reactor is entering "*star mode*." Rays of plasma dart between gaps in the now-invisible grid as deuterium atoms, accelerated by the tremendous voltages, begin to collide. Brinsmead keeps his eyes glued to the neutron detector. "*We're getting neutrons*," he shouts. "*It's really jamming!*"

Taylor cranks it up to 40,000 volts. "*Whoa, look at Snoopy now!*" Phaneuf says, grinning. Taylor nudges the power up to 50,000 volts, bringing the temperature of the plasma inside the core to an incomprehensible 580 million degrees—some 40 times as hot as the core of the sun. Brinsmead lets out a whoop as the neutron gauge tops out.

"*Snoopy's pegged!*" he yells, doing a little dance. On the video screen, purple sparks fly away from the plasma cloud, illuminating the wonder in the faces of Phaneuf and Brinsmead, who stand in a half-orbit around Taylor. In the glow of the boy's creation, the men suddenly look years younger. Taylor keeps his thin fingers on the dial as the atoms collide and fuse and throw off their energy, and the men take a step back, shaking their heads and wearing ear-to-ear grins.

"*There it is*," Taylor says, his eyes locked on the machine. "*The birth of a star*."

If we adults can build the Large Hadron Collider and our children can build fusion reactors in their basements that reach more then a million degrees what do you suppose the war-mongering psychopaths are up to? Do we have nuclear devices the size of apples or smaller? Of course we do. With the advances in technology and miniaturization between 1950 and 2000, a full fifty years, we have almost anything you might be able to imagine just now and if we don't have it, someone's making one or two in a quiet secluded laboratory, or maybe even a garage or basement somewhere in America.

MICHIGAN TEEN BUILDS NUCLEAR FUSION DEVICE

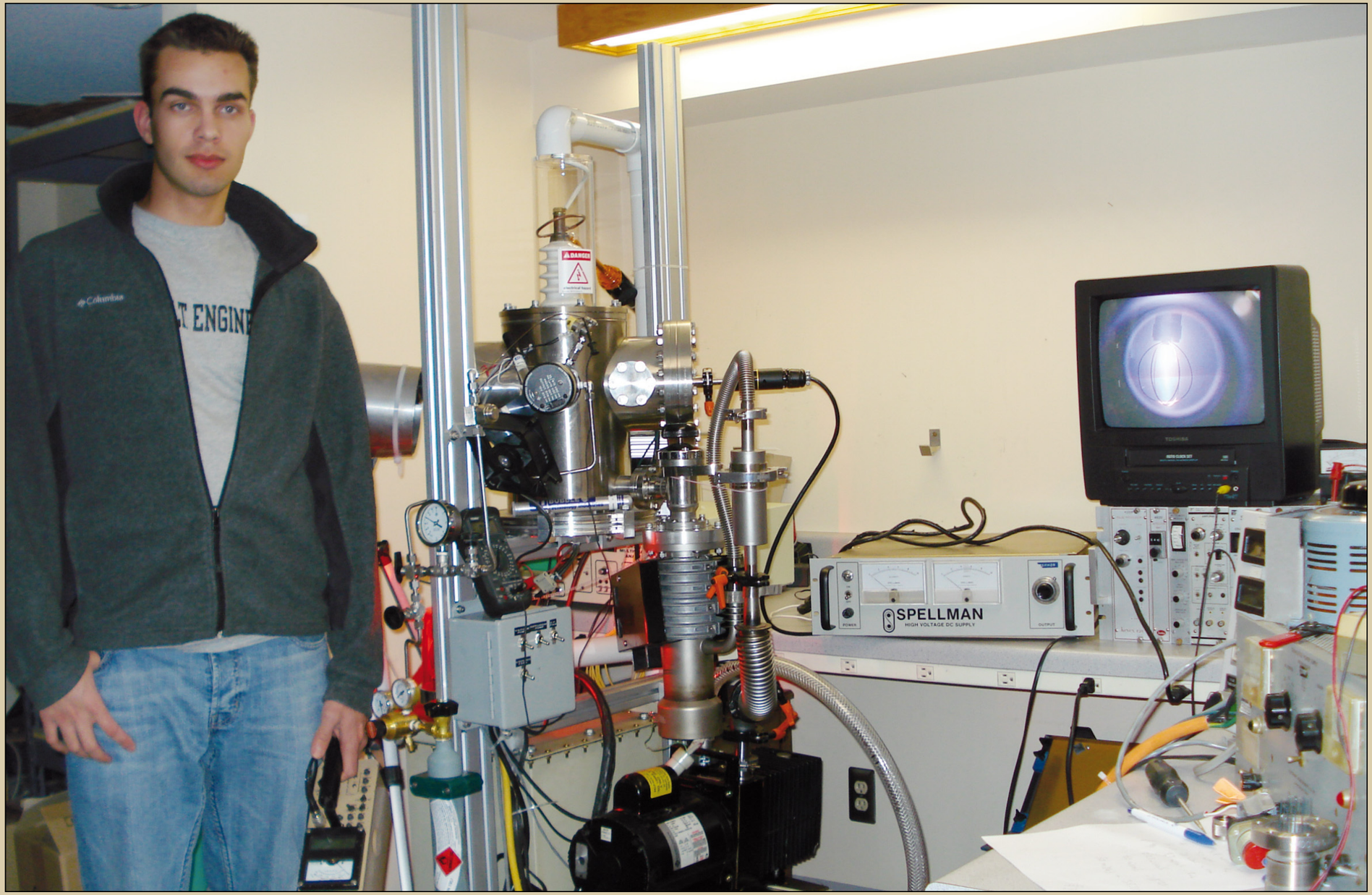
a high school senior has achieved nuclear fusion in his parents' basement

When he's not running track and cross country at Stoney Creek High School, 17-year-old Thiago Olsen can be found tinkering with items such as high-voltage X-ray transformers, diffusion pumps, and neutron bubble dosimeters. Most of the devices were scrounged from eBay or built from scraps and pieces picked up at the local hardware store.

This teen's dream of fusing two hydrogen atoms by crashing them together to form a single helium nucleus has finally paid off. The proof lies in the images he has published showing a classic "*star in a jar*" pattern, indicating the presence of neutron bubbles suspended in plasma, the traditional by-product of nuclear fusion.

It's "*kind of like the holy grail of physics*," Olsen told reporters from the Detroit Free Press. His accomplishment was recorded by the Web site Fusor.net, where he has been officially declared the 18th member of the Neutron Club, an elite group of private individuals worldwide to have successfully "*operated a neutron-producing fusor or fusion system*" of their own manufacture.

Some parents might be nervous about the safety of a home-made device designed to create plasma at a temperature of around 200 million degrees -- several times hotter than the core of the sun. Earlier this month, Michigan Department of Health officials inspected the apparatus. "*They were impressed, and it checked out,*" Olsen said. The high school senior's goal of competing at the May 2007 International Science Fair in Albuquerque still has a flicker of a chance. Olsen was a finalist at the 50th Science & Engineering Fair of Metropolitan Detroit last week, but his entry "*Neutron Activation Using an Inertial Electrostatic Confinement Fusion Reactor*," will need to take top honors at the Michigan Science Fair in Flint on March 31 to keep his hopes alive.



Sergeant Matthew Tartaglia Speaks Out

Sgt. Matthew Tartaglia, a WTC responder, rescue worker, counselor, and FEMA consultant has made many remarkable statements related to the nuking of the WTC, and its China Syndrome aftermath. Seargent Tartaglia is from Perkasie Fire Company No. 1 on 5th Street in Perkasie, Pennsylvania and volunteered at Ground Zero.

Tartaglia, said he believes "tactical nukes" took down the towers, and was responsible for the high temperatures weeks and months later (but does not know of the existence of the China Syndrome.) His statements include these: "*...There were only certain parts of the site that you could not legally leave without going through decontamination.…They would tackle you and take your camera away. I watched people be tackled. Most responders couldn't go down in the garages… the rescue people – when our clothes got so contaminated, we were told not to bring our clothes off that site. Don't wear anything on the site you're not prepared to leave there because it's contaminated.*" Note that "*discarding clothing*", and "*going through decontamination*" are standard nuclear industry methods of dealing with radiation-exposed individuals.

In 2005, Sgt. Tartaglia said, "*My teeth are falling out*." Like hanging skin resulting from a nuclear bomb, teeth falling out is a common symptom, months or years later, from nuclear radiation exposure. (Other factors can also possibly cause this, but are less likely.) Read about this Army veteran sent to Hiroshima, just days after it was nuked, to bulldoze roads. This was apparently much too soon to send Americans in to Hiroshima, but the PTB apparently cared as much about Americans as they did about the Japanese women and children who were nuked. I note that after the July 16, 1945 Trinity "A-Bomb" test, Dr. J. Robert Oppenheimer and General Leslie Groves did not return to Ground Zero until five weeks later on Sept 11, 1945. Yes, there is 911 again. So man did not walk again on the first alleged Ground Zero which resulted from the "Manhattan Project" until 9/11/45. You'll also find information about 3 veterans of atomic bomb tests in Nevada in the 1950s who had their teeth fall out within a few years of their radiation exposure. [To quickly find the 3 veterans cited, search on "teeth."] That article also indicates that the government lied to them as to the amount of radiation they had received. It is excerpted from the book, "They Never Knew: The Victims of Atomic Testing", by Glenn Alan Cheney. See also "The Plutonium Files" by Welsome, and the two books on the "Making of the A-Bomb", and the H-Bomb, "Dark Sun", both by Rhodes.

The book, "They Never Knew" includes the following remarkable quote that may be very relevant to 911 research. A whistleblower came forward decades later about the actual radiation exposure Army personnel were subjected to. In 1982, a former Army medic, Van R. Brandon, admitted that he had been ordered to keep two sets of books. "*One set was to show that no one received an exposure above the approved dosimeter reading*," he said. "*The other set of books was to show what the actual reading was. That set of books was brought in a locked briefcase attached to [an officer]'s wrist by a set of handcuffs every morning*." Army personnel were denied medical benefits and disability because the regime publicly used the "cooked" book. Do you think this same government has gotten more or less evil, corrupt, and duplicitous, in the ensuing decades – and in a matter that relates to possibly irradiating tens of thousands of WTC workers, responders, and nearby residents.

More Rare Testimony

The statements made by Mike Pecoraro, a WTC1 stationary engineer, and 911 survivor, are also remarkable. Pecoraro first knew something was wrong after observing flickering lights (EMP?), and then he ascended to the sub-basement C level, from below. He says, "*There was nothing there but rubble, we're talking about a 50 ton hydraulic press gone!*" Pecoraro and a co-worker "*made their way to the parking garage, but found that it, too, was gone"... As they ascended to the B Level, one floor above, they "were astonished to see a steel and concrete fire door that weighed about 300 pounds, wrinkled up like a piece of aluminum foil*" and lying on the floor. Now I assert that this too is a likely sign that a nuclear bomb went off. Perhaps only the multi-million degree temperature at the hypocenter, or neutron bombardment, is capable of doing that to that heavy steel door. The article continues: "*They got us again*," Mike told his co-worker, referring to the terrorist attack at the center in 1993. Having been through that bombing, Mike recalled seeing similar things happen to the building's structure. This last statement from Pecoraro, I assert may be corroboration of nuclear engineer/geologist Phil Schneider's statement that his inspection of the 1993 WTC explosion damage revealed to him that it was a nuclear blast, that may have gone awry, that is, was insufficient. Pecoraro states that as WTC2 collapsed, "t*here was a wind that came through the revolving doors that blew me [in the WTC1 lobby area] 100 feet to the far wall*" Was this a nuclear pressure blast? You've probably seen the videos of A-bomb test sites, and resultant winds blowing down model houses, and heat causing fires.

More evidence of the likely nuking of the WTC, and China Syndrome aftermath, comes from no less than CNN's Larry King Show. This show aired on 10.06.2001 and was taped at the WTC and a nearby burn unit in the days prior to the air-date.

RADIATION

BURNS

WITHOUT

FIRE

~

NEUTRON

HEAT

IS

INVISIBLE

NO FIRE

Regarding the likely China Syndrome of high heat three weeks later, Thomas Von Essen, NYC Fire Commissioner, says, at the WTC, "*...it's so hot, it's a really hot fire. The steel has been hot for three weeks now. Tremendous heat below, you know. It's – the fire is not out down below.*" From my earlier articles, you know that this went on for exactly 100 days after 911. Exactly 100 days of raging fires before they were officially declared to be out.

At the Weill Burn Center at the Cornell Medical Hospital, Larry King interviews two women who received burns — without any fire — while trying to flee the World Trade Center 1 building running away as fast as they could.

King: "*So, did you know you were on fire, in a sense?*"

Yang: "*No, I wasn't on fire, I think it was from the heat.*"

Mary Jo: "*That's what we were told, it was the heat.*"

So like Felipe David, like the Hiroshima survivors, these two women have no clue as to why their skin was burned. And who told them "*it was from the heat*"? Note that King says "*...fire in a sense.*" I assert that that sense is not fire per se, but bombardment by radiation (thermal rays, gamma rays, neutrons) that can cause heat at the skin, and damage the skin — if the flux is large enough (relevant parameters include distance, shielding, intensity and type of radiation).

King also interviews burn victim Brian Reeves, a security guard starting his rounds in the lobby of one of the towers. Reeves says: "*I don't know when I got burned, but I just know when it knocked me over, there was -- there was something, the windows blew out. And when the windows blew out, I was on the ground, and like I said, there was a gust of wind. And when I opened my eyes, I seen a bright orange light.*" Reeves, feeling heat on his back, takes his jacket off and falls on the ground while fleeing. There is the issue of whether his jacket is on fire or not. [*Months later, the media would morph the "bright orange light" into "fireball."*] We must ask, did Reeves see the flash of, and receive the radiation, and air pressure blast from, a mini-nuke? Like the Hiroshima victims, he knows there had to be "*something*" but he/they didn't see what burned him/them.

vaporized human beings without fire ... only radiation does this ...

Dr. Roger Yurt of the Weill Burn Center says, "*[Reeve's] worst burns were on his back, some burns up on his head. Burns on your arms also.*" My possible interpretation is the following. Likely his jacket was not on fire (*note the burns on his head*), and the jacket likely shielded him from receiving even more radiation! The source of which was apparently behind him, as his burns were mostly on his back, but also on his head. But if the flux of radiation is high enough, a person and/or their clothes will catch fire from the radiation. Many Hiroshima victims were immediately killed and left in a charred state. The "*bright orange flash*" he saw may well have been a flux of radiation onto his retina. This kind of thing is again known from Army veterans of the nuclear blasts in Nevada in the 1950's. In the worst cases, numerous Army personnel were forced to be, in ditches, only a football field away from an atomic bomb going off!

But when Brian tells his story months later, the reporter adds "*fireball*" several times in her telling the story. Even the direction of the alleged fireball is cleverly, and falsely, inserted: "*... a fireball that roared down the elevator shaft.*" In actuality, from numerous lobby, and sub-basement witnesses, a non-fireball, a likely nuclear detonation, occurred below the lobby, and its effects traveled UP a few floors—and not down some 80-90 floors from the likely conventional explosion above. In any case, Reeves did not observe what may, or may not, have been traversing the elevator shaft. It appears that in the telling of the 911 survivors' accounts, the MSM, and the 911 pseudo-truth media are doing everything they can to add "*fire*" and "*fireball*" to the later retelling of numerous survivors' tales. And these survivors, who did not report "*fire*" initially, and not knowing about such things as radiation-induced burns—without any fire—may later start including this in their own accounts, after doctors, or reporters, or hidden *(or not so hidden)* handlers either keep repeating the "*fire*" and "*fireball*" memes to them; or perhaps in some cases financially rewarding the survivors with television interviews to start telling it the way their handlers prefer it. Never forget how FBI, or secret service agents, both on the scene in Dallas and later during depositions, threatened eyewitnesses to President Kennedy's assassination, if they either said they clearly saw anything that didn't fit the official story or that there also were shots from the grassy knoll. Experts in eyewitness testimony tell us that the most accurate account is the closest in time to the event.

Remember how sub-basement 911 burn victim Felipe David's own accounting never mentions "*fire*" or "*fireball*," but his alleged rescuer, William Rodriquez added fire or fireball to his accounting of David's experiences. You will have to be the judge after reading survivors' accounts shortly after the event and then months later after the media twists the interviews. This is a crucial point in the likely tampering of witnesses to a heinous crime. It is particularly odious as this may be ongoing from deep-cover intel assets in the major and internet *truth* media. But if the government/media had nothing to fear, or cover-up, why do they have to change so many burn victims' testimonies?

I believe we are only scratching the surface regarding evidence of the use of micro nuclear devices used on 911. Many fire and police witnesses fear losing their jobs, or their pensions.

Beginning a month after 911, NYC Fire Commissioner von Essen's office took depositions of 503 fire personnel, port authority police and EMT first responders. The report is 12,000 pages long and rarely read. It was deliberately excluded from the 911 Commission and NIST reports.

Could they be hiding evidence, not of the widely known explosions/controlled demolition, but specifically of the nuking of the towers and 3000 people? After von Essen's 503 witness interviews, former CIA director Robert Woolsey was inserted into this in 2002, as the NYC Fire Department's "*Anti-terrorism Consultant.*" It's interesting that Wikipedia omits this job in his bio. He issued a gag order, under threat of job loss and worse, down the ranks, under the guise of "*anti-terrorism.*" This report is the one that includes EMT, Patricia Ondrovic' heavily redacted, but remarkable interview. Recall my analysis demonstrated she witnessed Electromagnetic Pulse from a nuclear bomb causing flickering lights and making cars catch fire, for no apparent reason (*toasted cars*), right near her, and also jets shooting down other jets in the sky over the Hudson. Was Woolsey in charge of the redacting of hers and other testimony? I make the assertion that the very purpose of interviewing these 503 911 witnesses and responders was to find out who had witnessed evidence of the nuclear evidence of the World Trade Center demolition, and to then silence them with sophisticated means of social manipulation. Perhaps just too many to kill so first try to silence them. It would be good if some real 911 researcher could read them all or search for when portions are redacted. My scanning them indicates that numerous witnesses reported "*explosions*" but this was not reason enough for redaction. There is other eyewitness evidence of the heat and radiation wave which emanates outwards from a nuclear blast from numerous people who happened to be in the vicinity of the towers.


roasting towers on an open fire

This article states that "*John Axisa, who was getting off a commuter train to the World Trade Center, ...[after the alleged first plane hit]... Then there was a second explosion, and he felt heat on the back of [his] neck.*" Note the timing of the second explosion he heard — nothing from which was seen exiting the building — and yet he felt the heat at that exact time. This again could only be from a nuclear device.

Also at a 911 internet forum, a forum administrator named Quest noted that, "*I have an acquaintance who was a NYC cop on 911 when the second tower came down. He was 3 blocks away and told me there was incredible heat during the collapse.*"

Heat indeed is the thing that would be felt furthest out from a nuclear blast. Read this account of physicist Dr. Phillip Morrison who was 10 miles from the Trinity nuclear test site. He said, "*Suddenly, not only was there a bright light, but where we were, 10 miles away, there was the heat of the sun on our faces.*"

This was before the Sun came up and he's describing the invisible nuclear radiation heat. Imagine a bomb 100 times or 1000 times smaller. So we see the similarity of statements, regarding heat during a nuclear blast, made by the Trinity witness, John Axisa, Quest's policeman, Felipe David, and the three burn victims interviewed by Larry King. I have written that the nuclear devices used on 911 were 1/100th to 1/1000th (*each*) of the intensity of the Trinity blast or smaller (*with several per tower*

used, and only one to a few for each of the smaller World Trade Center buildings) and we also have some shielding by the building. So the distance that radiation would be able to propagate would be vastly less than the 10 miles felt by Dr. Morrison, where the test was in the open air. Those in the towers, and nearby, would indeed be bombarded by the unseen radiation from a micro-nuclear device.

There has been at least one study published of World Trade Center responders' medical problems treated on scene, from 9/14/01 to 11/20/01, at the World Trade Center. This was published in May-June, 2005, of "*Prehospital and Disaster Medicine*," and was authored by K.R. Peritt, W.L. Boal, and the Helix Group, Inc. This third author listed is a media corporation. This study related to a 10 week period whereby a Federal government agency, "*the United States Public Health Service (USPHS), deployed Disaster Medical Assistance Teams (DMATs) and the Commissioned Corps to provide on-site, primary medical care to anyone who presented.*" The authors conclusion admits, the "*USPHS visits probably were skewed to milder complaints when compared to analyses of employer medical department reports or hospital cases…*"

This appears to mean that the more serious cases went straight to the hospital. There were 9,349 on-site patient visits, which included some surrounding residents. There were 30 cases of nausea and vomiting. Let us look at skin conditions reported. There were two-hundred and fifty-three (253) 1st or 2nd degree burns, of which 107 or 42% were said to be related to equipment use. There is no word on what caused the other 58% of these burns. In addition, there are 132 cases of "*other*" skin problems reported. There is not a single case of third degree burns, the most serious, and no commentary on why. Were there people with more serious burns that went straight to the hospital, and thus are not counted?

There are some curious statistics: "*Other injury or illness: 696 cases,*" and "*Not classifiable as an injury or illness: 920 cases*." That's quite a lot of cases that are either "*other*" or "*not classifiable*." Seventeen percent (17%). Why such a high percentage? They're not psychological because they reported 78 cases of this. Is any medical condition being covered up? Did they test for radiation which is not mentioned? And what caused the 146 cases of burns that were not due to equipment handling? And how many people had third degree burns among the responders? Or is this classified information, related to what really was happening at the World Trade Center, even after its demolition? This study is troubling.

The proven existence of mini-nukes and micro-nukes, the massive outward explosions seen, the vaporization of a steel press, the wrinkling of a steel door into foil, spherical blast wave destruction, the nuclear meteorite (*parts of 4 storeys fused together at extreme temperatures, see page 226*) the feeling of heat without fire according to numerous witnesses, the burned or hanging skin — again without fire, the responders' teeth later falling out, the vaporized building contents, the 1157 vaporized people, the massive evidence of the China Syndrome of residual reacting fragments causing the very high heat and molten steel witnessed for 100 days after 911, and photographed, the clothing discarded, and decontamination procedures, my detailed explanation of Ondrovic' account of Electromagnetic Pulse and resultant car fire, and the door exploding into her as World Trade Center 5 and 6 were being exploded from within, the micro-or nano-fine particle size or what are referred to as aerosols, the anomalous levels of uranium, thorium, tritium, sodium, potassium, zinc and other elements and much more, all indicate the federal regime knows numerous mini-nuclear bombs were detonated in the World Trade Center on 911. Scientific data have also been cited, including —AVIRIS, LIDAR, the USGS data, the Delta Group data, seismic readings before collapse, Tritium finding (*UCAL/Berkeley, and subsequent Tahil study*), and the now exploding number of rare cancers among responders, including thyroid, leukemia, myeloma, non-hodgkins lymphoma, pancreatic and lymph cancer—all common among radiation victims.

Many people would die rather than think – in fact, they do so. ~ Bertrand Russell

The preponderance of the evidence demonstrates that the federal government of the United States of America did explode nuclear bombs inside most of the World Trade Center buildings on 9.11.2001. Furthermore, there was a resultant China Syndrome of nuclear reacting fragments releasing ionizing radiation, and high heat, for 100 days after 911, causing molten steel, and radiation exposure to thousands of responders and NYC residents. This was an act of treason, conspiracy, mass murder, genocide, and a ruse for waging war on innocent peoples around the world—crimes against humanity, and a ruse for blatantly eradicating American citizens freedoms and rights. The 911 World Trade Center nuclear holocaust was not likely even the first time the American regime did this to its own citizens.

The 911 perpetrators have used and are using limited hangouts and psyops to keep the people from knowing the truth. These hangouts, ultimately from the U.S. regime's intelligence agencies include the dopiest theories imaginable with no supportive science.

The observed American military helicopters and planes directing the initial explosions, and the final nuclear destruction prove that this was not done by Arabs, Muslims, Iranians, Israelis, Russians, or Chinese. As with the Kennedy Assassination, this massive set of actions, and massive cover-up, could only have been perpetrated by the so-called government of the United States, and not by any small rogue elements therein. Complicit in the original act, and/or its cover-up, are all the branches of the federal government, its military, and intelligence agencies, and the Main

Stream Media, and even much of the so-called alternative or internet media which is also laden with intel agents posing as truthers while pushing the hangouts listed above. The people of the world must get together, in what may be their final hour, and act literally to save themselves from extermination from the handful of monsters that control humanity. Nature has demonstrated that individuals trained to be fearful can all come together, and overcome this fear, and act and defeat the small number who had previously seemed to be so invincible and bloodthirsty. We are indeed likewise in the jaws of these monsters, and have been for a long time; but likewise again, it is still possible to break free, and be free. We must try. Like this last video, there are so many more of us than of them.

As I revisited this whole nuke thing after all these years and was mulling over the photos of all those singed and bent vehicles, my friend Connie Smith -- a long-time 911 researcher some of you may know – dropped me a note reminding me of something I'd completely forgotten about: the fascinating case of EMT Patricia Ondrovic.

Connie reminded me of an interview with Ondrovic, published back in October 2001 (*and which I'd read circa '04*). When I expressed an interest to reread it, she dug up a copy and sent it to me. Ms Ondrovic's account is truly 'bizarre', and a testament to the fact that there were forces at play on 911 that modern technology — indeed, mainstream science -- simply will not explain. Please read the statements carefully. It's one a helluva wake-up call.

As this terrified woman was running pell-mell away from the first collapsing tower – her hair, coat and feet on fire – Ms Ondrovic witnessed vehicles parked along the street spontaneously erupt into flames. She even witnessed an aircraft disappear while in flight: "*I saw something in the sky, it was a plane, but it was way out. It looked like it was over Jersey or something, then it wasn't there anymore. I saw a small fireball, and it was gone. I saw two other planes. One came in one way, and the other came in the other way, and there was a plane in the middle that was way far off in the distance. Then the plane in the middle just disappeared into a little fire ball. It looked like the size of a golf ball from where I could see it. And the other two planes veered off into opposite directions. I just kept on running north.*" And she's got a lot more to say.

Then there's this other chap Connie knows (*a famous author*) who'd interviewed another woman who had witnessed "*people engulfed in some sort of fireball and disintegrating.*" Connie just dug up the following note from this person to her, and is checking to see if I may get in touch with him directly.

"*I interviewed a Red Cross worker in Dallas whose name escapes me at the moment but I have her report in my files. She told me she was sent to NYC by the Red Cross to help survivors of the WTC. She said the thing that most stuck out in her mind after interviewing dozens of people was the number that told her of looking back and seeing people engulfed in some sort of fireball and disintegrating.*"

Obviously, a collapsing building cannot produce such an effect. But a micro nuclear shaped charge placed in the basement to blow out the central core columns could. A small nuclear device could also explain the pyroplasmic cloud seen above the WTC, the disintegration and warping of heavy steel beams and the pulverization of so much concrete, not to mention the blood cell cancer now suffered by many of the First Responders.

Folks, this obviously isn't Nanothermite at work here. I can only estimate the type of device. DEWs, or some similar 'exotic' technology makes no sense at all. As my old Alaskan buddy from Arkansas would've exclaimed, "Wayl, ahd be go to hayl!"

Felipe David working for Aramark Corp. tending vending machines in a basement of the North Tower recalled, "*That day I was in the basement in sub-level 1 sometime after 8:30am. Everything happened so fast, everything moved so fast. The building started shaking after I heard the explosion below; dust was flying everywhere and all of a sudden it got real hot. I threw myself onto the floor, covered my face because I felt like I was burned. I sat there for a couple of seconds on the floor and felt like I was going to die, saying to myself 'God, please give me strength.' When I went in, I told them it was an explosion*," David, with his skin hanging in tatters may have been the person helped to safety by William Rodriguez. Skin dripping off the body was mentioned by several 911 victims. Various radiation types can cause a person to just feel heat, then pain and then the skin will be damaged. The skin may be vaporized, charred or left hanging. Shirley Hoofard was a 38-year-old Red Cross worker in the Dallas area on 911. Hoofard was ordered to New York to begin working with victims and their families. *She also was ordered not to reveal any information to the media or the public.*

"*It was very difficult to deal with,*" she recalled. "*The only way I got through it was to shut down. I didn't think or feel. I just did what I did. By the middle of January [2002] I said 'I have to go home.*'"

Shirley Hoofard went on to explain the most perplexing and long-lasting disturbing thoughts she was having. She just could not get out of her mind what some of the victims had told her. "*Several victims told me they saw people engulfed in a fireball and disintegrating. One man said he was at work when he heard a loud noise and at the far end of the cubicles he saw a man running toward him with a fireball coming after him. The running man just exploded, flying into pieces… I heard stories like that from people from both towers… I don't know the physics but at what temperature does a human vaporize?*"

THE U.S.G.S. DUST IS EVIDENCE!

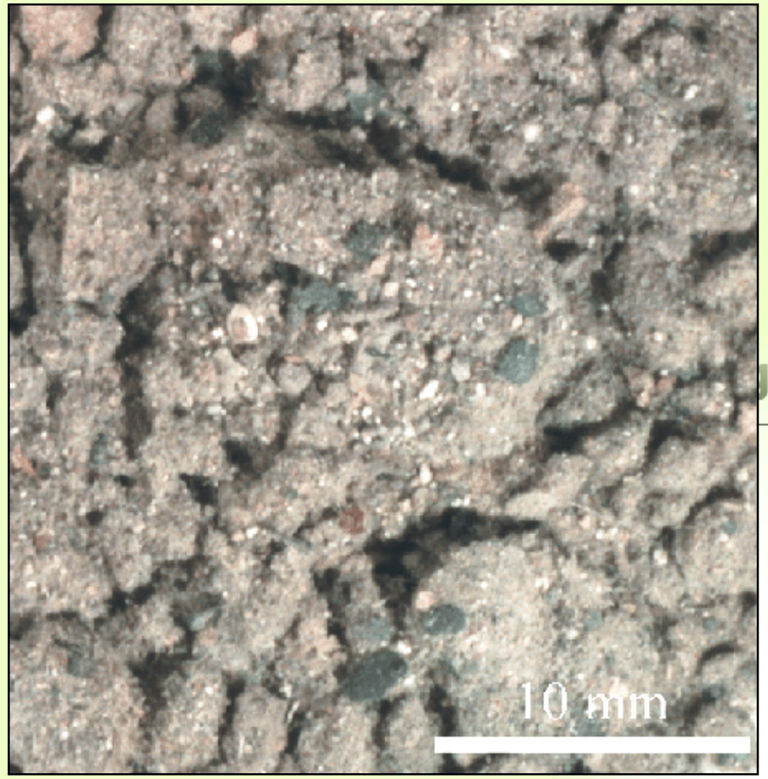
the
dust
is
the
ONLY
real
evidence
we
have

EXAMINING THE USGS DUST

When the correlations of the elements in the dust are examined; uranium, thorium, sodium, potassium, vanadium, antimony, strontium, barium, zinc and others, we find anomalous conditions within their correlated levels across numerous locations mapped by the USGS in lower Manhattan. These correlations are complex chemical analyses of dust samples [*See 'Dust' Parts 1-3 linked below*] using scanning electron microscopy (SEM) for inspection and interpretation of the actual elements in the dust as seen in the chart at right.

We examine these elements to see how they interact *together* plotting there levels across several locations and developing the ability to predict those levels with accuracy because we see a human hand in the elements; fingerprints, if you will. We see perhaps ternary fission and we also may be seeing quaternary fission. These are advanced forms of fission not usually seen. We may also be seeing fusion. The dust provides the basis, the dust as a whole, when the elements within across varying locations are taken *together* examining dozens of elements across dozens of locations as they interact in that complex mixture of chemical stew, with a clever and secretly hidden human hand obviously lurking in the mix. This provides the foundation for the assertions made herein.

Chemistry Table One (*right*) is one of the least detailed or less intricate charts published by the USGS. There are dozens of charts and data compiled in these voluminous reports. It lists the elements in the left column and simply shows their minimums, maximums and mean or average. The minimum and maximum percentages and parts per million are important but even more pivotal is the way these elements are distributed across dozens of mapped sites and their individual actual quantities as they relate to one another in a chemical stew, but a chemical stew that reveals human choreography for the nuclear physicist willing to carefully reconstruct the chemistry. The dust tells a story and I insist that the story told reveals a nuclear component of some type; ternary and quaternary fission almost assuredly and fusion as well perhaps, but an advanced technology we haven't yet seen (*or discovered and proven in the press, yet*) on the battlefield let alone in the very



Optical image (above) of dust and debris collected 0.3 kilometers, much less than a mile from ground zero, is noted as Sample Number WTC01-27, the location circled at the lower right.

Source: http://pubs.usgs.gov/of/2001/ofr-01-0429/

center of the worlds financial capitol where millions of people live and work every day. But some form of enriched uranium was being used in Iraq as Dr. Christopher Busby points out. While very small parts of the analysis in 'Dust' are in error the majority of the science, physics and chemistry are accurate and the minor errors don't affect the overall assertions made on pages 19 through 42 so it's still a very good place to start.

Dust - The Series

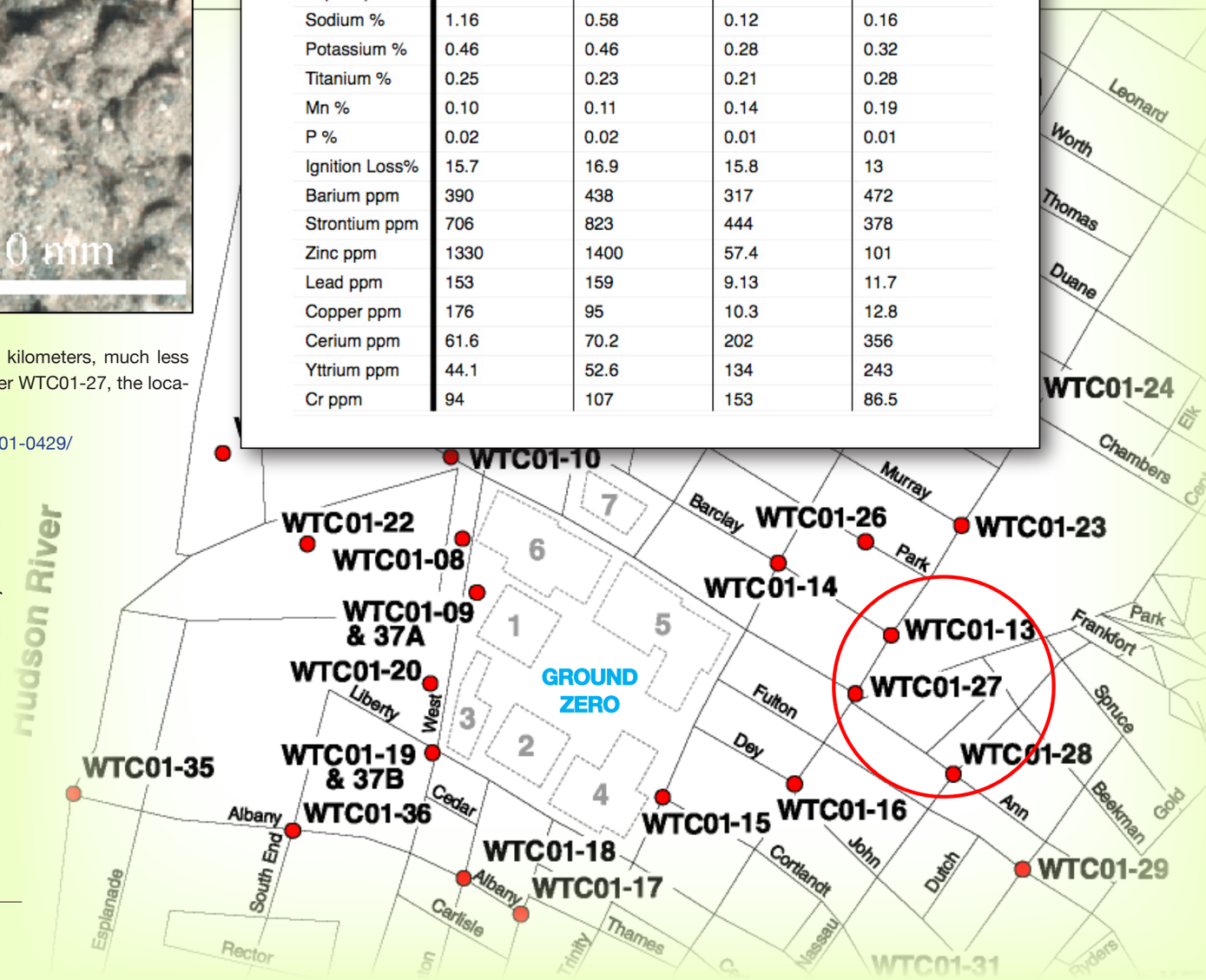
Dust - Part 1:
http://www.datafilehost.com/download-94750b11.html

Dust - Part 2:
http://www.box.net/shared/h81kjfkvg9

Dust - Part 3:
http://www.box.net/shared/td6593g25y

INDOOR DUST SAMPLES & GIRDER COATINGS

	Indoor dust samples		Girder coatings	
	WTC 01-20	WTC 01-36	WTC 01-08	WTC 01-09
Silicon %	14.2	11.7	15.0	15.5
Calcium %	19.44	21.30	20.73	26.01
Magnesium %	2.59	2.88	6.94	3.23
Sulfur %	5.51	5.77	1.39	1.23
Iron %	1.25	1.38	1.25	0.55
Aluminum %	2.55	2.86	2.92	3.56
C (organic) %	2.68	2.32	2.48	2.45
C (CO3)%	1.27	1.50	1.89	1.86
Sodium %	1.16	0.58	0.12	0.16
Potassium %	0.46	0.46	0.28	0.32
Titanium %	0.25	0.23	0.21	0.28
Mn %	0.10	0.11	0.14	0.19
P %	0.02	0.02	0.01	0.01
Ignition Loss%	15.7	16.9	15.8	13
Barium ppm	390	438	317	472
Strontium ppm	706	823	444	378
Zinc ppm	1330	1400	57.4	101
Lead ppm	153	159	9.13	11.7
Copper ppm	176	95	10.3	12.8
Cerium ppm	61.6	70.2	202	356
Yttrium ppm	44.1	52.6	134	243
Cr ppm	94	107	153	86.5



THE USGS CHEMISRTY TABLES

Information presented in this comprehensive USGS study was first made available to the World Trade Center emergency response teams on September 18, 2001 (*thermal hot spot information*), and September 27, 2001 *(maps and compositional results*).

The Airborne Visible / Infrared Imaging Spectrometer (AVIRIS), a hyperspectral remote sensing instrument, was flown by JPL/NASA over the World Trade Center area on September 16, 18, 22, and 23, 2001. A 2-person USGS crew collected samples of dusts and airfall debris from more than 35 localities within a 1-km radius of the World Trade Center site on the evenings of September 17 and 18, 2001. Two samples were collected of indoor locations that were presumably not affected by rainfall (*there was a rainstorm on September 14*). Two samples of material coating a steel beam in the WTC debris were also collected. The USGS ground crew also carried out on-the-ground reflectance spectroscopy measurements during daylight hours to field calibrate AVIRIS remote sensing data. Radiance calibration and rectification of the AVIRIS data were done at JPL/NASA. Surface reflectance calibration, spectral mapping, and interpretation were done at the USGS Imaging Spectroscopy Lab in Denver. The dust/debris and beam-insulation samples were analyzed for a variety of mineralogical and chemical parameters using Reflectance Spectroscopy (RS), Scanning Electron Microscopy (SEM), X-Ray Diffraction (XRD), chemical analysis, and chemical leach test techniques in U.S. Geological Survey laboratories in Denver, Colorado.

As you can clearly see, the data from the USGS mapped at right is perhaps one of the most comprehensive and complete reports on the dust created as the result of any disaster during the course of human history. While the chart at left shows high, low and mean, each and every location mapped at right has the specific parts per million for all of the elements shown listed at left for each of the 35 mapped locations, and much more.

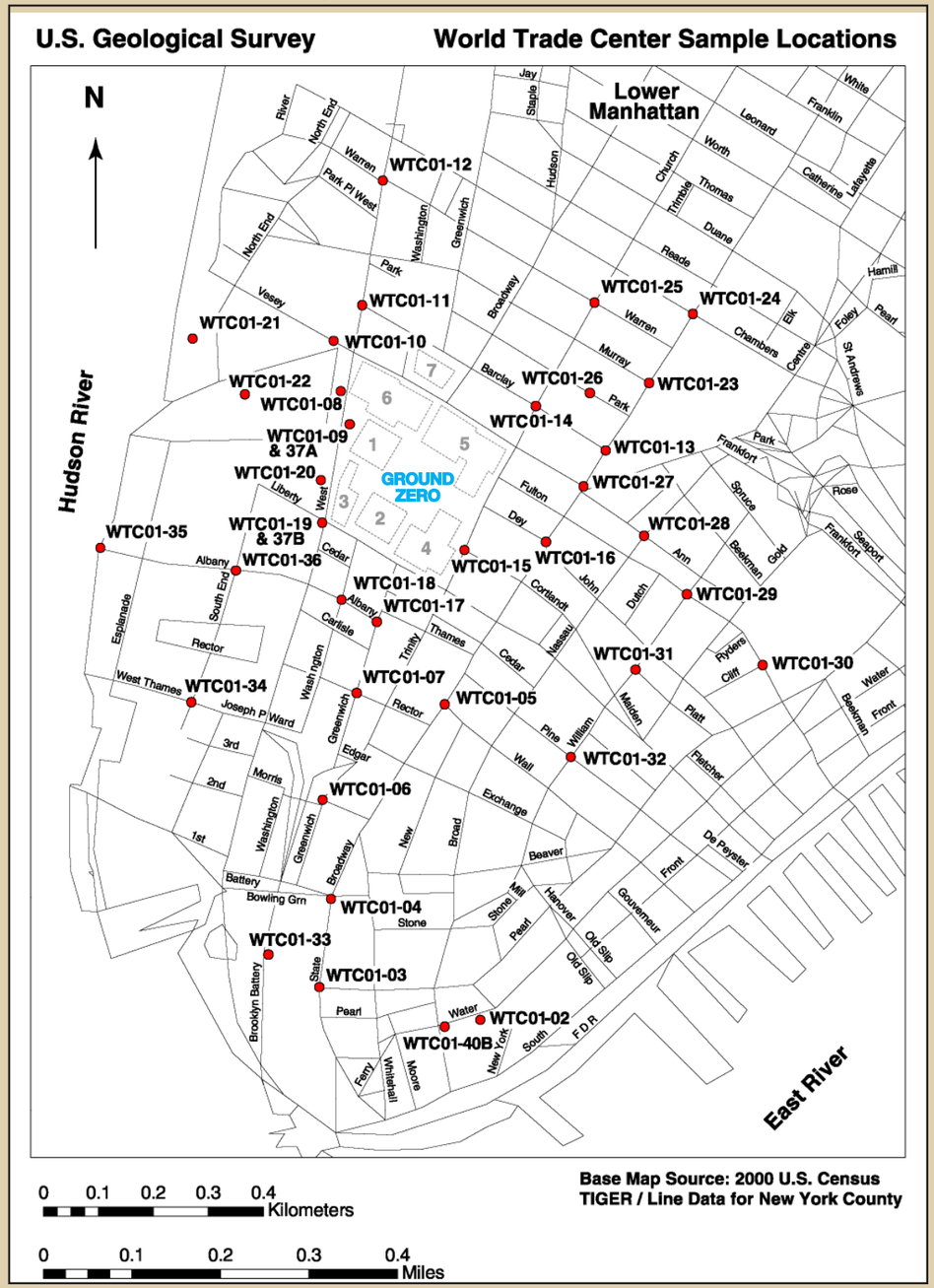
Chemistry Table 1, continued

	minimum	maximum	mean*	
Silicon %	11.4	26.3	14.8	
Calcium %	9.58	26.01	18.36	
Magnesium %	1.79	6.94	2.88	
Sulfur %	0.87	5.77	3.11	
Iron %	0.55	4.13	1.63	
Aluminum %	2.27	4.13	2.90	
Carbon, organic %	0.98	4.02	2.48	
Carbon, Carbonate %	1.24	1.89	1.55	
Sodium %	0.12	1.16	0.57	
Potassium %	0.28	0.69	0.50	
Titanium %	0.21	0.39	0.26	
Manganese %	0.07	0.19	0.11	
Phosphorous %	0.01	0.05	0.02	
Loss on Ignition %	7.96	22.8	16.35	
Barium ppm	317	3670	533.38	
Strontium ppm	378	3130	726.61	
Zinc ppm	57.4	2990	1004.70	
Lead ppm	9.13	756	166.75	
Copper ppm	10.3	438	136.31	
Cerium ppm	50.9	356	91.23	
Yttrium ppm	30.2	243	57.45	
Chromium ppm	86.5	224	116.61	
Nickel ppm	22.6	202	37.77	
Lanthanum ppm	25.8	175	45.96	
Antimony ppm	0.56	148	24.84	
Vanadium ppm	24.9	42.5	30.67	
Molybdenum ppm	0.85	42	11.34	
Lithium ppm	17.4	36.4	24.00	
Thorium ppm	5.36	30.7	9.31	
Rubidium ppm	8	25.2	19.01	
Cobalt ppm	1.7	13.9	6.36	
Niobium ppm	4.4	11	8.34	
Scandium ppm	4.4	9.8	6.63	
Uranium ppm	1.96	7.57	3.29	
Cadmium ppm	0.11	7.5	2.80	
Arsenic ppm	3.5	6.8	***	
Gallium ppm	2.8	6	4.15	
Beryllium ppm	1.8	4.2	2.96	
Silver ppm	0.96	3.8	1.66	
Cesium ppm	0.18	0.88	0.64	
Bismuth ppm	0.008	0.82	0.28	
Thallium ppm	0.02	0.13	0.08	

Source:

1. http://pubs.usgs.gov/of/2001/ofr-01-0429/
2. http://pubs.usgs.gov/fs/fs-0050-02/fs-050-02_508.pdf
3. http://speclab.cr.usgs.gov/PAPERS/wtc.asc.ch3/

THE USGS MAPPING LOCATIONS



URANIUM AND THORIUM IN THE DUST

The following two pages are an excerpt from the complete dust analysis in the book by the same name, Dust. The detection of measurable quantities of Thorium and Uranium in the dust from the World Trade Center, elements which only exist in radioactive form are a critical component in the dust analysis. The graph below plots the concentration of Thorium and Uranium detected at each of the 14 sampling locations. Again, the last two locations, WTC01-08 and WTC01-09, are for the two girder coating samples. The girder coatings had a high of 7.57 parts per million uranium or 93 Bequerels per kilogram. Normal uranium dust content ranges from a low of 12 Bq/Kg to an outside high of 40 Bq/Kg. We can easily see that the uranium content in the girder coating dust is well over twice what it should be expected to be. Very high, indeed.

The Uranium concentration follows the same pattern as Thorium, although the very small graph scale below does not show this markedly. Uranium follows the dip at WTC01-03 and WTC01-16 but the highest concentration of Uranium also matches Thorium in the second girder coating, WTC01-09, at 7.57ppm.

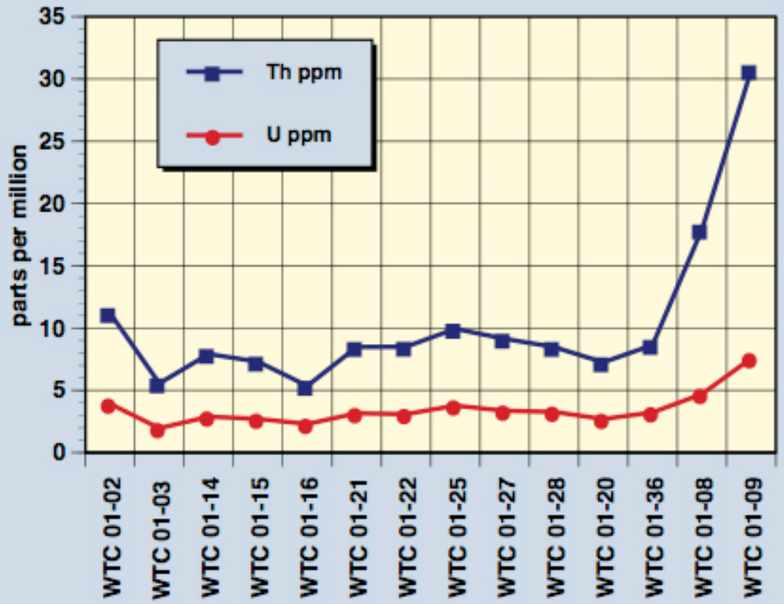
The second girder contained 30.7ppm of Thorium, 6 times as high as the lowest level of that element detected. Thorium is a radioactive element formed from Uranium by decay. It is very rare and should not be present in building rubble, ever.

The Thorium picture also mirrors that found for Yttrium. The concentration of both elements dips at WTC01-03 and WTC01-16 *(where so many other elements peaked)* but in the two girder coatings (WTC01-08 and 09) is nearly an order of magnitude higher than in the dust samples. The high correlation between Thorium and Uranium is self evident. The presence of these two elements in such high concentrations (*particularly in the two girder coatings at WTC01-08 and 01-09*) in such a close mathematical relationship is further incontrovertible evidence that a nuclear fission event has taken place.

As we said earlier, Thorium (*image at right*) is formed from Uranium be alpha decay. An alpha particle is the same as a Helium nucleus, so this means we have one of the favored fission pathways: Uranium fissioning into a Noble Gas and the balancing element, in this case Helium and Thorium.

If the Helium formed follows the same pattern as Krypton and Xenon (*which decay by beta emission through Strontium and Barium*), then we would expect to find Lithium and Beryllium, the next elements after Helium in the Periodic Table, in quantities that correlate with Thorium. The USGS did measure the Beryllium concentration in the dust but the Thorium is plotted against Lithium on the next page, both including and excluding the two girder coating samples.

Dust Samples
Concentration of Thorium (Th) and Uranium (U)

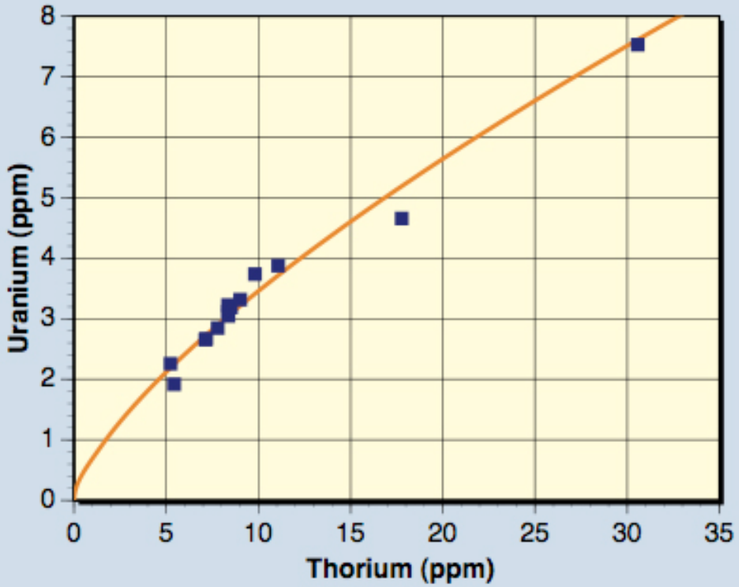


Source: USGS

URANIUM AND THORIUM ARE ALWAYS RADIOACTIVE

WE SEE TERNARY AND QUATERNARY FISSION IN THE DUST

Dust Samples
Concentration of Thorium (Th) versus Uranium (U)



Including Girder Coatings

A TERNARY AND QUATERNARY NUCLEAR EVENT

The graph of Thorium versus Lithium including the Girder Coatings has exactly the same form as the graph showing Thorium versus Uranium, also including the Girder Coatings. Without the two Girder Coatings the correlation of Thorium to Lithium in the dust is completely linear.

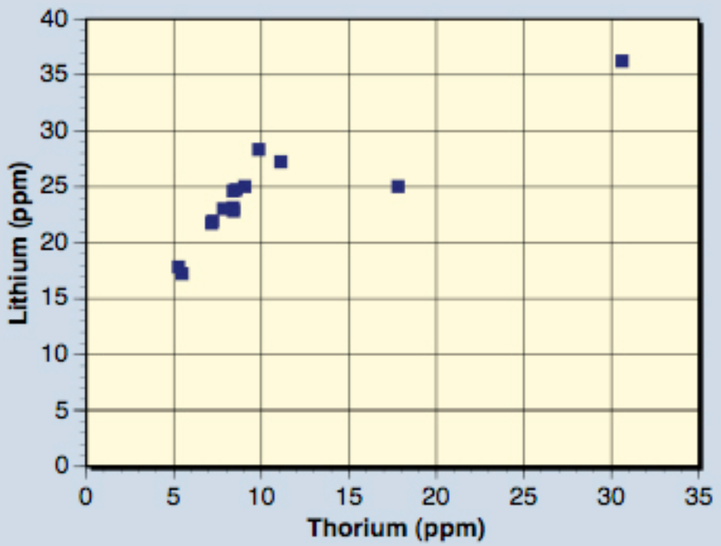
We therefore have compelling evidence that this fission pathway of Uranium to Thorium and Helium, with subsequent decay of the Helium into Lithium, has indeed taken place.

It is out of the question that all of these correlations* which are the signature of a nuclear explosion could have occurred by chance. (*all of the correlations on pages 19 thru 42 of part one of the free eMagazine, Dust) This is impossible.

The presence of rare Trace elements such as Cerium, Yttrium and Lanthanum is enough to raise eyebrows in themselves, let alone in quantities of 50ppm to well over 100ppm. The Sodium, Potassium and Zinc are off the charts. When the quantities then vary widely from place to place but still correlate with each other according to the relationships expected from nuclear fission, it is beyond *ALL* doubt that the variations in concentration are due to that same common process of nuclear fission.

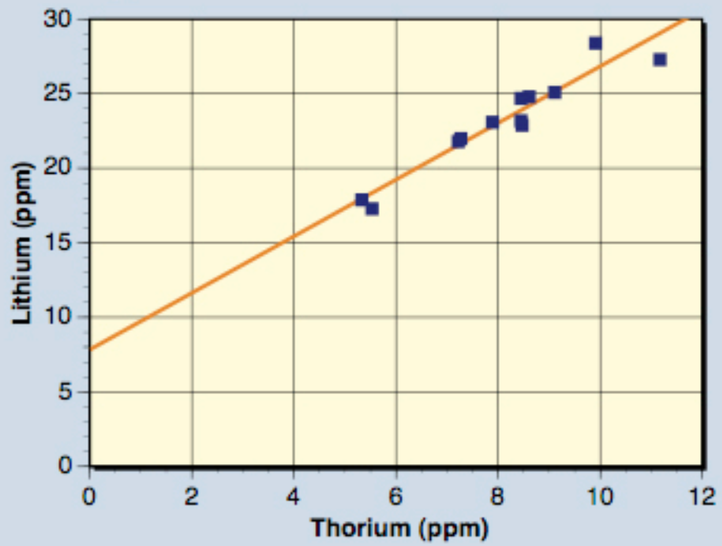
When we find Barium and Strontium present, in absolutely astronomical concentrations of over 400ppm to over 3000ppm, varying from place to place but varying in lockstep and according to known nuclear relationships – the implications are of the utmost seriousness. 911 was a nuclear event. The presence of Thorium and Uranium correlated to each other by a clear mathematical power relationship – and to other radionuclide daughter products – leaves nothing more to be said. We see ternary and possibly even quaternary fission in the dust.

Dust Samples
Concentration of Thorium (Th) versus Lithium (Li)
Including Girder Coatings



Including Girder Coatings

Dust Samples
Concentration of Thorium (Th) versus Lithium (Li)
Excluding Girder Coatings



Not including Girder Coatings

DESTROYING THE CRIME SCENE

(above)

This type of data has probably never been available to the public before. It is an unprecedented insight into the action of a new type of nuclear device. Nuclear weapon scientists around the world will have seized this data (*pages 19-42, Dust*) to analyze it and try and determine exactly what type of device produced it. Dr. Stephen Jones can't talk his way out of thorium, uranium, tritium, lanthanum, barium, strontium and these other elements across a dozen+ locations. September 11th, 2001, was a nuclear event within a major United States city and the largest global financial center of the world. Dr. Jones knows yet tells us all it was thermite. George Bush knew and told us all to go shopping. And we did. Both men knew but we ravaged the Muslim world and murdered millions of innocent people.

For further study see the complete 'Dust':

Part 1: http://www.box.net/shared/9duecajohk

Part 2: http://www.box.net/shared/h81kjfkvg9

Part 3: http://www.box.net/shared/td6593g25y

PART THREE CONCLUSIONS

1. In 1961 the Russians exploded the largest nuclear bomb ever conceived in the 50 megaton range. It was designed such that it produced 97% less radiation than other devices.

2. In 1961 the United States exploded the smallest nuclear bomb ever conceived. This bomb was 11 inches by 11 inches by 17 inches. Not much bigger than a shoebox. It's not hard to imagine that in 40 years of strides in miniaturization and nano-technology, between 1961 and 2001 that the US military industrial complex was able to produce a deuterium tritium hybrid bomb the size of an apple, maybe more and possibly even less.

3. Based on professional building demolition techniques developed by CDI, the worlds premier building demolition company, it would have been impossible to properly prepare the Twin Towers, two separate buildings, for a demolition using standard explosives and energetic compounds either alone or together. It would have been humanly impossible to do.

4. The images between pages 69 and 77, rarely seen by most people, show a very clear nuclear demolition. It's virtually impossible to view these images with an open mind and believe that an energetic compound was responsible for the demolition on 911. There are NO 911 videos that show these images.

5. We discussed a variety of different types of nuclear explosive devices. They all produce different amounts and types of radiation and they all produce different disease patterns. One thing they all have in common is an increase in specific cancer types in those exposed to the explosions. This is precisely what we're seeing.

6. Because Dr. Jones studied muon catalyzed fusion and experimented with deuterium and tritium as well as uranium and other nuclear elements he has specific knowledge as regards the device(s) being discussed here yet he avoids discussing the USGS report or the Delta Group report as the elements interact **TOGETHER**.

7. Dr. Jones has failed to properly address the anomalous levels of uranium, potassium, sodium, zinc, tritium, thorium and other elements of a nuclear reaction found in the dust from Ground Zero as they interact ***together*** and Dr. Jones is being less than honest.

8. Cold fusion is a reality and while it doesn't yet produce energy sufficiently for civilian use it does produce powerful explosive devices. A fusion reactor is being built in Europe due on-line in 2019 and producing electricity in 2030. It will operate at 5 times the temperature of a fission reactor or an anticipated 125 million degrees.

9. Dr. Busby's interview was fascinating. We now have peer reviewed published data that enriched uranium devices were used in Fallujah, Iraq. They were small, likely had deuterium tritium fusion triggers meaning any traces of tririum and neutrons would be virtually gone and the uranium, enriched-by-man uranium, would have shown in slightly increased levels and it did.

10. Based on the use of Pyrocool® we can easily ascertain that Pyrocool® should have cooled and extinguished the fires rapidly; within minutes if not seconds. Yet Pyrocool® was virtually ineffective.

11. The tritium was never properly or scientifically addressed although they made the report "sound" good.

12. Building 6 is never discussed even though the damage was extensive.

PART FOUR

I think it's important to have a basic understanding of nano technology and its history. The technology dates back to the 1950s and energetic compounds date back to the 1940s. Nuclear power and nuclear demolition also date to the early 1940s and the industries involved in the development of nuclear weapons are and always were active in experimenting with and developing new nuclear demolition technology. No less active, and in fact far more active, than those developing nano-energetic compounds. Nano-technology was started by the nuclear industry. The nuclear industry is, like the nano-tech industry, an industry involved in molecules. It only makes sense that nano-tech started in the nuclear industry and that's because it did. Yet the average person doesn't know this. Advances in nuclear technology are simply more difficult to fully understand because there is far less published material in that area of scientific development and improvements. Yet there's more than enough to be deeply concerned for out future.

UNDERSTANDING MINIATURIZATION AND NANO TECHNOLOGY

NANO-TECHNOLOGY IN 1959

It's critically important that we examine nano-technology prior to 2001 and obtain an understanding of where the field started, what years were involved in its birth and what the philosophies of our entrance into this fascinating new nano-era were. Let's examine nano-tech from the beginning so we might, perhaps, gain a better understanding of where energetic compounds began, where they were in 2001 and what applications nano-technology might have as they would apply to nuclear devices designed for demolition and destruction during the same period of frenzied nano-tech experimentation.

Richard P. Feynman

Nanotechnology has bridged science fiction and fact ever since it was first conceptualized in 1959. That was when renowned physicist Richard P. Feynman speculated in a lecture entitled "*There's Plenty of Room At the Bottom*" that it would be possible to assemble the tiniest structures atom by atom by the year 2000. Of course he was wrong; it happened years sooner.

Feynman proved to be prescient. Today there are many examples that nanotechnology – "*the assembly of products on a molecular level that can be measured in less than 100 nanometers, where a nanometer is a billionth of a meter* – " is a real technology that is generating revenues for companies across the globe. Materials that have been painstakingly engineered on the molecular level are springing up everywhere. Cosmetics maker L'Oreal uses tiny "*nanocapsules*" to deliver skin-healing chemicals in its Lancome lotions so that they sink much deeper into the skin. Of course on a cellular level those nano-particles might be doing far more harm than good. General Motors has crafted composite materials that make stronger and lighter fenders for its sports utility vehicles. And Levi Strauss has used nanomaterials from Nano-Tex LLC to weave teflon within fabric to create stain-resistant Levi's Dockers pants. Wilson Sporting Goods used nanotechnology materials to make a better golf ball. And the military industrial complex has been making nuclear apples.

"*This is happening much faster than I thought,*" said Stan Williams, a research fellow at Hewlett-Packard. "*I keep telling people that nanotechnology won't occur in a nanosecond. I never could have believed three years ago that we would be where we are now.*"

By the year 2001, when the events of 911 were thrust upon us, nano-technology was no longer in its infancy but rather, it was a burgeoning field of study involving everything from constructing living nano-products to nano-tech in the nuclear industry. Nano-tech became all-pervasive with immediacy and it was applied to all technologies across the public and private, commercial, industrial, medical, manufacturing and technological world we lived in then; the same world we live in today. Science operates at a consistent frenzy for everything "*new*".

The broader public views nanotechnology without even a basic understanding yet with a mixture of hope and fear. As far back as the 1980s, nanotechnology pioneer Eric Drexler, author of "Engines of Creation," speculated about the fears and hopes of the technology. He hoped that nanotechnology would result in the ability to create tiny machines that could assemble any scarce commodities such as food or precious metals, eliminating the need in the long run for humans to do any work. Yet he also feared "*engines of destruction*" could be created. The quest to create nanoweapons, he thought, might result in tiny machines that could wreak havoc on a molecular level and turn the world into a "gray goo." Bill Joy, a co-founder of Sun Microsystems, raised the public fear of nanotechnology higher in an article in the April, 2000, issue of Wired. The article, entitled, "Why The Future Doesn't Need Us," argued that the pace of innovation in nanotechnology would eventually be a threat to the future of the human race. And in 2002, Michael Crichton's novel Prey brought the fears home in a story about micro-robots escaping from a lab. The thought of nano-nuclear technology in 2001 becomes more appealing ... no?

Meanwhile, nanotechnology became real. In 1989, IBM researcher Don Eigler was able to use a scanning tunneling microscope to create the letters "IBM" by moving around atoms. In 1991, Japanese scientist Sumio Iijima discovered carbon nanotubes, a structure that could be used to build the tiniest electrical wires.

In 2000, President Bill Clinton authorized a major nanotechnology initiative to ensure that the U.S. would compete with other nations. Funding has grown to $982 million a year. The state of New York is offering incentives for companies to join its nanotechnology center of excellence in the Albany region. Other countries in Europe and Asia are also pouring huge resources into nanotechnology initiatives. The National Science Foundation predicted that the worldwide market for nanotechnology products and services could be a $1 trillion industry by 2015.

Good or bad, nanotechnology is moving forward. Sometimes the result is disappointing. Nanosys, a nanotechnology start-up in Palo Alto, Calif., tried to raise $106 million last year in an initial public offering, but investors shied away from the deal because Nanosys had little revenue and was losing money. The company pulled the IPO in August, 2004, and decided to rely upon private capital for the time being.

But as the aforementioned examples of commercial research show, nanotechnology has moved well beyond the federal national laboratories and universities where initial research started decades ago. But how soon nanotechnology really pays off depends on how you define it. Robert Morris, the recently retired director of the IBM Almaden Research Center in San Jose, Calif., considers some of the current commercial uses to be more like designer chemistry than true nanotechnology applied to information technology. Nanotechnology manufacturing isn't expected to replace traditional methods for making silicon chips until 2013 to 2019, according to Ken David, director of computer research at Intel's technology and manufacturing group. And there is still a long way to go before the real payoff of nanotechnology materializes in nanocomputers that are assembled on the molecular level. Researchers say it will be some time before experiments in exotic devices using "*quantum computing*" become commercial products.

Beyond the mainstream applications of nanotechnology, scientists like Williams expect that nanotechnology will ultimately become useful in information technology applications. Among the companies working on IT nanotechnology are IBM, Motorola, HP, Lucent, and Hitachi. Their work isn't finished, but it still shows promise, said Mark Ratner, a professor of chemistry at Northwestern University and author of "*A Gentle Guide to Nanotechnology*." National labs such as Sandia, Oak Ridge, Argonne, Lawrence Berkeley and Lawrence Livermore are also hard at work on nanotechnology. Among the projects are efforts to create an artificial retina, nanoscale microchips, and replacements for a range of electronic devices from light-emitting diodes to nano computers.

On the nanotechnology manufacturing front, one early application is in the creation of new tools for making chips and displays. Researchers also foresee basic advances in memory chips that hold much more data than today's flash memory chips as well as new kinds of sensors that can be built into any kind of device. While some of the manufacturing tools are available now, many of the information technology applications will take some years to get to the market.

"*If you're talking about a complete nano computer made from the ground up, we're talking a very long term project,*" said Meyya Meyyappan, director of the Center for Nanotechnology at the NASA/Ames Research Center in Mountain View, Calif. "*Other markets are near term, but information technology falls into the long-term category.*"

Still, the characteristics of materials that are created atom by atom, or from the bottom up, rather than chiseled down from larger materials in a "*top down*" fashion, could be breathtaking, Meyyappan said. He notes that carbon nanotubes can withstand 1,000 times more heat than the copper wire now used in chips. Carbon nanotubes assemble themselves like spaghetti noodles at the moment, but if researchers figure out how to make the nanotubes connect exactly where they want, they will be able to use them in mass-produced electronic devices.

Storage devices could also benefit from nanotechnology; in some sense, the giant magnetoresistive heads for hard disk drives already operate in the nano world because they involve manipulation of magnets on a nanometer scale. But further out are devices that employ nano structures such as IBM's Millipede, which could allow a storage device to use a thousand read/write heads instead of just one, Morris said.

All of this technology innovation has been a long time coming. Consider the case of Applied Nanotech, a small company with 20 employees in Austin, Texas, that was first incorporated to pursue nanotechnology in 1987. A subsidiary of Nano-Proprietary, Applied Nanotech went public in 1993 and obtained more than 40 patents on nanotechnology. Applied Nanotech plans to use carbon nanotubes to create better field emission displays for flat panel television sets. The company has been working for seven years to develop the technology and license it to a large consumer electronics manufacturer. The technology uses carbon nanotubes to emit electrons which in turn can be used to create a much brighter display that uses less energy than conventional liquid crystal or plasma displays.

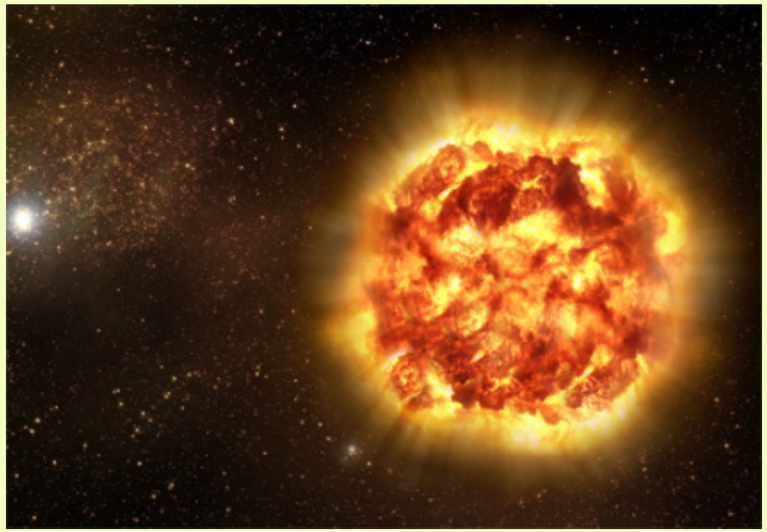
Another promising area is nanoimprinting, which seeks to replace traditional photolithography in the manufacture of semiconductors. Nanoimprinting gets its name from the fact that it resembles printing, except is on a much smaller scale. The process involves creating a pen-like device with a scanning probe that can place chemicals, dubbed "ink," at precise locations on a substrate. That master pen is copied over and over again so that it can become like a big stencil that can stamp features out across a wide substrate repeatedly. Since this can write features at much smaller feature sizes on the order of 10 or 20 nanometers, it could one day compete with silicon.

Hewlett-Packard is experimenting with nanoimprinting technology now in hopes of using it to create more efficient electronic components for its printers, said Williams. But there are other start-ups like Chicago-based NanoInk that are using the technology in semiconductor manufacturing. NanoInk began deploying its Dip Pen Nanolithography product last year that can be used to help repair flaws in conventional photolithography masks. These $100,000 machines can be used to fix the masks.

Williams anticipates that information technology companies will benefit from nanoimprinting because it can be used to construct molecular-scale memory chips. He also believes that it can be used to create tiny sensors that can be built into radio tags and attached to just about anything that needs to be tracked, from retail items that carry bar codes to trees that can alert forest rangers if they are burning. Those sensors will be used to detect pathogens in the air such as anthrax spores.

There are approximately 100 companies making tools for nanotechnology today, with about two thirds of them selling devices. Imago Scientific Instruments, based in Madison, Wis., makes 3-D atom-probe microscopes that can discern images of atoms down to a single nanometer. Imago sells its microscopes for about $2 million a piece to semiconductor makers who use them to inspect chips. It also hopes the microscopes will be useful in inspecting data storage or biomaterials devices.

Companies like Intel expect to be using nanotech tools as they move deeper into chip miniaturization. But Paolo Gargini, an Intel fellow and director of technology strategy at the world's biggest chip maker, said he doesn't really



expect nanotechnology to become more cost effective than conventional silicon manufacturing until about 2015. At that point, conventional lithography is expected to hit its limits with feature sizes around 10 nanometers or so. "Nanotechnology is something we're planning for and it is happening on a schedule," Gargini said.

From this brief historic view of nano-technology it's easy to see that the science was well developed by 2001 and the types of technologies available on a nano-scale for demolition were plentiful. The military industrial complex; companies such as Raytheon, Boeing, SAIC and many, many others, the military itself included, should be expected to have developed advanced technologies in the field of nano-explosive demolition by the year 2001 and the simplest, least expensive and least time consuming in terms of manpower would have been to use numerous easily disguised micro-nuclear devices the size of an apple or grapefruit.
This report asserts that theory based on advances in nano-technology between the late 1950s and 2000 and the elements discovered in the atmospheric dust by the Delta Group and Dr. Thomas Cahill, atmospheric physicist and the United States Geologic Survey and their scanning electron microscopy (SEM) analysis of 35 dust samples mapped and retrieved from Ground Zero along with other similar relevant data. Here's a short anecdotal note on Richard P. Feynman:

Feynman is especially admired by science students for his published lectures on first-year physics, with striking insights into the way a great theorist thinks about even the most elementary physics problems. Alan Harris writes:

"Perhaps my most striking memory of a Feynman lecture was not of one I attended, but of one being prepared for the class ahead of me. I was doing my weekly lab work in the freshman physics lab. At one point, as I walked out into the hall to get a drink of water, I heard a familiar voice coming from the lecture room at the other end of the hall. I peeked in to discover Feynman practicing to an empty lecture hall the lecture he was to deliver an hour or so later. It was a full dress rehearsal, with all the gestures, enthusiasm, and chalkboard notations. The excellent choreography [of his lectures] was no accident. What impressed me so deeply was that here was the world's most famous living physicist taking such care to present this material to lower-division undergraduates."
Source: Physics Today (Nov. 2005), p. 12

"*The adventure of our science of physics is a perpetual attempt to recognize that the different aspects of nature are really different aspects of the same thing*" – Richard Feynman

Feynman was known to be passionate about drumming, but he was irritated when people found this surprising in a famous scientist. In 1966 a Swedish encyclopedia publisher wrote asking for a photograph of Feynman "*beating the drum*" to give "*a human approach to a presentation of the difficult matter that theoretical physics represents.*"

This was his reply:

"Dear Sir,

The fact that I beat a drum has nothing to do with the fact that I do theoretical physics. Theoretical physics is a human endeavor, one of the higher developments of human beings, and the perpetual desire to prove that people who do it are human by showing that they do other things that a few other humans do (like playing bongo drums) is insulting to me. I am human enough to tell you to go to hell.
Yours, RPF"

– Letter from Christopher Sykes' 'No Ordinary Genius'.

6 BOOK REVIEWS OF "ENGINES OF CREATION" A BOOK BY K. ERIC DREXLER

http://e-drexler.com/p/06/00/EOC_Cover.html

Editors Note: This book was written and published in 1986 and is reviewed for that very reason. Understanding where nano-tech started and where it's been is important to the events of 911.

Nanotechnology, or molecular technology, involves the manipulation of individual atoms and molecules. In this book Drexler considers the implications of this technology.

Nanotechnology Now Review

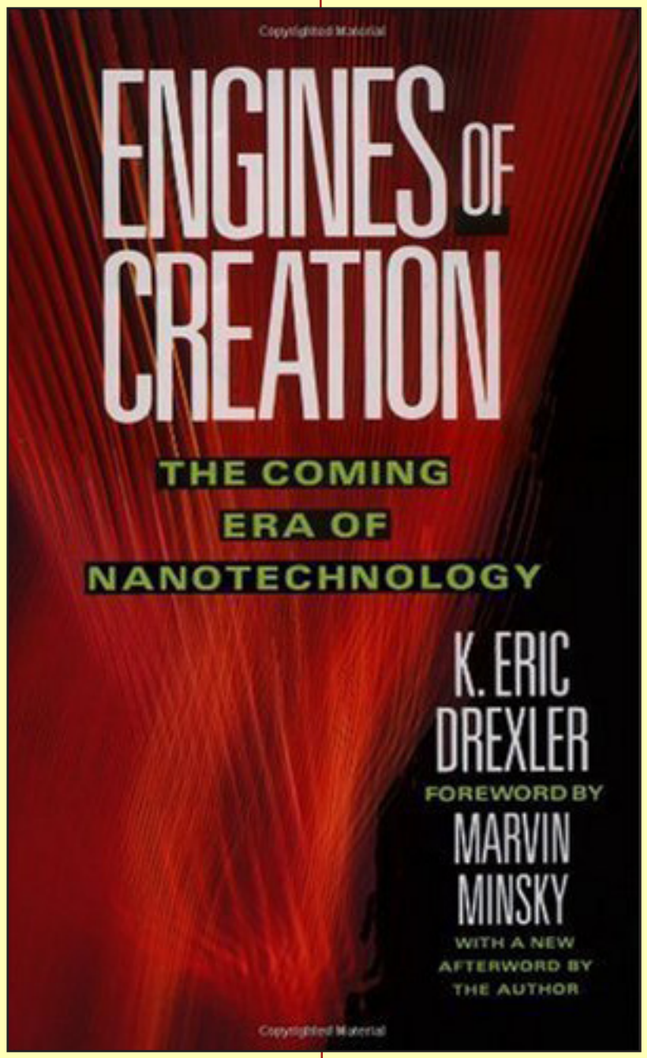
Published in 1987, this book is the first thorough, albeit now dated, description of Nanotechnology, the science behind it, a history to that point, predictions as to some possibilities, and some cautions. K. Eric Drexler provides the reader with an inside glimpse of the hows and whys regarding the multidisciplinary technologies that are working both together and apart to bring us the possibility of abundance, vastly greater health & longevity, and a variety of other science fiction-esque outcomes. We highly recommend it, and believe it should be one of the first books you read when you start on the road to understanding Nanotechnology, MEMS [microelectromechanical systems], Molecular-scale Manufacturing, Nanobiotechnology, Nanoelectronics, Nanofabrication, Molecular Nanoscience, Molecular Nanotechnology, Nanomedicines, Computational Nanotechnology, Biomedical Nanotechnology, Artificial Intelligence, Extropy, Transhumanism, and Singularity. If you are like me, reading it online does not cut it--so I bought the book. Somehow, holding it in my hands, and being able to lend it, makes all the difference!

From the Publisher

This brilliant work heralds the new age of nanotechnology, which will give us thorough and inexpensive control of the structure of matter. Drexler examines the enormous implications of these developments for medicine, the economy, and the environment, and makes astounding yet well-founded projections for the future.

From the Critics • A.J. Read - Choice

Drexler (research affiliate, MIT's Space Systems Laboratory) makes a plausible and easily readable case for expecting technological developments in artificial intelligence and molecular engineering (including bioengineering) that will result in tiny mechanisms controlled by microscopic powerful thinking computers--capable of assembling atoms and molecules in a few minutes into any desired macroscopic object, perhaps even living organisms. . . . Drexler also explores questions of what humanity must develop in the way of social, moral, and governmental systems to make a future of such effortless material abundance worth living in, presuming that life is not first annihilated by misuse of the new technology. His 40 pages of notes and references are regrettably rendered useless by the total lack of the usual indicators in the body of the text directing the reader to the notes. Nevertheless, this book can be recommended for college and public library collections in the relations of technology and society.



From Michael Swaine - Dr. Dobb's Electronic Review of Computer Books
Little Engines That Could

A scientist becomes a perfect superman after injecting himself with self-replicating microscopic machines that continually repair his organs. A man rents a device that sets tiny machines loose in his brain, rewiring it so that he becomes, for a brief time, a different person. A cell-repair nanotech machine -- a "nanny" -- fed with one person's DNA and set to repairing another's cells, begins turning the second person into the first. Infoviruses systematically reprogram human genes, redirecting evolution. Society is reshaped from top to bottom by nanotechnology. Experimental nanomachines escape from the lab and destroy the world.

Mere science fiction, you say? Of course. Specifically, these are the plots of several science fiction stories appearing in Nanotech, a collection of cautionary tales in the subgenre of nanotechnology-based science fiction, edited by Jack Dann and Gardner Dozios (Ace Books, 1998; ISBN 0-441-00585-3). Science fiction writers were profoundly influenced by the publication of Eric Drexler's Engines of Creation. In that book and in the more technical Nanosystems: Molecular Machinery, Manufacturing, and Computation (John Wiley & Sons, 1992; ISBN 0-47-157-518-6), Drexler defined the field of nanotechnology, mapped out its challenges, and articulated its most promising avenues of research. A number of science fiction writers staked out nanotech as their chosen science to fictionalize, and a subgenre was born.

Others besides science fiction writers were influenced by Engines of Creation. Researchers around the world have been exploring the possibilities for nanotechnology since the book's publication. Last fall, Drexler's Foresight Institute brought the leading researchers together to explore the state of the art in nanotechnology today. So far, none of the predictions of nanotech science fiction have come true. So far.

From Terence Monmaney - The New York Times Book Review

Mr. Drexler writes that nanotechnology 'will sweep the world within ten to fifty years.' That would be nice, but it is unlikely. 'Engines of Creation' is a clearly written, hopeful forecast, remarkable for an unembarrassed faith in progress through technology. Certainly computers appeared in a hurry, and, as Mr. Drexler likes to remind us, there are footprints on the moon. Those splendid achievements haven't made any utopian dreams come true, though, and it's hard to believe nanotechnology could do that, no matter how wonderful it turns out to be.

From Library Journal

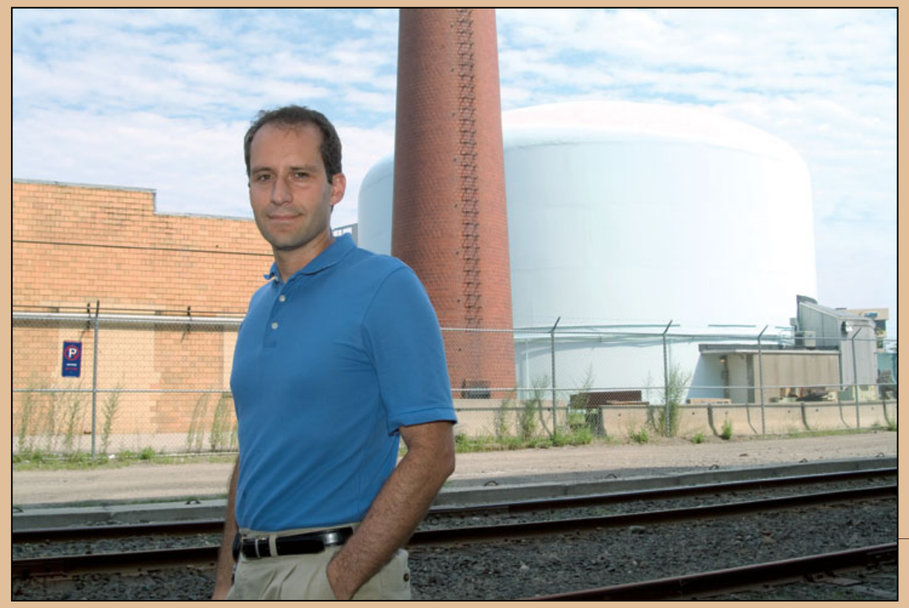
Nanotechnology, or molecular technology, involves the manipulation of individual atoms and molecules, something the human body already does. In Engines of Creation, Drexler attempts to predict, justify, quantify, and caution us about this important new field in engineering. His book could have been the first and foremost discussion of this fascinating subject. But Drexler strays from the topic with annoying regularity. He devotes too little space to the possibilities of nanotechnology and too much to esoteric and opinionated discussions of philosophy, politics, information science, defense, human relations, etc. Nanotechnology will indeed become a reality, and the public needs to be informed. It is therefore unfortunate that Engines of Creation was not written more clearly or directly. Kurt O. Baumgartner, International Minerals & Chemical Corp., Terre Haute, Ind.

NANO IN THE NUCLEAR

Who hasn't marveled at the sight of a droplet gliding across a hot surface, somehow surviving well past its logical lifetime? Interestingly, MIT's Jacopo Buongiorno and Lin-Wen Hu say curbing that mundane phenomenon could lead to big benefits in terms of producing electricity.

Buongiorno is an assistant professor of nuclear engineering and Hu is associate director of the MIT nuclear reactor lab. The two want to deploy what are known as nanofluids as circulating coolants in nuclear plants. If it works, the gains could be startling. "*You can think about taking a 1,000-megawatt plant*," says Buongiorno, "*and turning it into a 1,400-megawatt plant.*"

Nanofluids are liquids that harbor nanoparticles. And the reason these near-infinitesimal objects may be able to boost a nuclear plant's output relates to those gliding droplets. The droplets survive, notes Buongiorno, because "*there's a vapor film that forms between the droplet and the surface. That allows the droplet to dance around for a while before it boils away*." What works for a droplet doesn't for a nuclear plant, though. One key to the efficiency of such plants is how well heat is transmitted to the coolant as it works its way up through the vertical pipes bearing the high-temperature nuclear fuel.



Jacopo Buongiorno and associate Lin-Wen Hu are studying how fluids containing nanoparticles can lead to higher power outputs at nuclear plants.

If the coolant simply boils, that's fine. But if a vapor film forms between the liquid and the piping wall adjoining the radioactive materials, notes Hu, "*the ability of the system to transfer heat to the coolant goes down dramatically.*" The scientists want to reduce the chance such films will form by using nanofluids. The fluids' nanoparticles may be any of a range of materials, from aluminum oxide to — yes — diamond dust. But what's striking about the approach is that it takes a truly minuscule supply of particles.

"*We get dramatic enhancements of the critical heat flux with the nanoparticles at concentrations of .001 percent*," notes Buongiorno. "*It's almost magical.*"

No one quite understands how particles at such concentrations can do what they do. In fact, Buongiorno and Hu are exploring that point. The first nuclear-plant applications of nanofluids may not be as day-to-day coolants but rather as replacements for the emergency coolants every plant must have. That in itself would save meaningful sums. The use of nanofluids as circulating coolants, meanwhile, must await further studies of issues like whether they might damage a plant's piping.

"*Preliminary results from experiments at MIT's research reactor have been promising," notes Hu, "but we need additional in-core testing to determine how these specialized nanofluid particles will react under the harsh radiation environment of a working power plant.*" Assuming those studies pan out, though, the potential's great. "*There are more than 400 nuclear plants worldwide,*" says Buongiorno, "*and in principle, most of them could be retrofitted to handle nanofluids.*"

Nanotech • Making Nuclear Weapons Much, Much Tinier

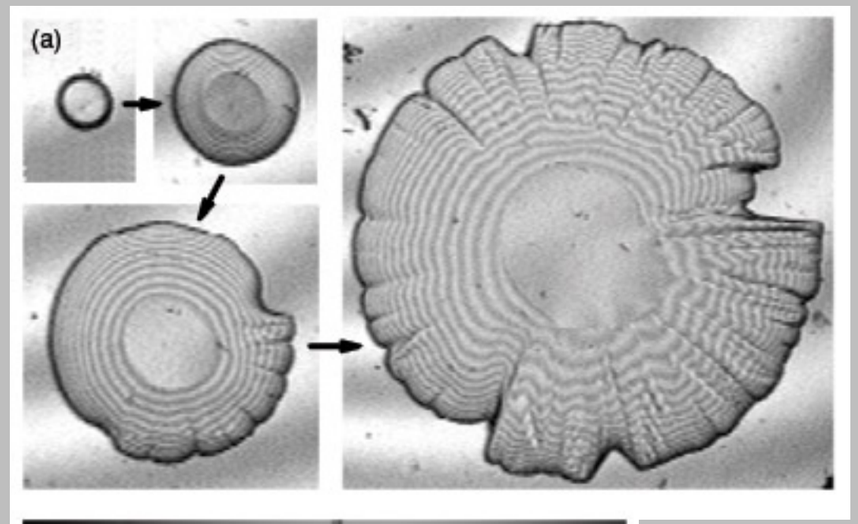
Are you ready for nano-weapons of mass destruction? Nanotechnology could be used to create "miniaturized nuclear weapons" that would have virtually no fallout, and super-efficient bioterrorism, warns Jane's Defense Quarterly. And they could be triggered with a super-laser!

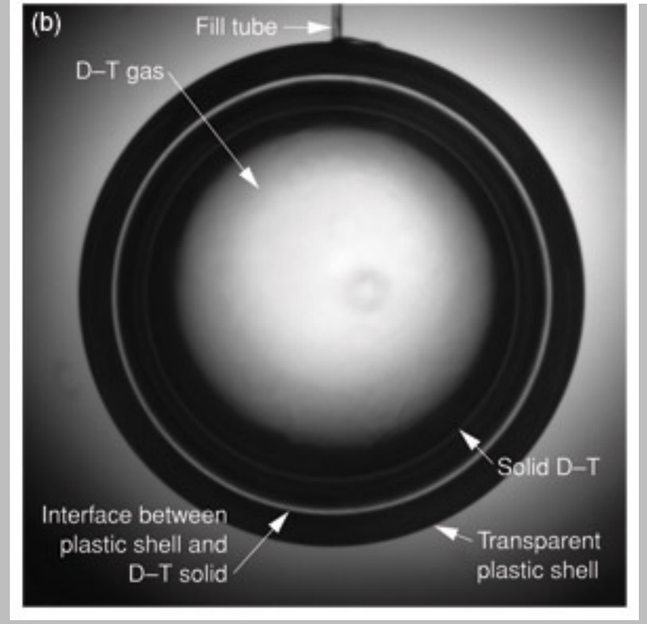
A new article in the Miami Herald raises a terrifying prospect for nanotech warfare:

Jane's, the London-based research group that publishes the industry standard Jane's All the World's Aircraft, warns that nanotechnology can be used to create entirely new hazards such as miniaturized nuclear weapons that are smaller, lighter, easier to transport and hide and smuggle into unsuspecting countries. It says nano techniques designed to deliver medicines in a more-targeted way also can deliver toxic substances in a form of bioterrorism.

Nanotechnology, in which materials are machined on a molecule-by-molecule, or atom-by-atom basis, could produce super-nukes that are so tiny, they don't technically qualify as weapons of mass destruction, Jane's has warned in past articles.

In one 2003 article, Jane's warns that "*some advanced technology, such as superlaser*" could trigger a relatively small thermonuclear explosion involving a deuterium-tritium mixture, in a device weighing no more than a few kilograms. The device could go from a fraction of a ton to "*many tens of tons*" of high-explosive equivalent yield, and because they use little to no fissionable materials, they would have "*virtually no radioactive fallout.*" Self-replicating nanotech could also produce conventional weapons in such quantities that they would become WMDs.





Interferometric images of a deuterium-tritium crystal

(a) Interferometric images of a growing deuterium–tritium (D–T) crystal show a layer of the crystal that is growing more rapidly than those in the center, leading to a rough surface.

(b) Visible light illuminates a transparent plastic shell in which D–T crystals have fused together to form a perfect circle, or interface, between a solid layer of D–T and the shell's center of D–T gas. Liquid D–T is poured into the fill tube at the top, and the liquid is slowly cooled to form the solid layer.

Are you scared yet?

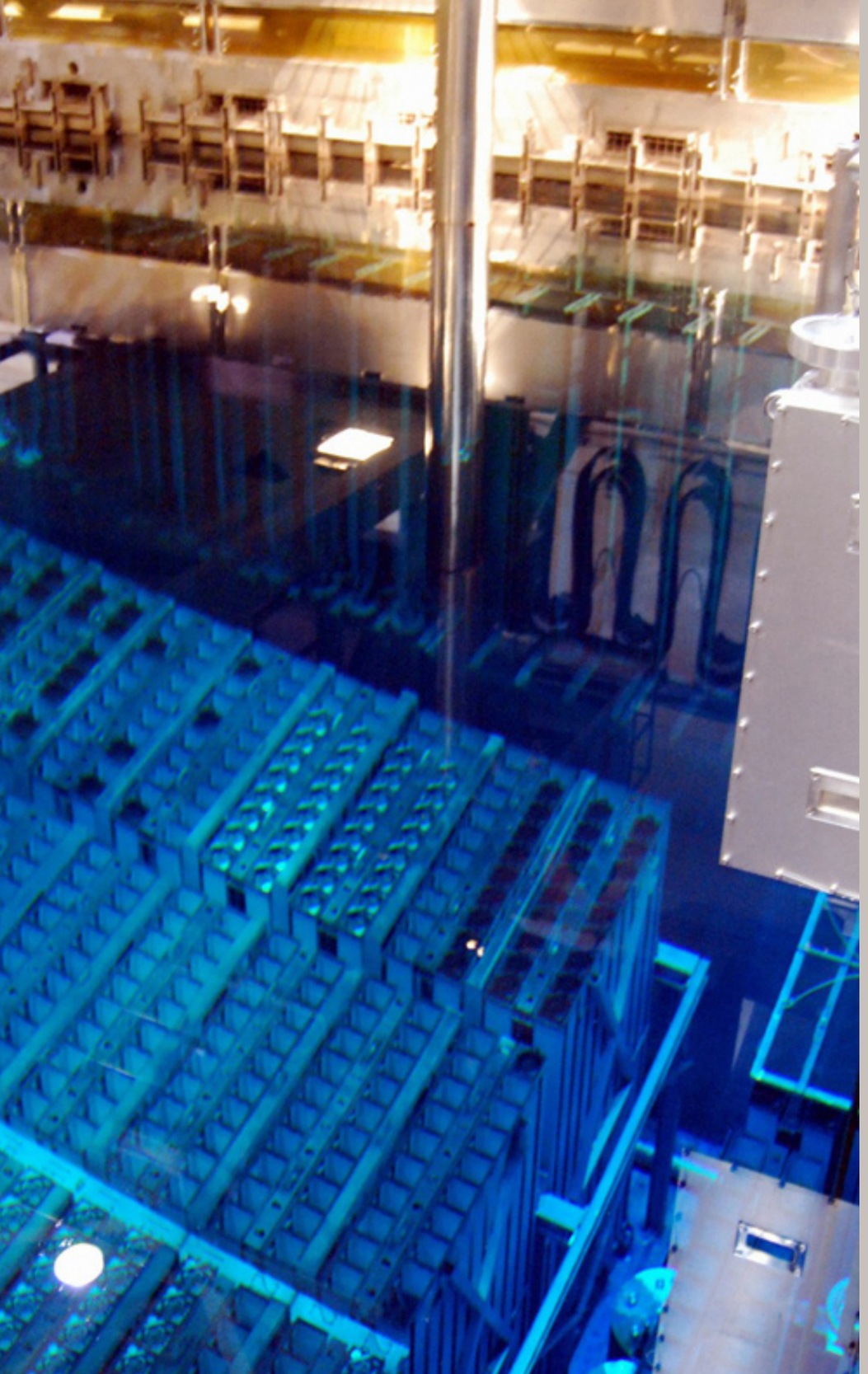
a relatively small

thermonuclear explosion

involving a deuterium-tritium mixture

in a device weighing no more

than a few kilograms



NANOTECH RESEARCH INTO IMPROVING CLADDING OF NUCLEAR FUEL RODS

A report from the Institute for Policy Studies says that the spent nuclear fuel currently stored in pools at dozens of sites in the U.S. poses a danger and should be moved into dry storage as soon as possible.

Plutonium-uranium mixed oxide (MOX) fuel rods are placed in a storage pool at the No. 3 reactor of the Fukushima Daiichi nuclear power plant in a photo taken before the disaster (at left) in August 2010. A report from the Institute for policy studies says there are serious risks from such pools in the U.S.

The report, authored by Robert Alvarez, who served as a Senior Policy Advisor to the Secretary of Energy during the Clinton administration, says the problem is that too often the spent fuel pools are storing more fuel – and more highly radioactive fuel – than they were designed for.

Alvarez also says there have been at least 10 incidents in the last decade in which the spent fuel pool lost a significant amount of water, and there are other cases in which the systems that keep the pools functioning as they should are under strain. Much of this, he says, is simply because most of the pools in the country are at capacity already. The United States has 65,000 metric tons of spent fuel at various facilities. About 75 percent of it is stored in the pools. Spent fuel rods are, when they are first removed from a reactor, highly radioactive.

Last July, Dr. Hongbing Lu, a nanomaterials expert and researcher at the University of Texas at Dallas, received nearly $900,000 from the US Department of Energy (DoE) to begin to look at how it may be possible to improve the materials used for cladding nuclear fuel rods.

At the time of the announcement, it seemed the main benefit to come from the research would be a reduction in fuel burn rate and increasing efficiency of nuclear power plants. But now with the unfolding nuclear disaster in Japan one can't help but wonder if improving the cladding materials of the nuclear rods might have helped avoid leakage when the rods were temporarily exposed. Lu was planning to first investigate how cracks propagate in the materials and then ultimately to start looking at various materials that could avoid this kind of cracking.

"*We're working on a very general simulation methodology that can be applied to that kind of environment,"* Lu said. *"It's more than just crack growth. We need to understand how the material behaves under extreme pressure, temperature, corrosion and irradiation. With the methodology we're using, we're taking all of those factors into consideration and incorporating material behaviors into some mathematical models to describe them under very complicated conditions*."

At the time of the article announcing the DoE research grant, Lu expected that the materials research they were conducting would not only be beneficial for the materials cladding the nuclear fuel rods but also for other parts of nuclear devices.

NUCLEAR NANO MATERIALS

Next generation nuclear power plants using nano-technology will operate at higher temperatures and the materials used in their construction will experience significantly higher levels of radiation and heat than current designs (*125 million degrees and more*). It is therefore vital to thoroughly understand the effects of high radiation doses on material properties. Radiation creates defects and, over time, these defects migrate and coalesce to form voids, bubbles and dislocation loops, all of which affect the strength and performance of the materials. Radiation effects are important, not only for structural materials in fission and fusion power plants but also in nuclear fuel elements, nuclear demolition, missiles and warfare as well as in materials used for the long term storage of radioactive waste. Nanotechnology is at the forefront of all of these technical challenges.

Building 7 • September 13, 2001

NANOROBOTICS

Nanorobotics is the emerging technology field creating machines or robots whose components are at or close to the scale of a nanometer (10^{-9} meters). More specifically, nanorobotics refers to the nanotechnology engineering discipline of designing and building nanorobots, with devices ranging in size from 0.1-10 micrometers and constructed of nanoscale or molecular components. The names nanobots, nanoids, nanites, nanomachines or nanomites have also been used to describe these devices currently under research and development.

Nanomachines are largely in the research-and-development phase, but some primitive molecular machines have been tested. An example is a sensor having a switch approximately 1.5 nanometers across, capable of counting specific molecules in a chemical sample. The first useful applications of nanomachines might be in medical technology, which could be used to identify and destroy cancer cells. Another potential application is the detection of toxic chemicals, and the measurement of their concentrations, in the environment. Recently, Rice University has demonstrated a single-molecule car developed by a chemical process and including buckyballs for wheels. It is actuated by controlling the environmental temperature and by positioning a scanning tunneling microscope tip.

Another definition is a robot that allows precision interactions with nanoscale objects, or can manipulate with nanoscale resolution. Such devices are more related to Microscopy or Scanning probe microscopy, instead of the description of nanorobots as molecular machine. Following the microscopy definition even a large apparatus such as an atomic force microscope can be considered a nanorobotic instrument when configured to perform nanomanipulation. For this perspective, macroscale robots or microrobots that can move with nanoscale precision can also be considered nanorobots.

THE NANOROBOT RACE

In the same ways that technology development had the space race and nuclear arms race, a race for nanorobots is occurring. There is plenty of ground allowing nanorobots to be included among the emerging technologies. Some of the reasons are that large corporations, such as General Electric, Hewlett-Packard and Northrop Grumman have been recently working in the development and research of nanorobots; surgeons are getting involved and starting to propose ways to apply nanorobots for common medical procedures; universities and research institutes were granted funds by government agencies exceeding $2 billion towards research developing nanodevices for medicine; bankers are also strategically investing with the intent to acquire beforehand rights and royalties on future nanorobots commercialization. Some aspects of nanorobot litigation and related issues linked to monopoly have already arisen. A large number of patents has been granted recently on nanorobots, done mostly for patent agents, companies specialized solely on building a patent portfolio, and lawyers. After a long series of patents and eventually litigations, see for example the Invention of Radio or about the War of Currents, emerging fields of technology tend to become a monopoly, which normally is dominated by large corporations.

What the public knows about nano-technology is only what the public is allowed to know. Nanofactory Collaboration, founded by Robert Freitas and Ralph Merkle in 2000 and involving 23 researchers from 10 organizations and 4 countries, focuses on developing a practical research agenda specifically aimed at developing positionally-controlled diamond mechanosynthesis and a diamondoid nanofactory that would have the capability of building diamondoid medical nanorobots.

NUBOTS

Nubot is an abbreviation for "*nucleic acid robots*". Nubots are organic molecular machines at the nanoscale. DNA structure can provide means to assemble 2D and 3D nano-mechanical devices. DNA based machines can be activated using small molecules, proteins and other molecules of DNA. Biologic circuit gate based on DNA materials has been engineered as molecular machines to allow in vitro drug delivery for targeted health problems. Such material based systems would work most closely to smart biomaterial drug system delivery, while not allowing precise in vivo teleoperation of such engineered prototypes.

MOTORS AND POWER GENERATION

Some of these dozens of basic nano-block designs will contain motors. What kind of motors? Here are some options...

1. Light-driven Motors: Rice University, for example, has demonstrated that molecular machines are possible with its "nanocar." Last year, researchers at the school revealed that they had attached a motor to the molecule-size vehicle. The motor is powered by a beam of light, making it the first nanovehicle with its own engine. Roughly 20,000 of the cars could be parked side-by-side across the diameter of a human hair, the scientists said.

2. Electrostatic Motors: Electrostatic forces—static cling—can make a motor turn. As the motor shrinks, the power density increases; calculations show that a nanoscale electrostatic motor may have a power density as high as a million watts per cubic millimeter. And at such small scales, it would not need high voltage to create a useful force.

3. Temperature-change Motors: Researchers from the Spanish National Research Council, Universitat Autònoma de Barcelona, and the Catalan Institute of Nanotechnology claim to have created the first nanomotor that is moved by changes in temperature. This is believed to be the first time a nanometre-sized motor has been created that can use changes in temperature to generate and control movements.

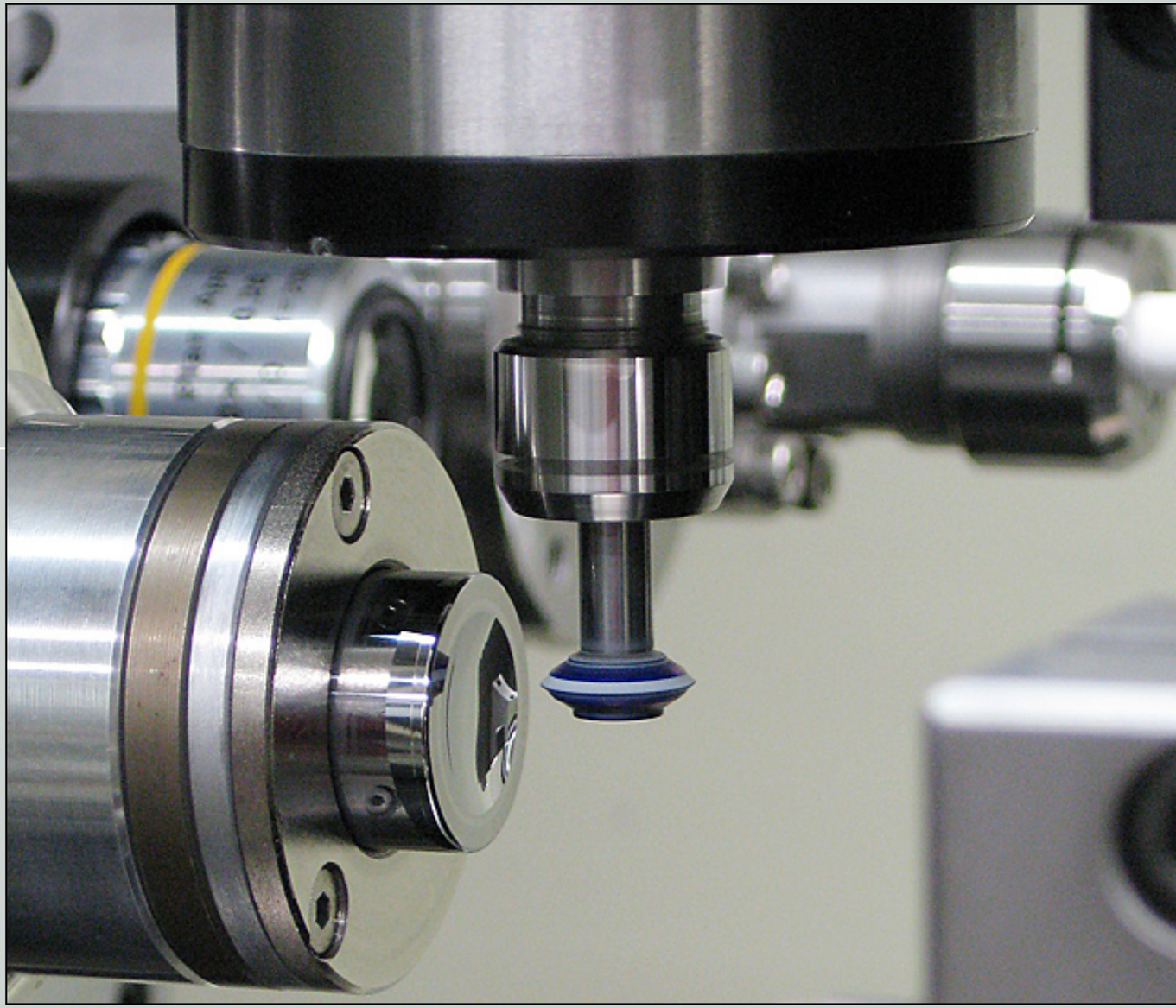
The '*nanotransporter*' consists of a carbon nanotube—a cylindrical molecule formed by carbon atoms—covered with a shorter concentric nanotube that can move back and forth or act as a rotor. A metal cargo can be added to the shorter mobile tube, which could then transport this cargo from one end to the other of the longer tube or rotate it around its axis.

Researchers are able to control these movements by applying different temperatures at the two ends of the long nanotube. The shorter mobile tube thus moves from the warmer to the colder area in a similar manner to the way in which air moves around a heater. The movements along the longer tube can be controlled with a precision of less than the diameter of an atom. This ability to control the objects at the nanometre scale can be extremely useful for future nano-electromechanical applications. Note that this new motor can control movement "*with a precision of less than the diameter of an atom*" — in other words, with atomic precision.

21ST CENTURY NANO-TECH

Moore Nanotechnology Systems, LLC (Nanotech®) is dedicated to the development of ultra-precision machining systems and their successful utilization through the formation of lifelong customer partnerships. Total customer satisfaction of our products and services has always been, and will continue to be, our highest priority as we support our customer's expansion into new markets through the design and development of new products, complimentary machine accessories, and enhancements to our existing products.

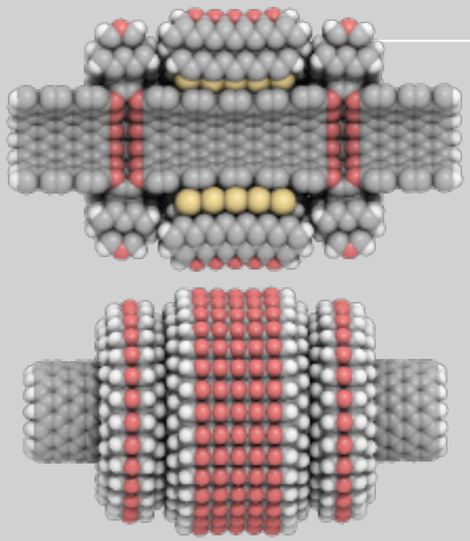
Our ultra-precision machine systems support single point diamond turning, deterministic micro-grinding, precision micro-milling, and glass press molding for the production of advanced optics including diamond turning sphere, asphere, freeform, conformal, lens array, and plano surfaces. We offer a diverse line of options and accessories to customize our machining platforms to suit our customer's specific applications, including our state-of-the-art NFTS-6000 Fast Tool Servo system and our industry leading NanoCAM® 3D Freeform programming and analysis software.



To view actual moving molecular nano-machinery we highly recommend this link, it's fascinating: http://nanoengineer-1.com/content/index.php?option=com_content&task=view&id=40&Itemid=50

To view nano-Mechanosynthesis and movement at nano-scale we highly recommend this link (*click images*): http://www.nanoengineer-1.com/nh1/index.php?option=com_content&task=view&id=37&Itemid=49

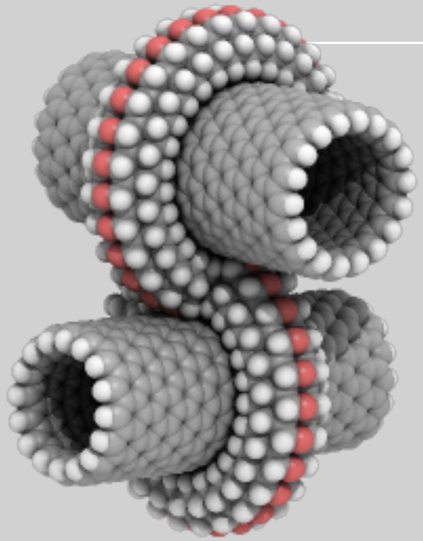
NANO-TECHNOLOGY MACHINERY



Low-friction Carbon Nanotube Bearing Assembly

Description:
The high tensile strengths and stiffness of carbon nanotubes have made them important as building materials in many current nanoscience applications. Their range of use is expected to extend to molecular manufacturing applications in nanoscale scaffolding and molecular electronics. Their cylindrical shape and highly delocalized electronic structure make them interesting possible choices for the design of molecular bearing assemblies. In the design at left, the cut-away section is a single covalent structure, around which a low-friction diamondoid bearing is kept from finding a highly stable minimum energy position.

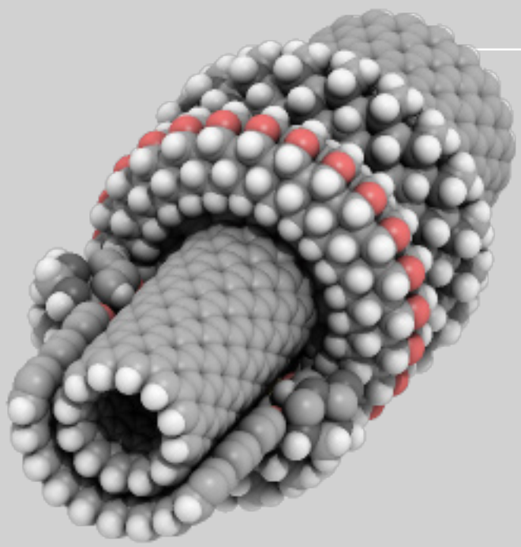
Author:
Damian G. Allis
Department of Chemistry, Syracuse University



Carbon Nanotube Crimp Junction

Description:
The high tensile strengths of carbon nanotubes make them likely material candidates in future nanoscale manufacturing applications. In the absence of atomically precise manufacturing methods for fabricating continuous scaffoldings of a single nanotube, methods that lock nanotubes into place by strong electrostatic and/or steric approaches may be possible. The diamondoid crimp junction shown at left is a single covalent nanostructure that fixes two nanotubes at right angles.

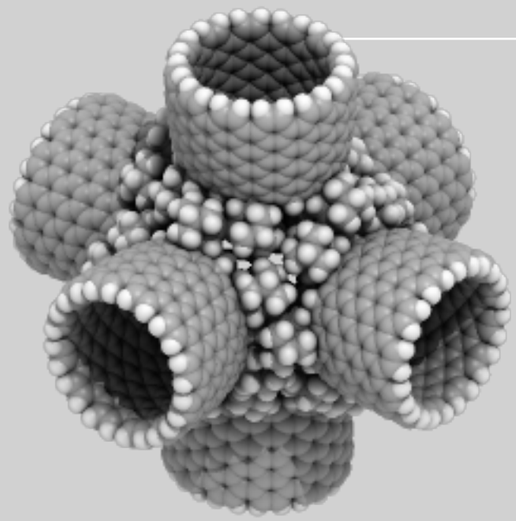
Author:
Damian G. Allis
Department of Chemistry, Syracuse University



A Carbon Nanotube Molecular Bearing Assembly

Description:
The design of complex nanosystems with numerous moving parts is made complicated by the fundamental limits of chemical bonding and the possible interfaces between moving parts that can be achieved with certain nanostructures. It is possible that this spatial quantization of atomically precise building materials may also be used to drive the self-assembly of some nanosystems, greatly simplifying the assembly process. The nesting of appropriately sized carbon nanotubes, such as shown at left, can serve as a strong driving force for molecular bearing self-assembly.

Author:
Damian G. Allis
Department of Chemistry, Syracuse University



Carbon Nanotube 6-way Junction

Description:
The junction at left is generated by three pairs of carbon nanotubes fixed along (x,y,z) axes. The interfaces at the center of this junction are composed of 6 adamantane molecules covalently bound to each carbon nanutobe and functionalized with either nitrogen (N) or boron (B) atoms. These nanotubes are not covalently bound to one another, instead employing dative bonding between nearest-neighbor B-N pairs to hold the six nanotubes in place, a method that offers the possibility of complex structure formation via familiar chemical self-assembly.

Author:
Damian G. Allis
Department of Chemistry, Syracuse University

This video is amazing: http://www.nanoengineer-1.com/nh1/videos/cnt-esp.mpg

PART FOUR CONCLUSIONS

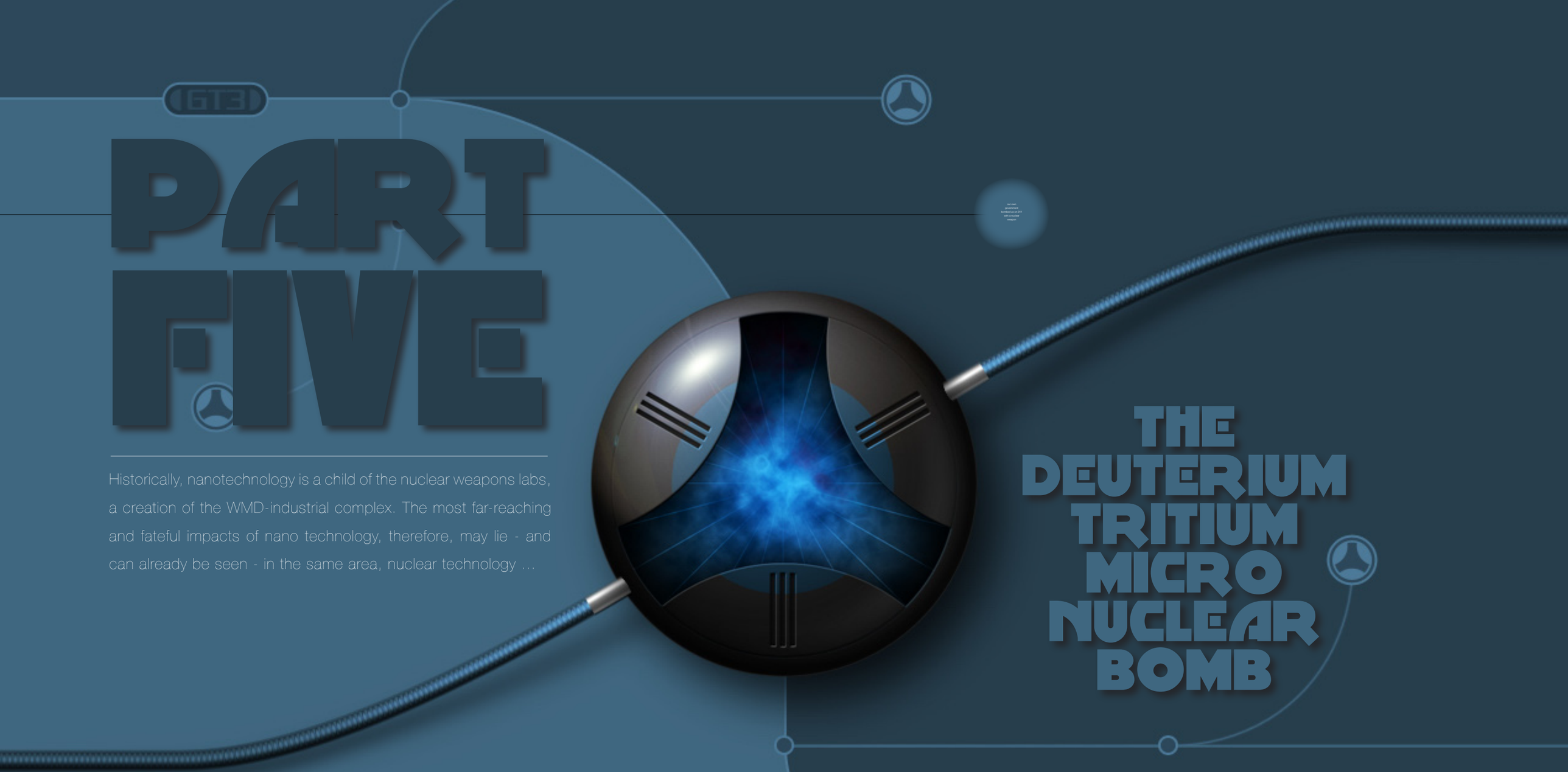
1. Nano technology is a child of the nuclear industry. They work with atoms for goodness sakes; obviously nano started in the nuclear industry and the historical record proves so. More importantly, nano technology started in the military, the military industrial complex and the war machine because that's where it was needed most.

2. Nano tech has advanced beyond our wildest dreams, quite rapidly in fact. As rapidly as the 911 First Responders dying from various rare cancers previously seen only in those exposed to radiation.

3. In the following chapter we'll see that the military desperately needed to develop cleaner nuclear weapons so that they could be used more frequently and they needed very small nuclear weapons. What's more, they needed weapons that didn't use uranium or plutonium, the only two fissionable materials banned under all international treaties for above ground testing and use. That's where the deuterium-tritium fusion fission reaction comes in. Very little uranium is produced, quite a bit of tritium is produced and the radioactivity is reduced by 97% lasting just a week or so. The tritium rapidly dissipated by either rain or water or just naturally, its radiation is no longer easily detectable after just a week or so.

PART FIVE

Historically, nanotechnology is a child of the nuclear weapons labs, a creation of the WMD-industrial complex. The most far-reaching and fateful impacts of nano technology, therefore, may lie - and can already be seen - in the same area, nuclear technology …



THE DEUTERIUM TRITIUM MICRO NUCLEAR BOMB

4TH GENERATION NUCLEAR WEAPONS

Tiggz 2005

THE MICRONUCLEAR DEUTERIUM-TRITIUM FUSION TRIGGERED FISSION BOMB

D + T -> He-4 (3.5 MeV) + n (14.1 MeV)

Version 2.04 • February 20th, 1999

Carey Sublette

This section, the next 5-6 pages, contains a complex report on the history of D-T devices. They work, they are capable of mass destruction and when miniaturized they can take down tall towers in a single bound because the micronuclear deuterium tritium fusion triggered fission bomb is the Superman of nano-technology and nuclear technology combined.

A number of weapon designs have been developed that use the D-T reaction in a variety of ways. All of them depend on the highly energetic neutrons produced by the D-T reaction. Some of these designs use the neutrons to achieve significant fission yield enhancement, thus reducing the expenditure of fissile material for a given yield. Others exploit the neutrons directly as a weapon.

The fusion boosting and Alarm Clock/Layer Cake designs were pioneered by the US and USSR in the early 1950s. Neutron bombs were apparently not developed by either nation until the late 1960s or early 1970s.

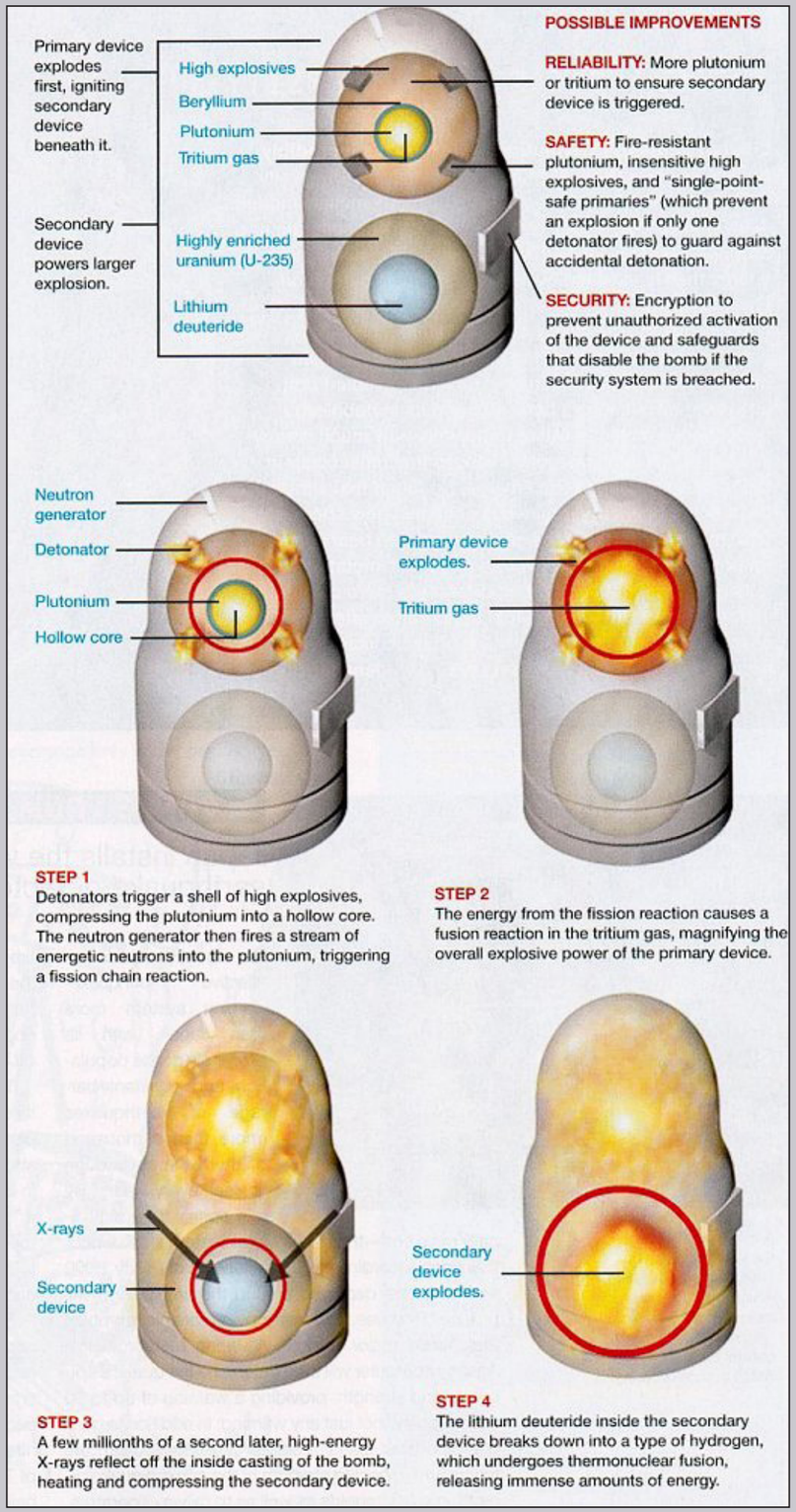
FUSION BOOSTED FISSION WEAPONS

Fusion boosting is a technique for increasing the efficiency of a small light weight fission bomb by introducing a modest amount of deuterium- tritium mixture (*typically containing 2-3 g of tritium*) inside the fission core. As the fission chain reaction proceeds and the core temperature rises at some point the fusion reaction begins to occur at a significant rate. This reaction injects fusion neutrons into the core, causing the neutron population to rise faster than it would from fission alone (*that is, the effective value of alpha increases*).

The fusion neutrons are extremely energetic, seven times more energetic than an average fission neutron, which causes them to boost the overall alpha far out of proportion to their numbers. This is due to three reasons:

1. Their high velocity creates the opposite of time absorption - time magnification.
2. When these energetic neutrons strike a fissile nucleus a much larger number of secondary neutrons are released (*e.g. 4.6 vs 2.9 for Pu-239*).
3. The fission cross section is larger in both absolute terms, and in proportion to scattering and capture cross sections.

Taking these factors into account, the maximum alpha value for plutonium (density 19.8) is some 8 times higher than for an average fission neutron (*2.5x10^9 vs 3x10^8*).



A sense of the potential contribution of fusion boosting can be gained by observing at 1.5 g of tritium (*half an atom mole*) will produce sufficient neutrons to fission 120 g of plutonium directly, and 660 g when the secondary neutrons are taken into account. This would release 11.6 kt of energy, and would by itself result in a 14.7% overall efficiency for a bomb containing 4.5 kg of plutonium (*a typical small fission trigger*). The fusion energy release is just 0.20 kt, less than 2% of the overall yield. Larger total yields and higher efficiency is possible of course, since this neglects the fission-only chain reaction required to ignite the fusion reaction in the first place and that fission multiplication would continue significantly beyond the fissions caused by the fusion induced secondaries.

The fusion reaction rate is proportional to the square of the density at a given temperature, so it is important for the fusion fuel density to be as high as possible. The higher the density achieved, the lower the temperature required to initiate boosting. Lower boosting initiation temperatures mean that less pre-boost fission is required, allowing lower alpha cores to be used.

High fusion fuel densities can be achieved by using fuel with a high initial density (*highly compressed gas, liquid hydrogen, or lithium hydride*), by efficient compression during implosion, or most likely by both.

Although liquid D-T was used in the first

US boosting test (*Greenhouse Item*), this is not a practical approach due to the difficulty in achieving and maintaining cryogenic temperatures (*especially considering that 3 grams of tritium constitutes a heat source of approximately 1 watt*).

US nuclear weapons are known to incorporate tritium as a high pressure gas, that is kept in a reservoir external to the core (*probably a deuterium - tritium mixture*). The gas is vented into the weapon core shortly before detonation as part of the arming sequence. Initial densities with a room-temperature gas (*even a very high pressure one*) are substantially lower than liquid density. The external gas reservoir has the important advantage though that it allows the use of "*sealed pit*", a sealed plutonium core that does not need servicing.

The tritium reservoir can be easily removed for repurification and replenishment (*removing the He-3 decay product, and adding tritium to make up for the decay loss*) without disturbing the weapon core.

A possible alternative to the use of a high pressure gas reservoir is to store the gas in the form of a metal hydride powder, uranium hydride (UH3) for example. The hydrogen can be rapidly and efficiently released by heating the hydride to a high temperature - with a pyrotechnic or electrical heat source perhaps.

A problem with using hydrogen gas is that it reacts very rapidly with both uranium and plutonium to form solid hydrides (*especially plutonium, the Pu-H reaction rate is hundreds of times higher than that of any other metal*). Perhaps this is why uranium was used as the fissile material on 911. The formation of hydrides is very undesirable for the boosting process since it dilutes the gas with high-Z material. This can be prevented by lining the boost gas cavity with an impermeable material. Thin copper shells have been used for this purpose. Alternatively the injection of fusion fuel could simply be conducted immediately before detonation, reducing contact between the core and the hydrogen isotope mixture to no more than a few seconds.

Lithium hydrides achieve an atomic density of hydrogen that is about 50% higher than in the liquid state, and since the hydride is a (*relatively*) stable inert solid it is also easy to handle. A key disadvantage is that the hydride must be permanently incorporated into the core requiring complete core removal and disassembly to replenish and purify the tritium.

The ideal location for the boosting gas would seem to be in a cavity in the very center of the fissile mass, since this would maximize the probability of neutron capture, and the core temperature is also highest there. In a levitated core design, this would make the levitated core into a hollow sphere. This is not desirable from the viewpoint of efficient fissile material compression however since a rarefaction wave would be generated as soon as the shock reached the cavity wall.

An alternative is to place the boosting gas between the outer shell and the levitated pit. Here the collapsing thin shell would create multiple reflected shocks that would efficiently compress the gas to a thin very high density layer. There is evidence that US boosted primaries actually contain the boosting gas within the external shell rather than an inner levitated shell. The W-47 primary used a neutron absorbing safing wire that was withdrawn from the core during weapon arming, but still kept its end flush with the shell to form a gas-tight seal.

The conditions created by compressing the gas between the collapsing shell and levitated core are reminiscent of a recently reported shock compression experiment conducted at Lawrence Livermore in which liquid hydrogen was compressed to a metallic state by the impact of a 7 km/sec gas gun driven plate. This experiment

---

To date what I have found out is that there is a romance to these "Red Mercury" devices and that the name may mislead a person in understanding what the essence of the device is. It is actually a deuterium/tritium gas fusion bomb that is compressed down to thirty times the density of lead into a palladium lithium 6 compound. As stated, it does not need high temperatures in order for a fusion reaction to occur because of cavitation, the collapsing of nano bubbles within the compound that contains the pressurized gas which creates one million degrees centigrade.

Everything needed to build a nuclear fusion bomb is available commercially. Any high school chemistry student who has taken calculus can build a nuclear fusion bomb.

In understanding nuclear devices I have found out that the key to building them is not in the materials but in the design. There are many designs that have been created that involve fusion alone and a fission/fusion combination. However what this report is most concerned with is compressed deuterium/tritium gas fusion devices. It is a fusion bomb that may be created that is the size of a golf ball that is of interest. This device could be ignited by a laser or a particle beam. A particle beam is a device that uses charged or neutral particles such as electrons, protons, heavy ions or neutrons. Such a device would be detonated in the top floor of a large multi-story building in a city for the greatest effect.

In a fusion bomb you do not need a critical mass to cause a chain reaction.

In order to build these devices one needs to know the reactive properties, physical properties, chemical properties and electrical properties of the materials and gases involved. In addition one must do the needed stoichiometrics and quantum work. Plus one must know material science and the particular materials, and their size and composition that you compress the deuterium/tritium gas into. I don't intend to be publishing those specifics here or anywhere else but I will remain vigilant to the sinister unknown (*not really*) others being able to manufacture and deploy these devices.

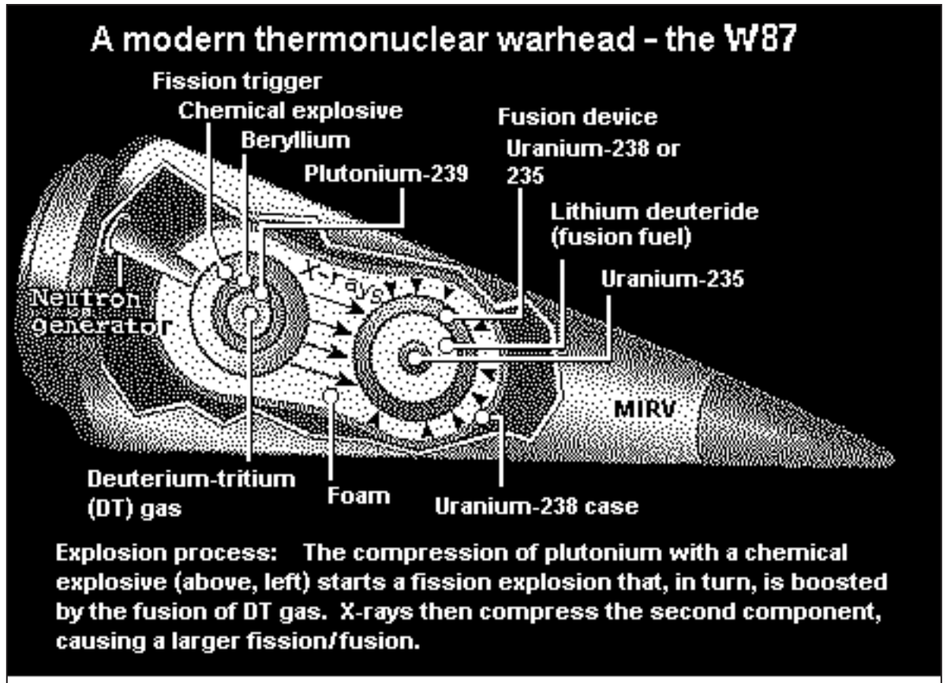
If you want a report on these hand held nuclear devices read the August 2004 edition of Popular Mechanics (*above*).

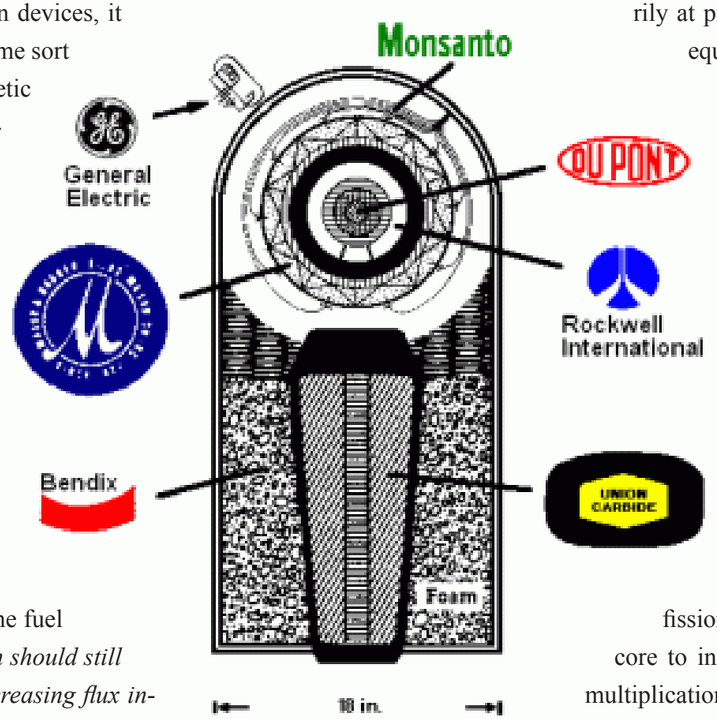
generated pressures of 1.4 megabars, and hydrogen densities nine times higher than liquid. The velocity of an imploding shell is more like 3 km/sec and the boost gas is at a lower initial density, still, the pressures that can be expected are at least as high, so a similar hydrogen density (around 0.75 atom-moles/cm^3) may be achievable.

It is also possible to dispense with a levitated pit entirely and simply collapse a hollow sphere filled with boosting gas. Since the fissile shell would return to normal density early in the collapse, there does not seem to be any advantage in doing this.

Fusion boosting can also be used in gun-type weapons. The South Africans considered adding it to their fission bombs, which would have increased yield five-fold (from 20 kt to 100 kt). Since implosion does not occur in gun devices, it cannot contribute to fusion fuel compression. Instead some sort of piston arrangement might be used in which the kinetic energy of the bullet is harnessed by striking a static capsule.

The fusion fuel becomes completely ionized early in the fission process. Subsequent heating of the hydrogen ions then occurs as a two step process - thermal photons emitted by the core transfer energy to electrons in the boost plasma, which then transfer energy to the ions by repeated collisions. As long as this heating process dominates, the fusion fuel remains in thermal equilibrium with the core. As the temperature rises, the fusion fuel becomes increasingly transparent to the thermal radiation. The coupling is efficient up to around 10^7 K, after which the fuel intercepts a dwindling fraction of the photon flux (*which should still keep it in temperature equilibrium given the greatly increasing flux intensity*).





The fusion process releases 80% of its energy as neutron kinetic energy, which immediately escapes from the fuel. The remaining 20% is deposited as kinetic energy carried by a helium-4 ion. This energy remains in the gas, and can potentially cause significant heating of the fuel. The question arises then whether the fusion fuel continues to remain in equilibrium with the core once thermonuclear burn becomes significant, or whether self-heating can boost the fuel to higher temperatures. This process could, in principal, cause the fusion fuel temperature to "*run away*" from the core temperature leading to much faster fuel burn-up. This sounds very much like what we saw on 911 in lower Manhattan.

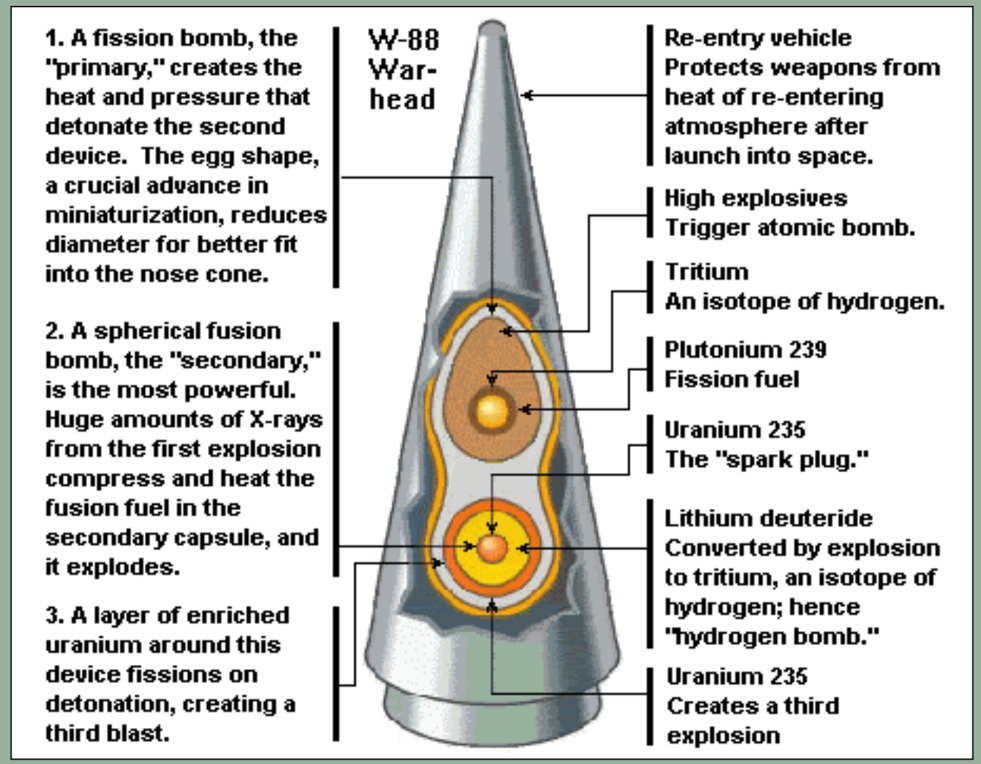
I have not resolved this question satisfactorily at present, but it may be that the fusion fuel will remain in equilibrium, rather than undergo a runaway burn. Most of the helium ion energy is actually transferred to the electrons in the plasma (80-90%), which then redistribute it to the deuterium and tritium ions, and to bremsstrahlung photons. The energy must be transferred to the ions before it is available for accelerating the fusion reaction, a process which must compete with photon emission. If the photon-electron coupling is sufficiently weak then the boost gas can still run-away from the core temperature, otherwise it will remain in thermal equilibrium.

Boosting effectively begins when the ions are hot enough to produce neutrons at a rate that is significant compared to the neutron production rate through fission alone. This causes the effective value of alpha in the core to increase leading to faster energy production and neutron multiplication. In the temperature range where boosting occurs, the D-T fusion rate increases very rapidly with temperature (*modelled as an*

exponential or high order polynomial function), so the boosting effect quickly becomes stronger as the core temperature climbs.

At any particular moment the contribution to alpha enhancement from boosting is determined by the ratio between the rate of neutron increase due to fission spectrum neutron secondaries, and the rate of increase due to fusion neutron secondaries. The fission spectrum contribution is determined in turn by the unboosted fission spectrum value of alpha, and the fission spectrum neutron population in the core. The fusion contribution is determined by the fusion reaction rate, and the fusion neutron alpha value. To optimize yield this enhancement should be at a maximum just as disassembly begins.

The fusion reaction rate typically becomes significant at 20-30 million degrees K. This temperature is reached at very low efficiencies, when less than 1% of the fissile material has fissioned (corresponding to a yield in the range of hundreds of tons). Since implosion weapons can be designed that will achieve yields in this range even if neutrons are present a the moment of criticality, fusion boosting allows the manufacture of efficient weapons that are immune to predetonation. Elimination of this hazard is a very important advantage in using boosting. It appears that every weapon now in the U.S. arsenal is a boosted design. Some of these weapons are *very* small.



NEUTRON BOMBS OR "ENHANCED RADIATION WEAPONS"

The design objective of the tactical neutron bombs developed in the 1960s and 70s was to create a low-yield, compact weapon that produced a lethal burst of neutrons. These neutrons can penetrate steel armor with relative ease, enabling the weapons to be effective against tanks and other armored vehicles which are otherwise highly resistant to the effects of nuclear weapons. A flux of several thousand rems were desired so that incapacitation of armored crews would be relatively rapid, with in several hours to a couple of days at most. In this exposure range death is inevitable. To minimize the effects of collateral damage, the effect of thermal radiation and blast outside the neutron kill radius, it was also very desirable to minimize the energy released in forms other than the neutron flux.

The means for generating this intense neutron flux is to ignite a quantity of deuterium-tritium fuel with a low yield fission explosion. It is essential however to avoid the absorption of those neutrons within the bomb, and especially to *prevent* the fusion-boosting effect on the trigger. The weapon must also fit inside an 8” diameter artillery shell. Like I said, as small as an apple.

An example of such a weapon is the US Mk 79-0 warhead for the XM-753 8” AFAP (*artillery fired atomic projectile*). This shell was 44 inches long and weighed 214 lb. The W-79-0 component was only about 37 cm long. The maximum yield of the W-70-0 was 1 kt, of which 0.75 kt was due to fusion, and 0.25 kt to fission.

It has been suggested by some that a neutron bomb is simply a variation of a boosted fission bomb, e.g. the fusion fuel is in the center of the fissile mass. Elementary analysis shows that this idea is impossible. The 3:1 fusion:fission yield ratio of the W-79-0 indicates that there must be 31 fusion reactions releasing 540 MeV (*and 31 fusion neutrons*) for each fission (*which release 180 MeV*). This means more than 97% of the fusion neutrons must escape the core without causing fission. Since a critical mass is by definition one in which a neutron has less than a 35-40% chance of escaping without causing fission, the fusion reaction cannot occur there. Consequently the fusion reaction must take place in a location outside the fissile core.

Simulations show that at the temperatures reached by a 250 ton fission explosion, and at normal densities (*gas highly compressed to near liquid density, or in lithium hydrides*) even deuterium-tritium fuel does not fuse fast enough for efficient combustion before the expanding fissile mass would cause disassembly. The fuel must be compressed by a factor of 10 or so for the reaction to be sufficiently fast.

Computations also show that care must be taken to heat the fuel symmetrically. The radiation pressure and ablation forces during heating are so large that if significant asymmetry occurs, the fuel will be dispersed before much fusion takes place.

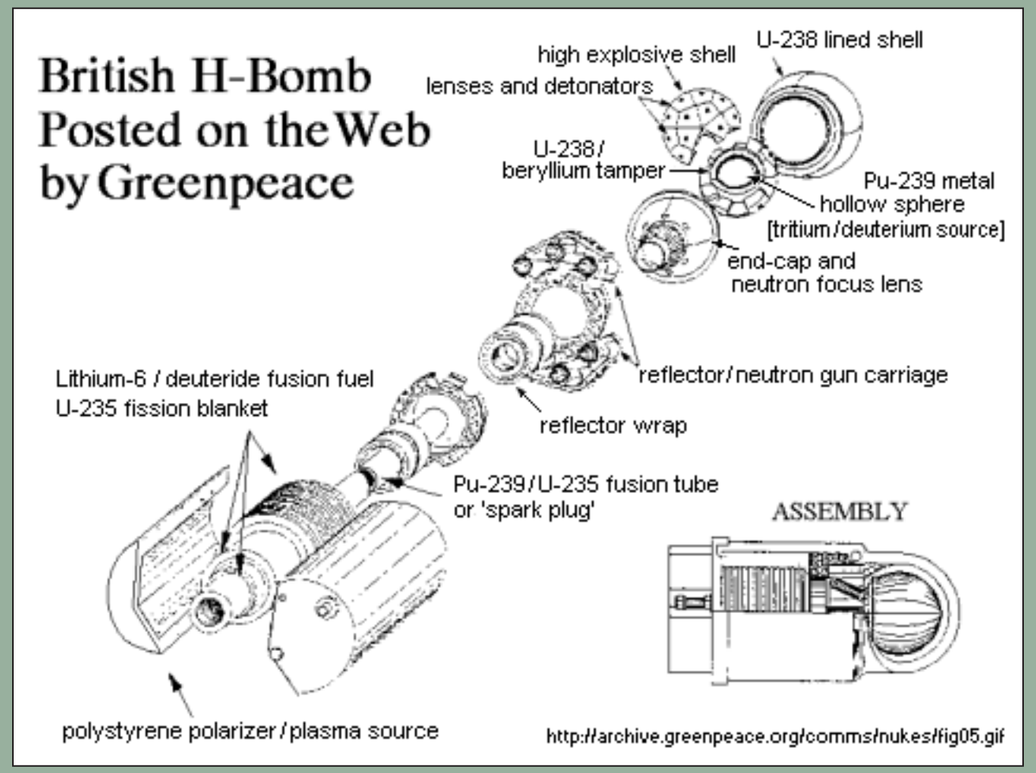
Taken together, these considerations make it evident that neutron bombs are miniaturized variants of staged radiation implosion fusion bombs.

The fissile mass is separated from the fusion fuel, which is compressed and heated by the thermal radiation flux from the fissile core. Due to the small mass of the fusion fuel, and the low temperature of ignition, a fission spark plug internal to the fusion capsule is not necessary to ignite the reaction. The ignition probably occurs when the thermal radiation diffuses through the pusher/tamper wall of the fusion capsule. It is also possible that the localized region of intense heating that develops when the shock in the fuel capsule converges at the center may be responsible for, or contribute to, the ignition of the fusion reaction (*this is similar to the ignition process in inertial confinement fusion experiments*).

The W-79 fissile core is plutonium and is assembled through linear implosion. It is known to contain tungsten and uranium alloys. The likely use of the tungsten is to provide a high-Z material for providing the radiation case, and for the fuel capsule pusher/tamper. Uranium may be used simply to provide inertial mass around the core compression system, it may also serve in part as a neutron reflector.

A notional sketch of the W-79 is given below. The dimensions in centimeters are given along the left hand and lower border of the design. Typical screen formatting will tend to stretch the graphic vertically since line width:character width ratios are usually something like 5:3.

The fissile material mass in this design would be something like 10 kg. The 750 ton fusion yield indicates at least 10 g of D-T mixture for the fusion fuel. Under high static pressure hydrogen can reach densities of around 0.1 mole/cc (*0.25 g/cm^3 for DT*). This indicates a fuel capsule volume of at least 40 cm^3, or a spherical radius of 2.5-3 cm including wall thickness.



THE ALARM CLOCK LAYER CAKE DESIGN

The earliest and most obvious idea for using fusion reactions in weapons is to surround the fission core with a fusion fuel. The radiation dominated shock wave from the expanding fission core would compress the fusion fuel 7 to 16 fold, and heat it nearly to the same temperature as the bomb core. In this compressed and heated state a significant amount of fusion fuel would burn.

Calculations quickly showed that only one reaction ignited with sufficient ease to make this useful - the deuterium-tritium reaction. The cost of manufacturing tritium relative to the energy produced from the fusion reaction made this unattractive, unless of course you were trying to demolish two of the strongest, tallest structural steel buildings ever built.

Two ideas were later added to this concept to make a practical weapon design: The first: use lithium-6 deuteride as the fuel. The excess neutrons released by the fission bomb will breed tritium directly in the fuel blanket through the Li-6 + n -> T + He-4 + 4.78 MeV reaction. We saw highly increased levels of tritium in Manhattan. A layer at least 12 cm thick is necessary to catch most of the emitted neutrons. This reaction also helps heat the fuel to fusion temperatures. The capture of all of the neutrons escaping ahead of the shock wave generates about 2.5% as much energy as the entire fission trigger release, all of it deposited directly in the fusion fuel.

The second idea: encase the fusion fuel blanket in a fusion tamper made of uranium. This tamper helps confine the high temperatures in the fusion blanket. Without this tamper the low-Z fusion fuel, which readily becomes completely ionized and transparent when heated, would not be heated efficiently, and would permit much of the energy of the fission trigger to escape. The opaque fusion tamper absorbs this energy, and radiates it back into the fuel blanket. The high density of the fusion tamper also enhances the compression of the fuel by resisting the expansion and escape of the fusion fuel.

In addition the uranium undergoes fast fission from the fusion neutrons. This fast fission process releases far more energy than the fusion reactions themselves and is essential for making the whole scheme practical.

This idea predates the invention of staged radiation implosion designs, and was apparently invented independently at least three times. In each case the evolution of the design seems to have followed the same general lines. It was first devised by Edward Teller in the United States (*who called the design "Alarm Clock"*), then by Andrei Sakharov and Vitalii Ginzburg in the Soviet Union (*who called it the "Layer Cake"*), and finally by the British (*inventor unknown*). Each of these weapons research programs hit upon this idea before ultimately arriving at the more difficult, but more powerful, staged thermonuclear approach.

There is room for significant variation in how this overall scheme is used however. One approach is to opt for a "*once-through*" design. In this scheme the escaping fission neutrons breed tritium, the tritium fuses, and the fusion neutrons fission the fusion tamper, thus completing the process. Since each fission in the trigger releases about one excess neutron (*it produces two and a fraction, but consumes one*), which can breed one tritium atom, which fuses and release one fusion neutron, which causes one fast fission, the overall gain is to approximately double the trigger yield (*perhaps a bit more*).

The gain can be considerably enhanced though, presumably, a thicker lithium deuteride blanket, and a thicker fusion tamper. In this design enough of the secondary neutrons produced by fast fission in the fusion tamper get scattered back into the fusion blanket to breed a second generation of tritium. A coupled fission-fusion-fission chain reaction thus becomes established (*or more precisely a fast fission -> tritium breeding -> fusion -> fast fission chain reaction*). In a sense, the fusion part of the process acts as a neutron accelerator to permit a fast fission chain reaction to be sustained in the uranium tamper. The process terminates when the fusion tamper has expanded sufficiently to permit too many neutrons to escape.

The advantage of the once-through approach is that a much lighter bomb can be constructed.

The disadvantage is that a much larger amount of expensive fissile material is required for a given yield. Yields exceeding a megaton are possible, if a correspondingly large fission trigger is used. Of course were we designing a bomb the size of an apple the cost would be negligible. This design was developed by the British. The Orange Herald device employed this concept and was tested in Grapple 2 (*31 May 1957*). A U-235 fission trigger with a yield in the 300 kt range was used, for a total yield of 720 kt - a boost in the order of 2.5-fold. A variant design was apparently deployed for a while in the fifties under the name Violet Club.

The second approach was adopted by the Soviets and proven in the test known as Joe-4 to the West (*actually the fifth Soviet test*) on 12 August 1953 at Semipalatinsk in Kazakhstan. This resulted in a very massive, but much cheaper bomb since only a small amount of fissile material is required.

Since there is an actual multiplication effect between the fusion reaction and the tamper fast fission, an improved yield can be obtained at reasonable cost by spiking the fusion layer with tritium prior to detonation.

The Joe-4 device used a 40 kt U-235 fission bomb acting as the trigger and produced a total yield of 400 kt for a 10-fold enhancement, although tritium spiking was partly responsible. 15-20% of the energy was released by fusion (60-80 kt), and the balance (280-300 kt) was from U-238 fast fission. A later test without tritium spiking produced only 215 kt.

This design has a maximum achievable yield of perhaps 1 Mt (*if that*) before becoming prohibitively heavy. The USSR may never have actually deployed any weapons using this design. After just over 40 years of miniaturization of the design elements of nuclear weapons and the advances in nanotechnology the US now uses these weapons regularly, in Fallujah, in Afghanistan and of course in New York City on September 11th, 2001. They're just much, much smaller now and they were much, much smaller in 2001 as well.

Source:
High Energy Weapons Archive hosted/mirrored at:
http://gawain.membrane.com/hew/
http://nuketesting.enviroweb.org/hew/
and Rand Afrikaans University Engineering hosted at:
http://www-ing.rau.ac.za/
Engineering and Design of Nuclear Weapons:
http://nuclearweaponarchive.org/Nwfaq/Nfaq4.html
Weapons of Mass Destruction
http://www.fas.org/sgp/eprint/cardozo.html
A Workable Fusion Starship?
http://www.centauri-dreams.org/?p=5691
Nuclear Weapons Diagrams
http://nuclearweaponarchive.org/Library/Brown/index.html
Scientific American, May 26, 2011
http://www.scientificamerican.com/article.cfm?id=skeptical-look-3-wild-fusion-energy-schemes

now you know the science, you know these are complex devices and that they've been used for years and you know 911 was a nuclear event

Disarmament Diplomacy

A Tritium Source at Ground Zero

Issue No. 67, October - November 2002

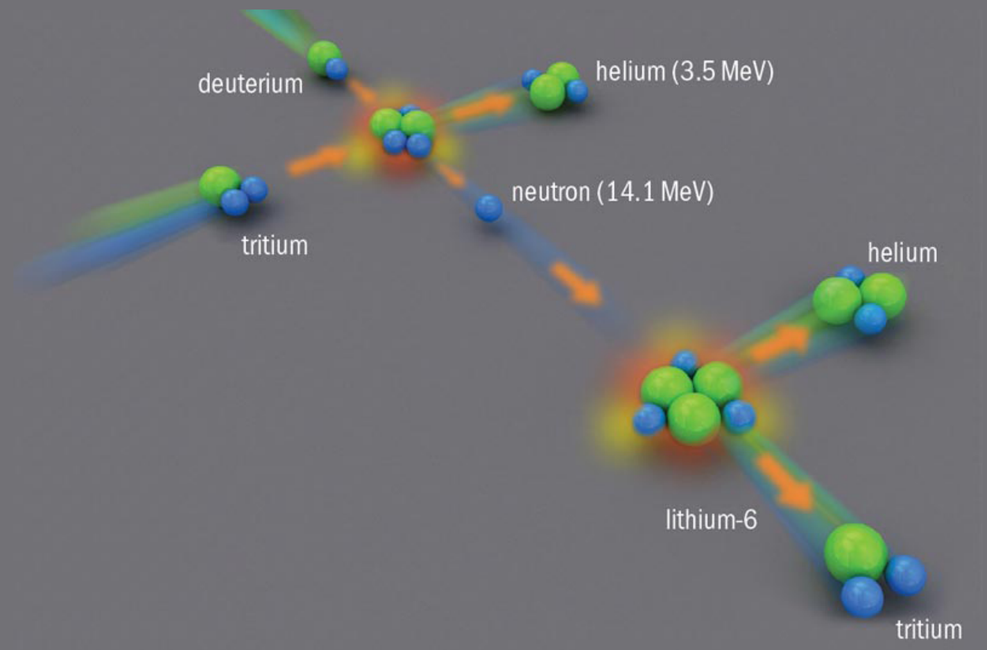
From the Lab to the Battlefield?
Nanotechnology and Fourth-Generation Nuclear Weapons

In Disarmament Diplomacy No. 65, Sean Howard warned of the dangers of enhanced or even new types of weapons of mass destruction (WMD) emerging from the development of 'nanotechnology', an umbrella term for a range of potentially revolutionary engineering techniques at the atomic and molecular level. Howard called for urgent preliminary consideration to be given to the benefits and practicalities of negotiating an 'Inner Space Treaty' to guard against such developments. While echoing this call, this paper draws attention to the existing potential of nanotechnology to affect dangerous and destabilizing 'refinements' to existing nuclear weapon designs. Historically, nanotechnology is a child of the nuclear weapons labs, a creation of the WMD-industrial complex. The most far-reaching and fateful impacts of nanotechnology, therefore, may lie - and can already be seen - in the same area.

The Strategic Context

Two important strategic lessons were taught by the last three wars in which the full extent of Western military superiority was displayed: Iraq, Yugoslavia, and Afghanistan. First, the amount of conventional explosive that could be delivered by precision-guided munitions like cruise missiles was ridiculous in comparison to their cost: some targets could only be destroyed by the expenditure of numerous delivery systems while a single one loaded with a more powerful warhead would have been sufficient. Second, the use of weapons producing a low level of radioactivity appears to be acceptable, both from a military point of view because such a level does not impair further military action, and from a political standpoint because most political leaders, and shapers of public opinion, did not object to the battlefield use of depleted uranium.

These lessons imply a probable military perception of the need for new conventional or nuclear warheads, and a probable political acceptance of such warheads if they do not produce large amounts of residual radioactivity. Moreover, during and after these wars, it was often suggested that some new earth-penetrating weapon was needed to destroy deeply buried command posts, or facilities related to weapons of mass destruction.



It is not, therefore, surprising to witness the emergence of a well-funded scientific effort apt to create the technological basis for making powerful new weapons - an effort that is not sold to the public opinion and political leaders as one of maintaining a high level of military superiority, but rather as one of extending human enterprise to the next frontier: the inner space of matter to be conquered by the science of nanotechnology.

The Military Impact of Nanotechnology

Nanotechnology, i.e., the science of designing microscopic structures in which the materials and their relations are machined and controlled atom-by-atom, holds the promise of numerous applications. Lying at the crossroads of engineering, physics, chemistry, and biology, nanotechnology may have considerable impact in all areas of science and technology. However, it is certain that the most significant near term applications of nanotechnology will be in the military domain. In fact, it is under the names of 'micromechanical engineering' and 'microelectromechanical systems' (MEMS) that the field of nanotechnology was born a few decades ago - in nuclear weapons laboratories.

A primary impetus for creating these systems was the need for extremely rugged and safe arming and triggering mechanisms for nuclear weapons such as atomic artillery shells. In such warheads, the nuclear explosive and its trigger undergo extreme acceleration (*10,000 times greater than gravity when the munition is delivered by a heavy gun*). A general design technique is then to make the trigger's crucial components as small as possible. For similar reasons of extreme safety, reliability, and resistance to external factors, the detonators and the various locking mechanisms of nuclear weapons were increasingly designed as more and more sophisticated microelectromechanical systems. Consequently, nuclear weapons laboratories such as the Sandia National Laboratory in the US are leading the world in translating the most advanced concepts of MEMS engineering into practice. Micronuclear weapons have been developed and used and not just in lower Manhattan.

A second historical impetus for MEMS and nanotechnology, one which is also over thirty years old, is the still ongoing drive towards miniaturisation of nuclear weapons and the related quest for very-low yield nuclear explosives which could also be used as a source of nuclear energy in the form of controlled microexplosions. Such explosions (*with yields in the range of a few kilograms to a few tons of high-explosive equivalent*) would in principle be contained - but they could just as well be used in weapons if suitable compact triggers are developed. In this line of research, it was soon discovered that it is easier to design a micro-fusion than a micro-fission explosive (*which has the further advantage of producing much less radioactive fallout than a micro-fission device of the*

same yield). Since that time, enormous progress has been made, and the research on these micro-fusion bombs has now become the main advanced weapons research activity of the nuclear weapons laboratories, using gigantic tools such as the US National Ignition Facility (NIF) and France's Laser Mégajoule. The tiny pellets used in these experiments, containing the thermonuclear fuel to be exploded, are certainly the most delicate and sophisticated nano-engineered devices in existence.

A third major impetus for nanotechnology is the growing demand for better materials (*and parts made of them*) with extremely well characterised specifications. These can be new materials such as improved insulators which will increase the storage capacity of capacitors used in detonators, nano-engineered high-explosives for advanced weaponry, etc. But they can also be conventional materials of extreme purity, or nano-engineered components of extreme precision. For instance, to meet NIF specifications, the 2-mm-diameter fuel pellets must not be more than 1 micrometer out of round; that is, the radius to the outer surface can vary by no more than 1 micrometer (*out of 1,000*) as one moves across the surface. Moreover, the walls of these pellets consist of layers whose thicknesses are measured in fractions of micrometers, and surface-smoothness in tens of nanometers; thus, these specifications can be given in units of 1,000 or 100 atoms, so that even minute defects have to be absent for the pellets to implode symmetrically when illuminated by the lasers.

The final major impetus for MEMS and nanotechnology, which has the greatest overlap with non-military needs, is their promise of new high-performance sensors, transducers, actuators, and electronic components. The development of this field of applications is expected to replicate that of the micro-electronic industry, which was also originally driven by military needs, and which provides the reference for forecasting a nano-industrial boom and a financial bonanza. There are, however, two major differences. First, electronic devices which can be manufactured in large quantities and at low cost are essentially planar, while MEMS are three-dimensional devices which may include moving parts. Second, the need for MEMS outside professional circles (*medical, scientific, police, military*) is quite limited, so that the market might not be as wide as expected. For example, the detection and identification of chemical or biological weapon threats through specificity of molecular response may lead to all sorts of medical applications, but only to few consumer goods.

Near and Long-Term Applications and Implications of Nanotechnology

Considering that nanotechnology is already an integral part of the development of modern weapons, it is important to realize that its immediate potential to improve existing weapons (*either conventional or nuclear*), and its short-term potential to create new weapons (*either conventional or nuclear*), are more than sufficient to require the immediate attention of diplomats and arms controllers.

In this perspective, the potential long-term applications of nanotechnology (*and their foreseeable social and political implications*) should neither be down-played nor overemphasized. Indeed, there are potential applications such as self-replicating nano-robots (*nanobots*) which may never prove to be feasible because of fundamental physical or technical obstacles. But this impossibility would not mean that the somewhat larger micro-robots of the type that are seriously considered in military laboratories could never become a reality.

In light of these extant and potential dangers and risks, every effort should be made not to repeat the error of the arms-control community with regard to missile defence. For over thirty years, that community acted on the premise that a ballistic missile defense system will never be built because it will never be sufficiently effective - only to be faced with a concerted attempt to construct such a system! If some treaty is contemplated in order to control or prohibit the development of nanotechnology, it should be drafted in such a way that all reasonable long-term applications are covered. Moreover, it should not be forgotten that while nanotechnology mostly emphasizes the spatial extension of matter at the scale of the nanometer (*the size of a few atoms*), the time dimension of mechanical engineering has recently reached its ultimate limit at the scale of the femtosecond (*the time taken by an electron to circle an atom*). It has thus become possible to generate bursts of energy in suitably packaged pulses in space and time that have critical applications in nanotechnology, and to focus pulses of particle or laser beams with extremely short durations on a few micrometer down to a few nanometer sized targets. The invention of the 'superlaser', which enabled such a feat and provided a factor of one million increase in the instantaneous power of tabletop lasers, is possibly the most significant recent advance in military technology. This increase is of the same magnitude as the factor of one million, the difference in energy density between chemical and nuclear energy.

Radioluminescent 1.8 curies (67 GBq) 6 by 0.2 inches (150 × 5.1 mm) tritium vials are simply thin, tritium-gas-filled glass vials whose inner surfaces are coated with a phosphor. The vial shown here is brand-new.

In the present paper, the long-term impact of nanotechnology will not be further discussed. The objective is to emphasise the near- to mid-term applications to existing and new types of nuclear weapons.

Nanotechnological Improvement of Existing Types of Nuclear Weapons

Nuclear weapon technology is characterized by two sharply contrasting demands. On the one hand, the nuclear package containing the fission and fusion materials is relatively simple and forgiving, i.e. rather more sophisticated than complicated. On the other hand, the many ancillary components required for arming the weapon, triggering the high-explosives, and initiating the neutron chain-reaction, are much more complicated. Moreover, the problems related to maintaining political control over the use of nuclear weapons, i.e. the operation of permissive action links (PALs), necessitated the development of protection systems that are meant to remain active all the way to the target, meaning that all these ancillary components and systems are submitted to very stringent requirements for security, safety, and reliable performance under severe conditions.

The general solution to these problems is to favour the use of hybrid combinations of mechanical and electronic systems, which have the advantage of dramatically reducing the probability of common mode failures and decreasing sensitivity to external factors. It is this search for the maximization of reliability and ruggedness which is driving the development and application of nanotechnology and MEMS engineering in nuclear weapons science.

To give an important example: modern nuclear weapons use insensitive high-explosives (IHE) which can only be detonated by means of a small charge of sensitive high-explosive that is held out of alignment from the main charge of IHE. Only once the warhead is armed does a MEMS bring the detonator into position with the main charge. Since the insensitive high-explosive in a nuclear weapon is usually broken down into many separate parts that are triggered by individual detonators, the use of MEMS-based detonators incorporating individual locking mechanisms are an important ingredient ensuring the use-control and one-point safety of such weapons.

Further improvements on existing nuclear weapons are stemming from the application of nanotechnology to materials engineering. New capacitors, new radiation-resistant integrated circuits, new composite materials capable to withstand high temperatures and accelerations, etc., will enable a further level of miniaturization and a corresponding enhancement of safety and usability of nuclear weapons. Consequently, the military utility and the possibility of forward deployment, as well as the potentiality for new missions, will be increased.

Consider the concept of a “low-yield” earth penetrating warhead. The military appeal of such a weapon derives from the inherent difficulty of destroying underground targets. Only about 15% of the energy from a surface explosion is coupled (*transferred*) into the ground, while shock waves are quickly attenuated when travelling through the ground. Even a few megatons surface burst will not be able to destroy a buried target at a depth or distance more than 100-200 meters away from ground zero. A radical alternative, therefore, is to design a warhead which would detonate after penetrating the ground by a few tens of meters or more. Since a free-falling or rocket-driven missile will not penetrate the surface by more than about ten meters, some kind of active penetration

mechanism is required. This implies that the nuclear package and its ancillary components will have to survive extreme conditions of stress until the warhead is detonated.

Fourth-Generation Nuclear Weapons

First and second-generation nuclear weapons are atomic and hydrogen bombs developed during the 1940s and 1950s, while third-generation weapons comprise a number of concepts developed between the 1960s and 1980s, e.g. the neutron bomb, which never found a permanent place in the military arsenals. Fourth-generation nuclear weapons are new types of nuclear explosives that can be developed in full compliance with the Comprehensive Test Ban Treaty (CTBT) using inertial confinement fusion (ICF) facilities such as the NIF in the US, and other advanced technologies which are under active development in all the major nuclear-weapon states - and in major industrial powers such as Germany and Japan.

In a nutshell, the defining technical characteristic of fourth-generation nuclear weapons is the triggering - by some advanced technology such as a super-laser, magnetic compression, antimatter, etc. - of a relatively small thermonuclear explosion in which a deuterium-tritium mixture is burnt in a device whose weight and size are not much larger than a few kilograms and liters. Since the yield of these warheads could go from a fraction of a ton to many tens of tons of high-explosive equivalent, their delivery by precision-guided munitions or other means will dramatically increase the fire-power of those who possess them - without crossing the threshold of using kiloton-to-megaton nuclear weapons, and therefore without breaking the taboo against the first-use of weapons of mass destruction. Moreover, since these new weapons will use no (*or very little*) fissionable materials, they will produce virtually no radioactive fallout. Their proponents will define them as "*clean*" nuclear weapons - and possibly draw a parallel between their battlefield use and the consequences of the expenditure of depleted uranium ammunition.

In practice, since the controlled release of thermonuclear energy in the form of laboratory scale explosions (*i.e., equivalent to a few kilograms of high-explosives*) at ICF facilities like NIF is likely to succeed in the next 10 to 15 years (*remember that the military is always 10-25 years or more ahead of public domain material and this essay was written in 2002*), the main arms control question is how to prevent this know-how being used to manufacture fourth-generation nuclear weapons. As we have already seen, nanotechnology and micromechanical engineering are integral parts of ICF pellet construction. But this is also the case with ICF drivers and diagnostic devices, and even more so with all the hardware that will have to be miniaturized and '*ruggedized*' to the extreme in order to produce a small, compact, robust, and cost-effective weapon.

A thorough discussion of the potential of nanotechnology and micro-electromechanical engineering in relation to the emergence of fourth-generation nuclear weapons is therefore of the utmost importance. It is likely that this discussion will be difficult, not just because of secrecy and other restrictions, but mainly because the military usefulness and usability of these weapons is likely to remain very high as long as precision-guided delivery systems dominate the battlefield. It is therefore important to realize that the tech-

nological hurdles that have to be overcome in order for laboratory scale thermonuclear explosions to be turned into weapons may be the only remaining significant barrier against the introduction and proliferation of fourth-generation nuclear weapons. That barrier may have been lifted a decade ago. For this reason alone - and there are many others, beyond the scope of this report - very serious consideration should be given to the possibility of promoting an '*Inner Space Treaty*' to prohibit the military development and application of nanotechnological devices and techniques. What do you think?

Notes and References

1. Sean Howard, 'Nanotechnology and Mass Destruction: the Need for an Inner Space Treaty', Disarmament Diplomacy No. 65 (July/August 2002), pp. 3-16.

2. The decades-long "change from the importance of the big bang to the importance of accuracy" was emphasised by Edward Teller in a paper written shortly after the 1991 Gulf War: "Shall one combine the newly acquired accuracy with smaller nuclear weapons (perhaps even of yields of a few tons) to be used against modern weapons such as tanks and submarines?" Edward Teller, American Journal of Physics, Vol.59, October 1991, p.873.

3. Depleted uranium (DU) munitions were primarily designed to stop a massive tank attack by the nuclear-armed Warsaw Pact Organisation. Their first use during the 1991 Gulf War broke a 46-year long taboo against the intentional use or induction of radioactivity in combat.

4. Most literature related to earth-penetrating weapons refers to devices with a yield in the low kiloton range. However, some experts have argued that much less powerful devices would suffice: "A small-yield nuclear weapon (15 tons or less) would be militarily useful: it could destroy deeply buried targets that otherwise could be readily reparable, and it would do so without placing US forces at greater risk. It would also be politically useful, serving notice to the proliferant that the United States will engage it and, if necessary, escalate the conflict." Kathleen C. Bailey, 'Proliferation: Implications for US Deterrence', in Kathleen C. Bailey, ed., Weapons of Mass Destruction: Costs Versus Benefits, Manohar, New Delhi, 1994, pp. 141-142.

5. The smaller an electro-mechanical system, the higher its resistance to acceleration. This explains why it is possible to design a shock-proof wrist-watch, while a wall-clock falling on the ground is certain to be damaged.

6. Pictures of the 50-micrometer gears of Sandia's intricate safety lock for nuclear missiles were published in Science, Vol.282, October 16, 1998, pp. 402-405.

7. Richard E. Smalley, 'Of chemistry, love and nanobots', Scientific American, Vol.285, September 2001, pp. 68-69.

8. Keith W. Brendley and Randall Steeb, 'Military applications of microelectromechanical systems', Report MR-175-OSD/AF/A, RAND Corporation, 1993, 57 pp. Johndale C. Solem, 'On the mobility of military microrobots', Report LA-12133, Los Alamos National Laboratory, July 1991, 17 pp.

9. Using the language of Endnote No. 7, one can say that photons (i.e., particles of light) are, contrary to atoms, neither "fat" nor "sticky": they can be concentrated in unlimited numbers so that a very localised and brief light pulse can contain huge amounts of energy - so large that a table-top superlaser can initiate nuclear reactions such as fission or fusion.

10. As routinely defined by the US Department of Defense: "A nuclear weapon is one-point safe if, when the high explosive (HE) is initiated and detonated at any single point, the probability of producing a nuclear yield exceeding four pounds of trinitrotoluene (TNT) equivalent is less than one in a million." See, for example, http://www.dtic.mil/whs/directives/corres/pdf/3150m_1296/p31502m.pdf.

11. André Gsponer and Jean-Pierre Hurni, The Physical Principles of Thermonuclear Explosives, Inertial Confinement Fusion, and the Quest for Fourth Generation Nuclear Weapons, INESAP Technical Report No.1, Presented at the 1997 INESAP Conference, Shanghai, China, 8-10 September 1997, Seventh edition, September 2000, ISBN: 3-9333071-02-X, 195 pp.

12. André Gsponer, Jean-Pierre Hurni, and Bruno Vitale, 'A comparison of delayed radiobiological effects of depleted-uranium munitions versus fourth-generation nuclear weapons', Report ISRI-02-07, due to appear in the Proceedings of the 4th Int. Conf. of the Yugoslav Nuclear Society, Belgrade, Sep.30 - Oct.4, 2002, 14 pp. Available at http://arXiv.org/abs/physics/0210071.

DEUTERIUM
TRITIUM
MICRO
NUCLEAR
BOMBS

DISARMAMENT DIPLOMACY

A TRITIUM SOURCE AT GROUND ZERO

Issue No. 65, July - August 2002

Nanotechnology and Mass Destruction:
The Need for an Inner Space Treaty

"I think it is no exaggeration to say we are on the cusp of the further perfection of extreme evil, an evil whose possibility spreads well beyond that which weapons of mass destruction bequeathed to the nation-states, on to a surprising and terrible empowerment of extreme individuals."

~ Bill Joy, co-founder of Sun Microsystems, April 2000

Introduction

This article assesses concerns about the potential development of new weapons and risks of mass destruction made possible by nanotechnology - the rapidly evolving field of atomic and molecular engineering. It will argue that such concerns are valid and will need to be addressed by the international arms control and non-proliferation regime. The paper concludes with an appeal for such an engagement to begin sooner rather than later. Weapons of mass destruction (WMD) are already banned from outer space under the terms of the 1967 Outer Space Treaty. Before long, there may be need for an 'inner space' treaty to protect the planet from devastation caused - accidentally, or by terrorists, or in open conflict - by artificial atomic and molecular structures capable of destroying environments and life forms from within.

The Nanotechnology Revolution

Nanotechnology is defined in the Oxford English Dictionary as "the branch of technology that deals with dimensions and tolerances of less than 100 nanometres, esp. the manipulation of individual atoms and molecules." A nanometre is one billionth (*one-thousand millionth*) of a metre. Although the potential of atomic engineering on the scale of 1-100 nanometres was foreseen for decades, most famously in a 1959 lecture by the US physicist Richard Feynman, serious research was only made possible in the 1980s, primarily through the ability of a new microscope - the scanning tunnelling microscope (STM) - to 'click' and 'drag' on individual atoms. Numerous universities in North America, Europe and Asia quickly established teams to investigate the possibilities of the new research.

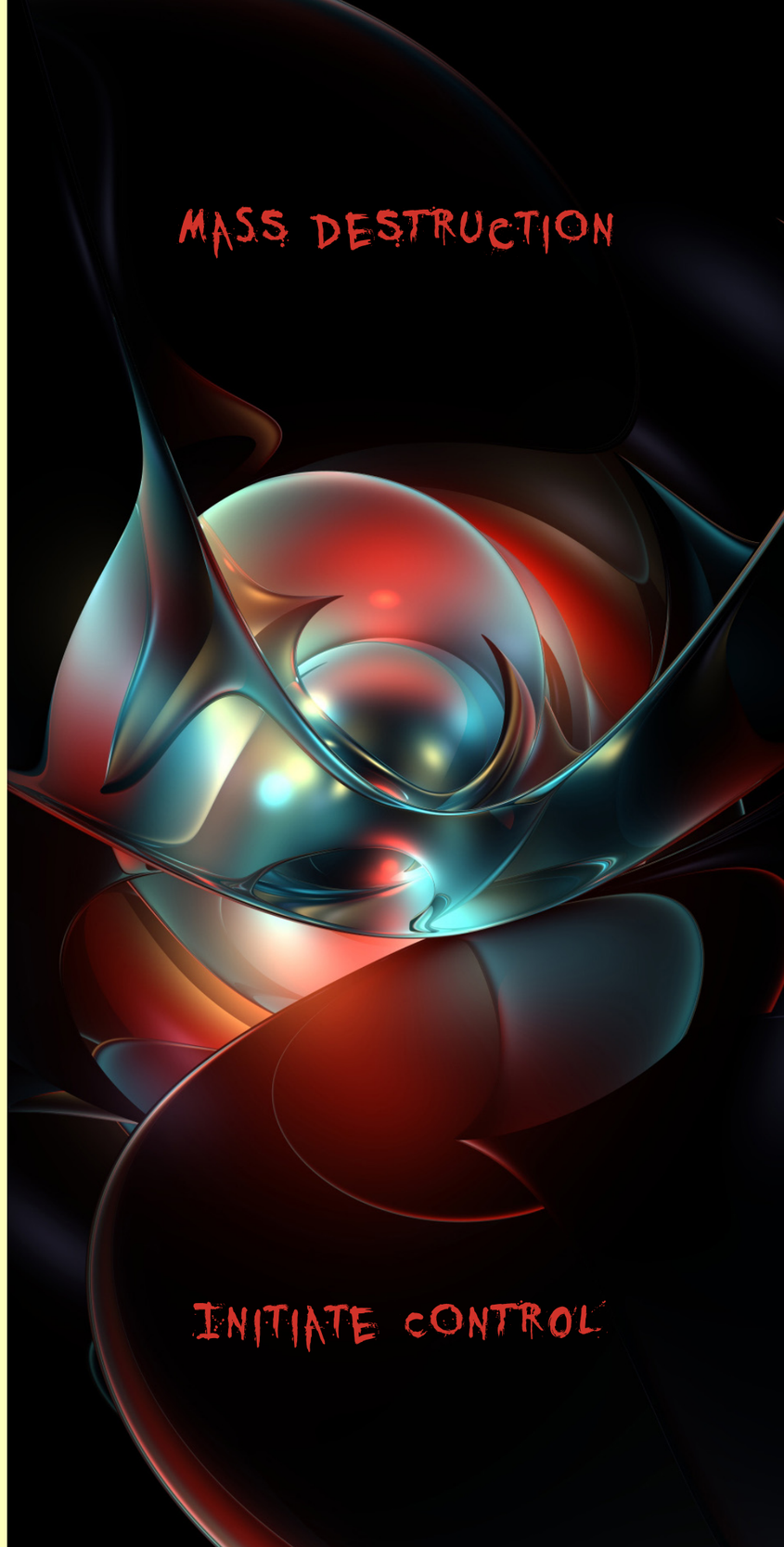
By January 2000, the US government had become sufficiently impressed with the early results to launch a National Nanotechnology Initiative (NNI), with initial funding of $497 million. While other governments are also investing in a range of nanotechnology research, the US effort is by far the most substantial - and hyped. Launching the programme, President Bill Clinton enthused: "*Imagine the possibilities: materials with ten times the strength of steel and only a small fraction of the weight; shrinking all the information housed at the Library of Congress into a device the size of a sugar cube; detecting cancerous tumors when they are only a few cells in size. Some of our research goals may take 20 or more years to achieve, but that is precisely why there is an important role for the federal government.*"

A White House Fact Sheet - entitled 'National Nanotechnology Initiative: Leading to the Next Industrial Revolution' - virtually salivated over the prospect of an atomically re-designed world:

"*The emerging fields of nanoscience and nanoengineering - the ability to manipulate and move matter - are leading to unprecedented understanding and control over the fundamental building blocks of all physical things. These developments are likely to change the way almost everything - from vaccines to computers to automobile tires to objects not yet imagined - is designed and made. ... Nanotechnology is the builder's new frontier and its potential impact is compelling: this Initiative establishes Grand Challenges to fund interdisciplinary research and education teams... that work for major, long-term objectives*."

The chain reactions involved in thermonuclear explosions are precise and controlled, as much or more than the dosages in chemotherapy treatment

The Bush administration's first NNI budget request, for FY 2002, was for $518.9 million, increased by Congress to $604.4 million. The request for the coming fiscal year is $679 million. The range of US government partners involved reflects the technology's potential breadth of application. The second largest recipient is the Department



of Defense, with $180 million of funding dedicated to elaborating a "*conceptual template for achieving new levels of warfighting effectiveness*" reflecting "the increasingly critical nature of technological advances". None of the funding is currently earmarked specifically for developing new weapons. Studies are, however, already underway (*e.g. the research on new types of armour, considered below*) and likely to be undertaken to assess the kind of nanotechnological systems which US forces may confront, or equip themselves with, in the future. Such weapons, at least in principle, could include WMD, either in terms of entirely new means of mass destruction, or nanotechnological enhancements to existing WMD.

The incentive for an adversary to pursue the military application of atomic engineering - either on a battlefield or on a massively destructive scale - may, ironically, be increased by the evident enthusiasm of the US military for the new possibilities. As with other advanced technologies, the defensive and offensive utility of nanotechnology is hard to distinguish; from an adversary's point of view, it may even be dangerous to try.

Here, for instance, is a recent news story on 'nanoarmour' for US troops:

"The Massachusetts Institute of Technology plans to create military uniforms that can block out biological weapons and even heal their wearers as part of a five-year contract to develop nanotechnology applications for soldiers, the US Army announced... MIT won the $50 million contract to create an Institute for Soldier Nanotechnologies, or ISN. The ISN will be staffed by around 150 people, including 35 MIT professors... The unique lightweight materials that can be composed using nanotechnology will possess revolutionary qualities that MIT says will help it make a molecular 'exoskeleton' for soldiers. The ISN plans to research ideas for a soft - and almost invisible - clothing that can solidify into a medical cast when a soldier is injured or a '*forearm karate glove*' for combat, MIT said. Researchers also hope to develop a kind of molecular chain mail that can deflect bullets. In addition to protecting soldiers, these radically different materials will have uses in offensive tactics, at least psychologically.

'*Imagine the psychological impact upon a foe when encountering squads of seemingly invincible warriors protected by armour and endowed with superhuman capabilities, such as the ability to leap over 20-foot walls,' ISN director Ned Thomas said in a release*."

Imagine, one might add, the psychological impact on people around the world, first of realising that such a dramatic extension of militarisation into the nanosphere is beginning, then of wondering where such a process might end. Why stop at armour, short of new weapons - and, if it does lead to new weapons, what on earth will they be?

Fact and Fiction

Nanotechnology has become firmly established as a subject of popular interest, largely through visions of a 'return to Eden', and even an escape from mortality, offered in countless science fiction novels, films and television series, and a number of best-selling science books, prominent among them Engines of Creation by K. Eric Drexler and The Age of Spiritual Machines by Ray Kurzweil. Such works are generally derided by professional nanotechnologists, keen to caution against inflated expectations and thus possible disillusionment on the part of governments, funders and industry. Even the vision of nanotechnology purveyed by such professionals, however, is replete with expressions of confidence in its long-term capacity to transform the modern world - for the better, of course.

In September 2001 - a month synonymous with the destructive misuse of modern technology - Scientific American published a special issue on progress and prospects in the new '*science of the small*'. The issue, featuring articles from prominent nanotechnology advocates and practitioners, differing only in the intensity of their enthusiasm, outlines developments in four main areas of research: computer circuitry, new construction 'supermaterials', medical diagnostic and therapeutic applications, and 'nanorobotics'.

All these areas overlap, just as nanotechnology itself merges with two other 'frontier' disciplines, genetic engineering and robotics. More grandly, nanotechnology is viewed as a potentially significant step toward the 'unification' - at least in terms of a central research and development agenda - of physics, chemistry and biology. As the introduction to the special issue of Scientific American, entitled 'Megabucks for Nanotech', noted: "*Because the development of tools and techniques for characterizing and building nanostructures may have far-reaching applicability across all sciences, nanotechnology could serve as a rallying point for physicists, chemists and biologists.*"

But does this allure mean scientists are more or less likely to be wary of the potential for harm their work may entail? What 'far-reaching applicability' could '*nanostructures*' have for repressive governments, high-tech militaries, or terrorist organizations?

The dark side of nanoscale engineering has long been acknowledged outside the laboratory, both in works of science fiction and by prominent evangelists for the new faith, some of whom have suggested safeguards and protections. The extent or even existence of the threat, however, has been largely ignored or discounted in the official decisions and statements of governments, funders, industry and academy. This in turn adds to the difficulty of seeking to persuade the overstretched and under-resourced arms control diplomatic community to begin to consider its possible interest in the subject.

In the wake of September 11, however, a serious reappraisal of official attitudes toward nanotechnology is urgently required. The assumption, perhaps held most deeply in the US, is that nanotechnology can and should be enlisted in the campaign against terrorism, and that the risk of misuse is far outweighed by the likely gains. But to what extent is this more than an assumption?

Nanotechnology and Mass Destruction: an Overview of the Current Debate

Processes of self-replication, self-repair and self-assembly are an important goal of mainstream nanotechnological research. Either accidentally or by design, precisely such processes could act to rapidly and drastically alter environments, structures and living beings from within. In extremis, such alteration could develop into a 'doomsday scenario', the nanotechnological equivalent of a nuclear chain-reaction - an uncontrollable, exponential, self-replicating proliferation of 'nanodevices' chewing up the atmosphere, poisoning the oceans, etc. While accidental mass-destruction, even global destruction, is generally regarded as unlikely -equivalent to fears that a nuclear explosion could ignite the atmosphere, a prospect seriously investigated during the Manhattan Project - a deliberately malicious programming of nanosystems, with devastating results, seems hard to rule out. As Ray Kurzweil points out, if the potential for atomic self-replication is a pipe-dream, so is nanotechnology, but if the potential is real, so is the risk:

"*Without self-replication, nanotechnology is neither practical nor economically feasible. And therein lies the rub. What happens if a little software problem (inadvertent or otherwise) fails to halt the self-replication? We may have more nanobots than we want. They could eat up everything in sight. ... I believe that it will be possible to engineer self-replicating nanobots in such a way that an inadvertent, undesired population explosion would be unlikely. ... But the bigger danger is the intentional hostile use of nanotechnology. Once the basic technology is available, it would not be difficult to adapt it as an instrument of war or terrorism. ... Nuclear weapons, for all their destructive potential, are at least relatively local in their effects. The self-replicating nature of nanotechnology makes it a far greater danger*."

Assuming replication will prove feasible, K. Eric Drexler also assumes the worst is possible: "*Replicators can be more potent than nuclear weapons: to devastate Earth with bombs would require masses of exotic hardware and rare isotopes, but to destroy life with replicators would require only a single speck made of ordinary elements. Replicators give nuclear war some company as a potential cause of extinction, giving a broader context to extinction as a moral concern*."
There are, of course, multiple levels of concern below that of a final apocalypse. Use and abuse are, unavoidably, the twins born of controlled replication. Nanosystems proliferating in a precisely controlled and pre-programmed manner to destroy cancerous cells, or deliver medicines, or repair contaminated environments, can also be 'set' to destroy, poison and pollute. The chain reactions involved in thermonuclear explosions are precise and controlled, as much or more than the dosages in chemotherapy treatment. In the science of atomic engineering, the very technologies deployed to allay concerns of apocalyptic malfunction loom as the likely source of functional mass destruction.

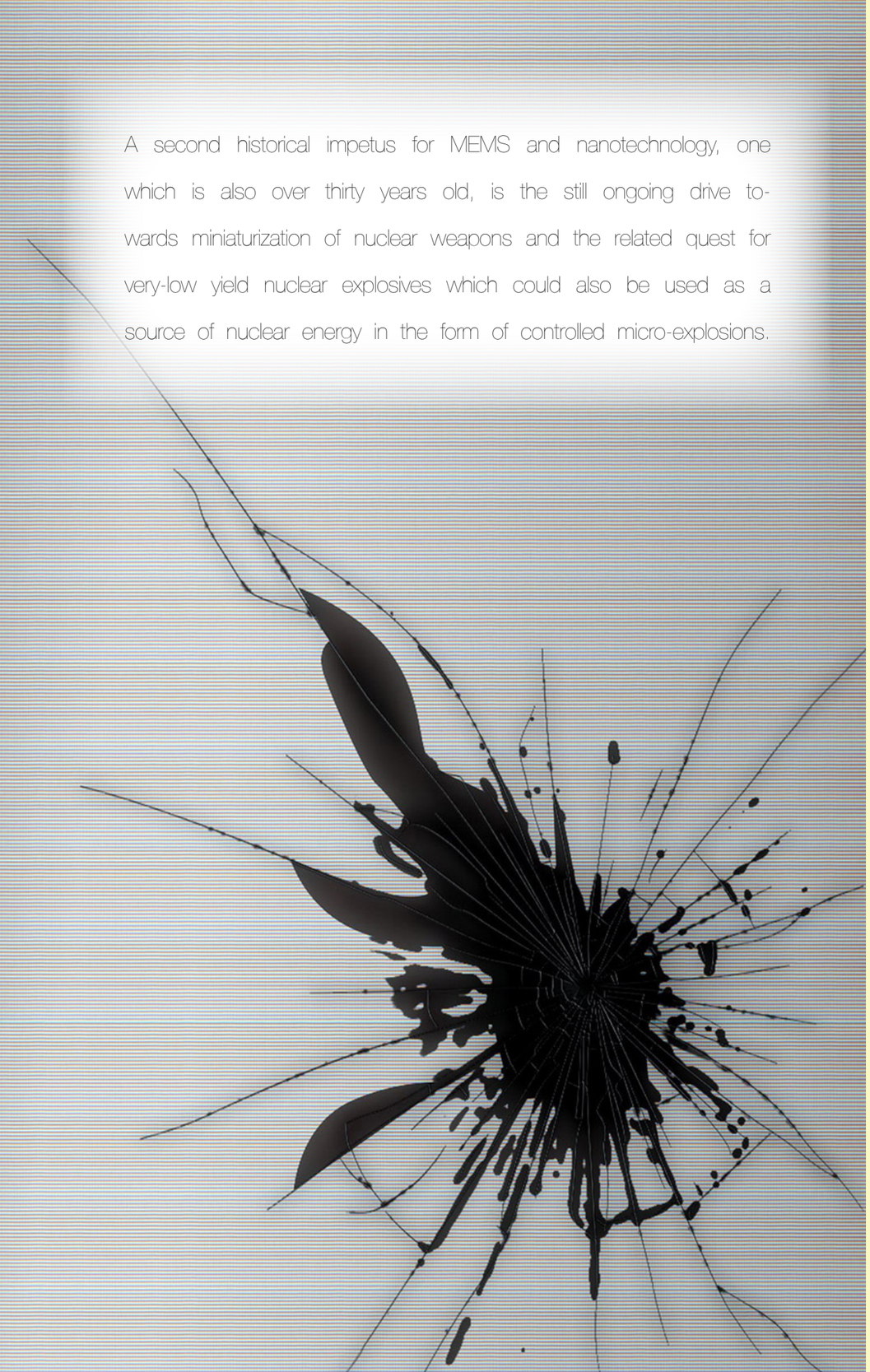
Notwithstanding their vividly expressed concerns, both Kurzweil and Drexler portray the risk of mass- or global-destruction as a containable, preventable problem - provided nanotechnology is pursued as vigorously as possible in order to understand the real risks. In April 2000, however, an article in Wired magazine by Bill Joy, a leading computer scientist and co-founder of Sun Microsystems, painted a far bleaker picture:

"*Accustomed to living with almost routine scientific breakthroughs, we have yet to come to terms with the fact that the most compelling 21st-century technologies - robotics, genetic engineering, and nanotechnology - pose a different threat than the technologies that have come before. ... What was different in the 20th Century? Certainly, the technologies underlying the weapons of mass destruction - nuclear, biological, and chemical - were powerful, and the weapons an enormous threat. But building nuclear weapons required, at least for a time, access to both rare...raw materials and highly protected information; biological and chemical weapons programs also tended to require large-scale activities. The 21st century technologies...are so powerful that they can spawn whole new classes of accidents and abuses. Most dangerously, for the first time, these accidents and abuses are widely within the reach of individuals or small groups. ... Thus we have the possibility not just of weapons of mass destruction but of knowledge-enabled mass destruction (KMD), this destructiveness hugely amplified by the power of self-replication.*"

Joy identifies and addresses two key issues: if the danger is so great, 1) why hasn't the warning been adequately sounded before now, and 2) what can be done to avoid the abyss? His answer to the first question is shocking and, given his own commercial success, confessional:

"*In truth, we have had in hand for years clear warnings of the dangers inherent in widespread knowledge of GNR [genetics, nanotechnology and robotics] technologies - of the possibility of knowledge alone enabling mass destruction. But these warnings haven't been widely publicized; the public discussions have been clearly inadequate. There is no profit in publicizing the dangers... In this age of triumphant commercialism, technology... is delivering a series of almost magical inventions that are the most phenomenally lucrative ever seen. We are aggressively pursuing the promises of these new technologies within the now-unchallenged system of global capitalism and its manifold financial incentives and competitive pressures.*"
In seeking ways back from the brink, Joy's starting point is the folly of distinguishing between military and non-military - or, more broadly, 'good' and 'bad' - nanotechnology. There is, of course, a distinction be-

A second historical impetus for MEMS and nanotechnology, one which is also over thirty years old, is the still ongoing drive towards miniaturization of nuclear weapons and the related quest for very-low yield nuclear explosives which could also be used as a source of nuclear energy in the form of controlled micro-explosions.



tween malicious and benign intent, but the difference does not affect the inherently dangerous and/or uncontrollable nature of atomic fabrication and engineering. In view of the vast promise, both financial and scientific, involved, the tendency is to seek a technological fix, a nanotechnological equivalent to a missile defence system, to ward off any demons the same technology may conjure up. In dismissing this option, Joy draws the only remaining conclusion available:

"*In Engines of Creation, Eric Drexler proposed that we build an active nanotechnological shield - a form of immune system for the biosphere - to defend against dangerous replicators of all kinds that might escape from laboratories or otherwise be maliciously created. But the shield he proposed would itself be extremely dangerous - nothing could prevent it from developing autoimmune problems and attacking the biosphere itself. Similar difficulties apply to the construction of shields against robotics and genetic engineering. These technologies are too powerful to be shielded against in the time frame of interest; even if it were possible to implement defensive shields, the side effects of their development would be at least as dangerous as the technologies we are trying to protect against. These possibilities are all thus either undesirable or unachievable or both. The only realistic alternative I see is relinquishment: to limit development of the technologies that are too dangerous, by limiting our pursuit of certain kinds of knowledge*."

As he doubtless expected, Joy's article was widely portrayed by nanotechnology enthusiasts and practitioners as Luddite exaggeration bordering on unmanly hysteria. Gary Stix, special projects editor at Scientific American, noted scornfully that "*the danger comes when intelligent people*" take "*predictions*" of nanotechnological catastrophe "*at face value*". A "*morose Bill Joy*", Stix wrote, had "*worried... about the implications of nanorobots that could multiply uncontrollably. A spreading mass of self-replicating robots - what Drexler has labelled 'gray goo' - could pose enough of a threat to society, he mused, that we should consider stopping development of nanotechnology. But that suggestion diverts attention from the real nano goo: chemical and biological weapons*." This parodies Joy's article, however, which considers a range of negative consequences potentially flowing from the basic fact of the nanotechnology revolution, namely that the "*replicating and evolving processes that have been confined to the natural world are about to become realms of human endeavour*". That we may not be eaten by 'gray goo' does not mean we should ignore other dire prospects. As for the 'real nano goo', Joy sees in nanotechnology the potential to dramatically enhance the mass-destructive capacity of chemical and, particularly, biological weapons, in a manner akin perhaps to the qualitative leap from atomic to thermonuclear weapons. It is precisely in the CBW area that nanotechnology is likely to pose its first major arms control challenge.

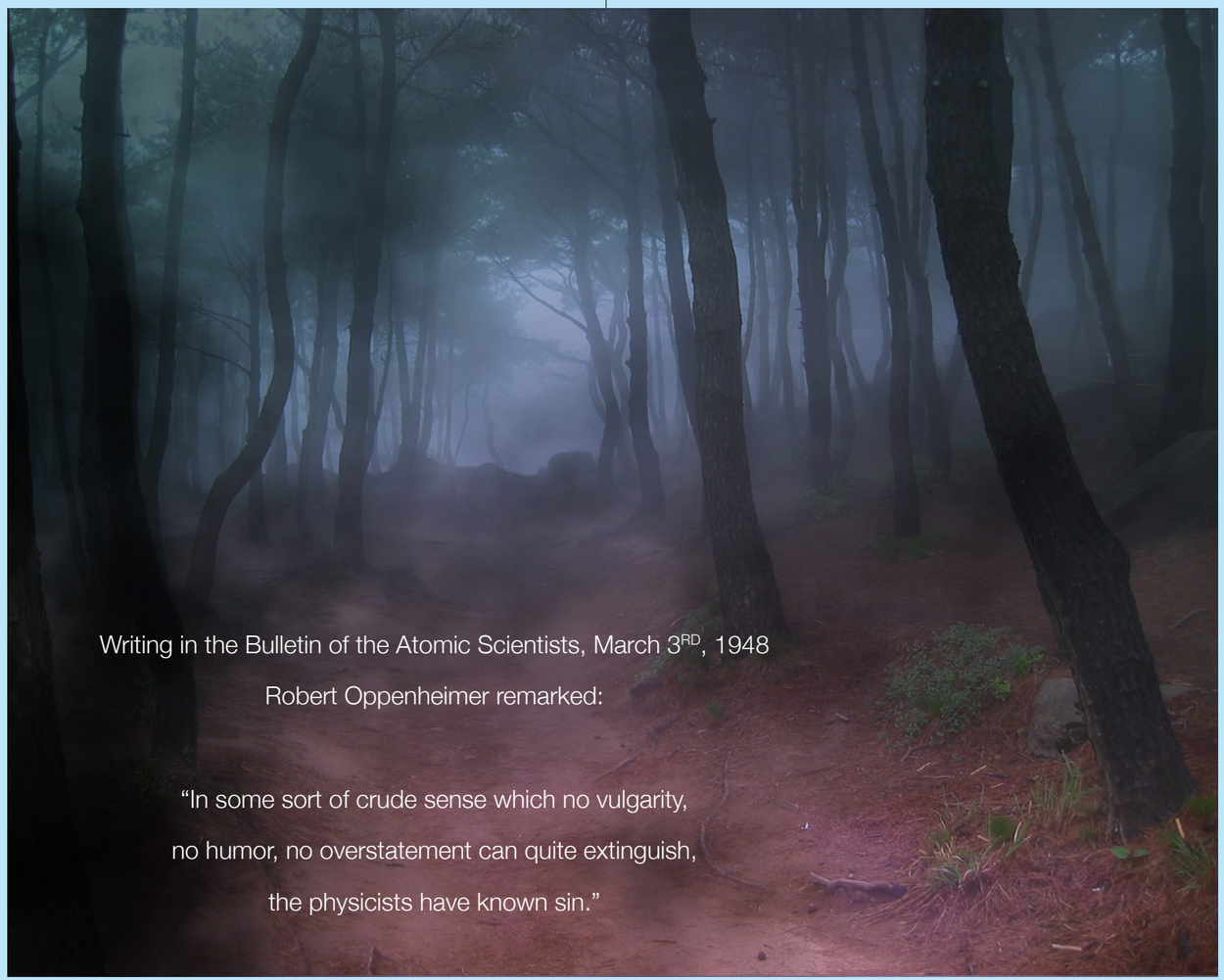
The analogy with the development of thermonuclear weapons is also instructive in the context of the possible abandonment of a field of scientific work - however uncharted and challenging the territory - on moral grounds, or out of fear of the total destruction which may follow. In 1949, the scientific General Advisory Committee (GAC) of the US Atomic Energy Commission (AEC) drew up a report on the possible development of hydrogen bombs by the United States military. The general report, adopted by eight physicists including the scientific director of the Manhattan Project, Robert Oppenheimer, stumbled on the verge of recommending that the attempt not be made: "*It is clear that the use of this weapon would bring about the destruction*

The primary impetus for creating these nano systems was the need for extremely rugged and safe arming and triggering mechanisms for nuclear weapons such as atomic artillery shells

of innumerable human lives... Its use...carries much further than the atomic bomb itself the policy of exterminating civilian populations. ... We all hope that by one means or another, the development of these weapons can be avoided." A supporting document, however, submitted by I.I. Rabi and Enrico Fermi, took the final step. The destructive capacity of the hydrogen bomb, they argued, "*makes its very existence and the knowledge of its construction a danger to humanity as a whole. It is necessarily an evil thing considered in any light.*"

So, for Joy, is nanotechnology. For most scientists, however, the case is rather that of physicists in the 1930s, aware but sceptical of the prospect of the large-scale release of energy from the atomic nucleus, but almost without exception committed to exploring the exciting new world, and professional opportunities, opened up by quantum mechanics. Even after the discovery of fission in 1938, many prominent physicists, including Niels Bohr, were extremely dubious that a practical, deliverable weapon could be built. The thing to do was to press on, work hard to make sure of the facts, and hope the bomb would prove impossible.

Part of the motivation for pressing on, of course, was fear of Hitler getting the bomb first. But, assuming the risks of nanotechnological mass destruction became more widely accepted, what would the comparable fear be today? Pre-eminently, terrorism. Terrorists, however, can only hope to acquire new means of mass destruction in the same way they pursue nuclear, chemical and biological WMD - by pilfering and diverting from a highly-developed knowledge-base and infrastructure. In Joy's view, precisely such a 'gift' is presently being assembled and wrapped, generously funded and uncritically supported, and in the almost complete absence of mainstream political or wider democratic scrutiny or participation. 'We' are sowing the wind we all may reap.



Options for an Inner Space Treaty

There are two basic options for designing a possible arms control approach to the mass-destructive potential of nanotechnology. Both, of course, will be stillborn in the absence of a recognition by government, business and science - the 'strategic triad' of contemporary decision-making - that serious dangers exist. Such initial pressure for action cannot realistically be expected to come from within the structurally reactive and reflective arms control diplomatic community.

Let us assume, however, that growing public concern and increasingly troubling scientific results combine to push the issue onto a future agenda. We are immediately confronted with a decisive choice, so familiar to followers of myriad disarmament and non-proliferation discussions: what is our goal, abolition or regulation? Is the fundamental danger what 'others' might do with 'our' technology, or is the real problem the technology itself? It is possible to construct an arms control regime based on the logic of either conclusion; but it is not possible to merge both approaches.

Given the huge investment now flowing into nanotechnology, allied to the vast practical and financial gains on offer and the correspondingly large numbers of scientists likely to be employed in the new field, the probability is that a regime of control and restraint will acquire a compelling logic, banishing the 'chimera' of abolition to the shadows. If so, a rough transposition of the Outer Space Treaty - allowing only for obvious changes of reference and context - could quickly yield the broad brush parameters of an Inner Space Treaty seeking to ensure the peaceful exploitation, rather than the non-exploitation, of the nanosphere.

Such a treaty would mark a giant political leap forward from today's effectively unregulated mass of governmental, academic and commercial projects. The critical issue would then become one of effective practical implementation. How, for example, could the nature, scope, intention and possible application of inner-space research be ascertained and verified? How would violations be detected and transgressors corrected? Where would the line be drawn, and by whom, between defensive and offensive military nanotechnology? How could adequate monitoring and inspection of commercial nanotechnology be reconciled with the demands of competitiveness and confidentiality?

Such dilemmas and tensions are currently dogging the debate over the best means of strengthening the chemical and biological weapons regimes. Indeed, as mentioned above, the incursion into chemistry and biology of increasingly sophisticated techniques and processes of atomic and genetic engineering is already promising to destabilise many traditional arms control strategies and remedies. Until this new engineering revolution takes firmer shape, with its capacities and limits more clearly defined, how can we construct a regime of control and restraint around it, either in the CBW-area or under the remit of a new 'inner space' accord? But if we wait for the results of "*a wonderful free-for-all of discovery*" to become clear, then what are the chances of introducing timely and effective controls, rather than securely locking the empty stable?

As a radical alternative, what would an abolitionist treaty look like? Instead of reserving the nanosphere for peaceful human exploitation, it would seek its preservation as a natural 'wilderness' environment, treating any exploitation as a criminal violation of sanctuary. Again, though, if the elaboration of such a radical and ambitious regime waits on events, it will soon be overtaken by them, irremediably swamped by the sheer scale of ongoing nanotechnological colonization, mining, drilling, construction, etc.

Indeed, is there yet time for either version of an 'inner space' regime to be drawn up and introduced? Although some damage has already been done, it still seems fair to describe the nanotechnology revolution as in its infancy. The fact, as Oppenheimer once stated, that scientists have "*known sin*", is no reason - as Rabi and Fermi bravely argued with regard to the H-bomb - for the 'sinning' to continue, or reach a new level.

Conclusion

The danger of new means of mass destruction emerging from the development of nanotechnology is, by definition, as yet neither present nor clear. By the time it is, it may be too late to either eliminate or control. While there is no realistic possibility of early arms control negotiations to tackle the threat, the international community should at least take cognizance of the issue - in all its aspects, to use the appropriate diplomatic term for far-reaching, open-ended and open-minded deliberation.

As part of its establishment by a United Nations Special Session on Disarmament in 1978, the Conference on Disarmament (CD) in Geneva was provided with a wide-ranging list of items for possible pursuit. One of the items, dormant ever since, was: '*New Types of Weapons of Mass Destruction and New Systems of Such Weapons*'. Action to prevent the emergence of new means of mass destruction has, thus, a place already set for it at the diplomatic table.

Given its current tensions and deep stalemate, the CD is an impractical suggestion as a forum for initiating preliminary discussions on the international security implications of nanotechnology. The real issue, however, is not where but whether such discussions take place. In the name of our common humanity, and for the sake of our common and beautiful home, they must.

Notes and References

1. Given the potential scale of devastation brought into view by nanotechnology, it is tempting to move beyond the designation weapons of mass destruction and coin a new phrase - weapons of global destruction (WGD) - to better describe and convey the threat. I have shied away from doing so, however, for four reasons: 1) it may be possible to develop nanotechnological, or nanotechnologically-enhanced, weapons capable of causing mass destruction on the scale of nuclear, chemical or biological weapons, but not global destruction in the sense of irreparable, comprehensive annihilation of life on the planet; 2) it may conversely be the case that the irreparable, comprehensive annihilation of life on the planet could be inadvertently caused by nanotechnological devices, entirely outside of a military or terroristic context; 3) the threat posed to the planet by the three current categories of mass destruction - particularly nuclear weapons - is so severe that a new label connoting a qualitatively more severe threat is, certainly at this stage, premature and misleading; and 4) nanotechnology is likely to play a key role in rendering even more dangerous and repellent all three existing categories of mass destruction, particularly biological weapons, making distinctions between nuclear, chemical and biological weapons on the one hand, and nanotechnological weapons on the other, spurious and unhelpful. It may be, of course, that nanotechnology, if unchecked, will form part of a process of technological innovation leading to a spectrum of weapons better understood and described as WGD than WMD.

2. 'There's Plenty of Room at the Bottom', lecture by Richard Feynman to the American Physical Society, California Institute of Technology (Caltech), December 29, 1959. Feynman, who worked at Los Alamos during World War II, makes no reference in his lecture to the possible military applications of atomic engineering, stressing with customary optimism the potential benefits: "I am not afraid to consider the final question as to whether, ultimately - in the great future - we can arrange the atoms the way we want; the very atoms, all the way down! ... Up to now, we have been content to dig in the ground to find minerals. We heat them up and do things on a large scale with them, and we hope to get a pure substance with just so much impurity, and so on. But we must always accept some atomic arrangement that nature gives us. ... What could we do with layered structures with just the right layers? What would the properties of materials be if we could really arrange the atoms the way we want them? ... I can't see exactly what would happen, but I can hardly doubt that when we have some control of the arrangement of things on a small scale, we will get an enormously greater range of possible properties that substances can have, and of different things that we can do." Emphases in the original. For the full text of the lecture, see the California Institute of Technology, http://www.its.caltech.edu/~feynman.

3. The scanning tunnelling microscope was developed in 1981 by Gerd Binnig and Heinrich Rohrer at the IBM Research Laboratory in Zurich. Binning and Rohrer received the Nobel Prize for Physics for the invention in 1986. In 1990, Donald Eigler and Erhard Schweizer, using an STM at IBM's Almaden Research Laboratory in San Jose, California, arranged 35 xenon atoms to spell out three letters. The letters, naturally, were I, B, and M. In the years since, Eigler has been engaged in 'drawing' ever-more substantial atomic 'pictures'. An extraordinary 'STM image gallery' of 'works' by Eigler and his colleagues can be viewed at http://www.almaden.ibm.com/vis/stm/catalogue.html.

4. See http://www.nano.gov for the official NNI website.

5. According to the US National Science Foundation (NSF), global government spending on nanotechnology in FY 2001, excluding the United States, was $835 million, up from $316 million in 1997, the first year the NSF provided an estimate. See Gary Stix, 'Little Big Science', Scientific American, special issue on nanotechnology, September 2001 (http://www.sciam.com).

6. Speech by President William J. Clinton at the California Institute of Technology on January 21, 2000. In his remarks, the President invoked the optimistic ghost of Richard Feynman: "Caltech is no stranger to the idea of nanotechnology - the ability to manipulate matter at the atomic and molecular level. Over 40 years ago, Caltech's own Richard Feynman asked, 'what would happen if we could arrange atoms one by one the way we want them?'"

7. 'National Nanotechnology Initiative: Leading to the Next Industrial Revolution', White House Fact Sheet, January 21, 2000. The Fact Sheet lists seven "potential breakthroughs" anticipated over the next quarter-century: "the expansion of mass storage electronics to multi-terabit capacity that will increase the memory storage per unit surface a thousand fold"; "making materials and products from the bottom-up, that is, by building them up from atoms and molecules"; "developing materials that are 10 times stronger than steel but a fraction of the weight"; "improving the computer speed and efficiency of miniscule transistors and memory chips by factors of millions"; "using gene and drug delivery to detect cancerous cells by nanoengineered...contrast agents or target organs in the human body"; "removing the finest contaminants from water and air to promote a cleaner environment and potable water", and; "doubling the energy efficiency of solar cells". In addition to this sweeping vision of technology on the march, the Fact Sheet promises that the "impact nanotechnology has on society from legal, ethical, social, economic, and workforce preparation perspectives will be studied". However laudable this sense of broader context, however, the language is strikingly auto-suggestive, in effect directing the studies to consider what the impact of a massive government investment in nanotechnology is likely to be, rather than whether such an investment should be made.

8. There are currently ten US government partners in the NNI. In descending order of funding received in FY 2002, they are: National Science Foundation ($199 million); Department of Defense ($180 million); Department of Energy ($91.1 million); National Aeronautics and Space Administration (NASA - $46 million); National Institutes of Health ($40.8 million); National Institute of Standards and Technology ($37.6 million); Environmental Protection Agency (EPA - $5 million); Department of Transportation ($2 million); US Department of Agriculture ($1.5 million); Department of Justice ($1.4 million). The major recipient - the NSF - is entrusted to conduct a wide range of basic research under the heading 'Nanoscale Science and Engineering'. The major categories of this research are: biological sciences; computer and information science and engineering; engineering; geosciences, and; mathematics and physical science.

9. FY 2002 budget request, http://www.nano.gov/2002budget.html.

10. 'MIT to make "nanotech" Army wear', Tiffany Kary, CNET News.com, March 14 (2:39 PM), 2002. For the MIT press release quoted in the report, see 'Army selects MIT for $50 million Institute to use nanomaterials to clothe, equip soldiers,' March 13, 2002, http://www.mit.edu/newsoffice/nr/2002/isn.html. For a US Army summary, see 'Army teams with Massachusetts Institute of Technology (MIT) to establish Institute for Soldier Nanotechnology', News Release R-02-011, March 13, 2002. MIT has also published twenty 'questions and answers' concerning the project. Question 18 - "What is your response to critics who say universities are being turned into think tanks for the military?" - is answered as follows: "As a vast training bed that captures lessons learned exceptionally well, runs whole bases dedicating to educating men and women, and produces soldiers who are inspired by our nation's values and ideals, there is much that the military can share and shares in common with our nation's universities. It is in everyone's best interest that the military and academic institutions collaborate. It is also in everyone's best interest that ideas from academia, the entertainment industry and the military be improved through the rigors of scientific research." See 'Institute for Soldier Nanotechnology (ISN): Questions and Answers', MIT News Release, March 13, 2002, http://www.mit.edu/newsoffice/nr/2002/isnqa.html.

11. Charles M. Lieber, 'The Incredible Shrinking Circuit', Scientific American, September 2001. After much sober analysis, the article finishes with a flourish: "Although substantial work remains before nanoelectronics makes its way into computers, this goal now seems less hazy than it was even a year ago. As we gain confidence, we will learn not just to shrink digital microelectronics but to go where no digital circuit has gone before. Nanoscale devices that exhibit quantum phenomena, for example, could be exploited in quantum encryption and quantum computing. The richness of the nanoworld will change the macroworld."

12. George M. Whitesides and J. Christopher Love, 'The Art of Building Small', Scientific American, September 2001.

13. A. Paul Alivisatos, 'Less is More in Medicine', Scientific American, September 2001. Cautious and tentative throughout, the paper ends with an intoxicated survey of prospects: "What...marvels might the future hold? Although the means to achieve them are far from clear, sober nanotechnologists have stated some truly ambitious goals. One of the 'grand challenges' of the National Nanotechnology Initiative is to find ways to detect cancerous tumors that are a mere few cells in size. Researchers also hope eventually to develop ways to regenerate not just bone or cartilage or skin but also more complex organs, using artificial scaffoldings that can guide the activity of seeded cells and can even direct the growth of a variety of cell types. Replacing hearts of kidneys or livers in this way might not match the fictional technology of Fantastic Voyage, but the thought that such medical therapies might actually become available in the not so distant future is still fantastically exciting." At no point does Alivisatos address the potential misuse of these techniques and methods.

14. K. Eric Drexler, 'Machine-Phase Nanotechnology', Scientific American, September 2001.

15. Ray Kurzweil, The Age of Spiritual Machines, Penguin Books, 1999, pp. 141-142. Emphasis in the original.

16. K. Eric Drexler, Engines of Creation, Anchor Books, 1986, p. 174.

17. The same potential for misuse, of course, applies across the spectrum of modern biotechnologies based on genetic engineering and modification. The risk of unintended consequences - a supercrop producing superweeds, for example - is itself considerable; the potential for intended consequences - qualitatively new biological weapons - is perhaps even greater. For details of the debate over the impact of biotechnology on efforts to strengthen the Biological Weapons Convention, see Jenni Rissanen, 'BWC Report', Disarmament Diplomacy No. 62, pp. 18-32.

18. 'Why the Future Doesn't Need Us', Bill Joy, Wired, April 2000 (http://www.wired.com).

19. I don't interpret Joy as placing the entire onus for sounding the alarm on scientists. Nevertheless, he does stress the obviously especial responsibility of practitioners in a new field to provide honest assessments of risk and dangers to their paymasters - whatever the risk and dangers to their careers. Once the field is well-established, scientists' qualms or concerns are much easier to ignore - why, after all, did they not say so before? This was certainly the well-documented experience of many physicists involved in the Manhattan Project, lobbying frantically after the bomb was built to prevent its unannounced use against a Japanese civilian target - a scenario which, to most of them, would have sounded nightmarish beyond crediting at the outset of the Project. In contrast, there is clear, though contested, evidence, that the majority of scientists working under the direction of the Nazi regime - most importantly, Werner Heisenberg - deliberately used their influence to persuade the authorities not to engage in serious weapons work. Whatever the exact motivation and sequence of events, the broader point is that a unique window of opportunity can sometimes open in the formative stages of a major new technological enterprise for scientists to lobby either for or against its pursuit, and so to help determine, perhaps critically, the scale and intensity of the endeavour. For discussion of the radically different situation and approaches of atomic physicists in America and Germany in World War II, see Robert Jungk, Brighter Than a Thousand Suns, Penguin Books, 1970 edition, especially pp. 175-191 & pp. 201-217; Thomas Powers, Heisenberg's War: The Secret History of the German Bomb, Da Capo Press, 2000, especially pp. 478-484; and Richard Rhodes, The Making of the Atomic Bomb, Touchstone, 1988, especially pp. 749-788.

20. Gary Stix, 'Little Big Science', Scientific American, September 2001.

21. 'Why the Future Doesn't Need Us', Bill Joy, Wired, April 2000.

22. For the report, supporting documents and debates of the GAC, see Rhodes, The Making of the Atomic Bomb, pp. 776-770. A sceptical response to Fermi and Rabi's description of the H-bomb as "necessarily an evil thing in any light" would be to say that the non-use of ther-

monuclear weapons since 1949 proves such a dramatic characterisation to have been overblown. The prospect of global destruction through a full-scale nuclear conflict has not yet been lifted, however, and is sufficiently appalling to make a 53-year time period startlingly insignificant. The only point at which one could conclude that the cloud had passed would be with the advent of a nuclear-weapon-free world - an objective to be sought in part because of the irreducible moral illegitimacy of thermonuclear weapons. Fermi and Rabi would perhaps regard considerations such as the purported success of deterrence, or the prevention of Cold War meltdown into full-scale conflict, as good examples of the kind of "light" in which the issue should not be considered.

23. Up to his death in 1937, Ernest Rutherford, the leading pioneer of modern atomic physics, believed in the impracticality even of generating useable energy directly from atoms. As quoted in a famous article in The Times on September 12, 1933, Rutherford noted that bombarding heavy elements with neutrons and other particles "was a very poor and inefficient way of producing energy, and anyone who looked for a source of power in the transformation of the atoms was talking moonshine". See Rhodes, The Making of the Atomic Bomb, p. 27.

24. In his survey of the attitude of physicists in the 1930s to the possibility of atomic weapons, Robert Jungk names only one scientist who walked away from a bright professional future. Jungk quotes the English crystallographer Kathleen Lonsdale as arguing that scientific "responsibility cannot be shirked" for the "criminal or evil" application of research, "however ordinary the work itself may be". He then writes: "Only a few scientific investigators in the Western world have in fact acted on this principle. Their honesty obliged them to risk their professional future and face economic sacrifices with resolution. In some cases they actually renounced the career they had planned, as did one of Max Born's young English assistants, Helen Smith. As soon as she heard of the atom bomb and its application, she decided to give up physics for jurisprudence." The case is doubly interesting given Born's decision, upon leaving Nazi Germany, to remain a physicist but refuse to take part in any active weapons work. In the opinion of the author of this paper, Smith ranks as one of the unsung heroes of the history of scientific conscientious objection. See Jungk, Brighter Than a Thousand Suns, p. 261.

25. Bohr believed an atomic bomb, at least of devastating effect, would be rendered impractical by the scale of the effort involved in producing sufficient quantities of the kind of uranium, the naturally rare isotope U-235, required. According to Edward Teller, Bohr told scientists at Princeton University in 1939 that "it can never be done unless you turn the United States into one huge factory". Visiting Los Alamos in 1943, Bohr admitted he had been both wrong and right: wrong in that he hadn't foreseen the production of highly-fissionable plutonium from burning commonplace uranium (U-238); right in the scale of industrial effort required to produce sufficient quantities of both plutonium (used to destroy Nagasaki) and U-235 (used to destroy Hiroshima). See Rhodes, The Making of the Atomic Bomb, p. 294. It is salutary to consider what comparable assumptions may be built into the thinking of prominent scientists today who see no compelling cause for concern about the capacity of nanotechnology to produce new means of mass destruction. In one respect, the situation is perhaps more frightening, as a much lesser military-industrial effort than the Manhattan Project may be required to produce and deliver nanotechnological WMD. Might there not also be the possibility of an equivalent to plutonium: a sudden discovery which makes, for example, uncontrollable nanorobotic proliferation eminently more feasible?

26. 'The Art of Building Small', George M. Whitesides and J. Christopher Love, Scientific American, September 2001.

27. This formulation clearly suggests the violatory quality of all atomic experimentation and energy production involving penetration into the atomic interior, i.e. bombardment of the nucleus. The logical extension of an Inner Space Treaty premised on a defence of atomic sanctuary would indeed be the abolition of all nuclear weapons, nuclear energy and nuclear research activities - just as the exploitation of the atomic and molecular interior for engineering purposes is a logical extension of the exploitation of that environment in pursuit of military, scientific and industrial advantage.

28. Writing in the Bulletin of the Atomic Scientists, March 3, 1948, Oppenheimer remarked: "In some sort of crude sense which no vulgarity, no humor, no overstatement can quite extinguish, the physicists have known sin."

Dr. Sean Howard is editor of Disarmament Diplomacy and Adjunct Professor of Political Science at the University College of Cape Breton (UCCB), Canada. The author thanks Lee-Anne Broadhead, Rebecca Johnson and Lorna Richardson for their support and advice in developing the paper.

THREATS TO THE NON-PROLIFERATION REGIME: FOURTH GENERATION NUCLEAR WEAPONS

Nuclear proliferation is traditionally based on the techniques of uranium enrichment and plutonium separation. A third ingredient, the mechanism of boosting, has acquired a fundamental role in modern, compact and efficient warheads: a very small (*around two grams*) quantity of a deuterium-tritium mixture (DT) is placed in the core of the plutonium pit before the detonation (tritium is a radioactive substance, with a half-life of 12 years, and must be continuously produced). The implosion and priming of the chain reaction ignites the nuclear fusion reaction of the DT mixture (*whose contribution to the yield is negligible*), generating a strong flux of neutrons which, from the inside, enhances and exhausts the fission of plutonium before the warhead disassembles. Tritium technology is complex, since it is an extremely volatile and radioactive gas: it is produced bombarding lithium-6 with neutrons (*typically in a nuclear reactor, as India and Pakistan have done*).

IT'S CRITICAL TO NOTE:

It is important to remark that the non-proliferation regime established since 1970 only deals with warheads based on the chain reaction in *uranium or plutonium*, and suffer from additional and severe limitations. In fact, not only the START-II and the CTBT never entered into force, but the latter bans only full-scale nuclear tests, again, based on *uranium and plutonium.*

CLASSIFIED

In, "Problems With The Stockpile Stewardship", Nature, 386, April 17th, 1997, p. 646, Ray E. Kidder states:

"*The relevance of the National Ignition Facility to nuclear weapons science is that the states of matter produced, and the physical processes involved, are similar to those that govern the behavior of nuclear weapons. As a result, computer programs used in Internal Confinement Fusion research have much in common with those used in nuclear weapons design. The more powerful of these are therefore classified, at least at the three US nuclear weapons laboratories.*"

note the plane in the center of this picture

A third ingredient,

the mechanism of boosting,

has acquired a fundamental

role in modern, compact

and efficient warheads:

a very small (around two grams)

quantity of a

deuterium-tritium mixture

is placed in the core

of the plutonium pit

before the detonation

A BRIEF HISTORY OF FUSION ENERGY RESEARCH

The idea of using human-controlled fusion reactions was first made practical for military purposes, in nuclear weapons. In a hydrogen bomb, the energy released by a fission weapon is used to compress and heat fusion fuel, beginning a fusion reaction which can release a very large amount of energy. The first fusion-based weapons released some 500 times more energy than early fission weapons.

Civilian applications, in which explosive energy production must be replaced by a controlled production, were developed later. Although it took less than ten years to go from military applications to civilian fission energy production, it was very different in the fusion energy field, more than fifty years having already passed without any energy production plant being started up. Yet massive explosive devices have been detonated.

> design and development skills are allowed to atrophy, and only those skills required to remanufacture weapons according to their original specifications are preserved

Registration of the first patent related to a fusion reactor by the United Kingdom Atomic Energy Authority, the inventors being Sir George Paget Thomson and Moses Blackman, dates back to 1946. Some basic principles used in ITER experiment are described in this patent: toroidal vacuum chamber, magnetic confinement, and radio frequency plasma heating.

Inventor of the Cathode Ray Tube Television, Philo T. Farnsworth patented his first Fusor design in 1968, a device which uses the Inertial electrostatic confinement principle to achieve controlled fusion. Although the efficiency was very low at first, fusion could be achieved using a '*lab bench top*' type set up for the first time, at minimal cost.

Towards the end of the 1960s, Robert Hirsch designed a variant of the Farnsworth Fusor known as the Hirsch-Meeks fusor. This variant is a considerable improvement over the Farnsworth design, and is able to generate neutron flux in the order of one billion neutrons per second. This type of fusor found its first application as a portable neutron generator in the late 1990s. An automated sealed reaction chamber version of this device, commercially named Fusionstar was developed by EADS but abandoned in 2001. Its successor is the NSD-Fusion neutron generator.

In the magnetic confinement field, the theoretical works fulfilled in 1950-1951 by I.E. Tamm and A.D. Sakharov in Soviet Union, laid the foundations of the tokamak. Experimental research of these systems started in 1956 in Kurchatov Institute, Moscow by a group of Soviet scientists lead by Lev Artsimovich. The group constructed the first tokamaks, the most successful of them being T-3 and its larger version T-4. T-4 was tested in 1968 in Novosibirsk, conducting the first quasistationary thermonuclear fusion reaction ever.

The U.S. fusion program began in 1951 when Lyman Spitzer began work on a stellarator under the code name Project Matterhorn. His work led to the creation of the Princeton Plasma Physics Laboratory, where magneticallly confined plasmas are still studied. The stellarator concept fell out of favor for several decades afterwards, plagued by poor confinement issues, but recent advances in computer technology have led to a significant resurgence in interest in these devices. Nevertheless, a tokamak device was selected as the design concept for ITER, which will be completed sometime in the next decade (*completion goal - 2019*) with the hope of creating a burning plasma and proving the feasibility of a commercial fusion reactor. A "*wires array*" was used in Z-pinch confinement, during the building process. The Z-pinch phenomenon has been known since the end of the 18th century. Its use in the fusion field comes from research made on toroidal devices, initially in the Los Alamos National Laboratory right from 1952 (*Perhapsatron*), and in the United Kingdom from 1954 (*ZETA*), but its physical principles remained for a long time poorly understood and controlled. The appearance of the "*wires array*" concept in the 1980s allowed a more efficient use of this technique.

Although laser use in order to initiate fusions had been considered as early as immediately after the invention of the laser itself in 1960, serious ICF experiments began in the early 1970s, when lasers of the required power were first designed. The technique of implosion of a microcapsule irradiated by laser beams, the basis of laser inertial confinement, was first suggested in 1962 by scientists at Lawrence Livermore National Laboratory.

In April 2005, a team from UCLA announced it had devised a novel way of producing fusion using a machine that "fits on a lab bench", using lithium tantalate to generate enough voltage to smash deuterium atoms together. However, the process does not generate net power. See Pyroelectric fusion.

NUCLEAR PROLIFERATION

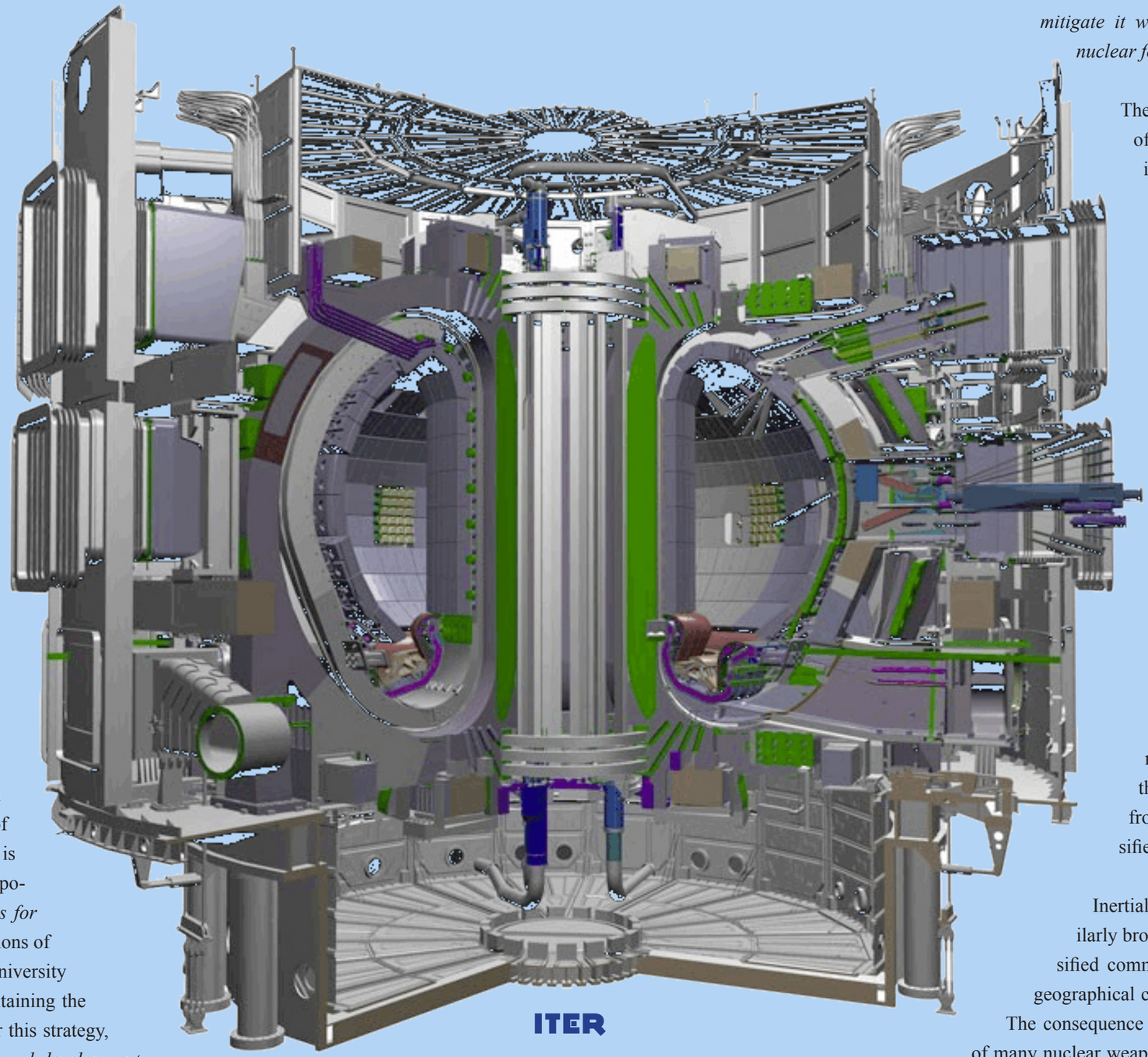
Although fusion power uses nuclear technology, the overlap with nuclear weapons technology is small. Tritium is a component of the trigger of hydrogen bombs, but not a major problem in production. The copious neutrons from a fusion reactor could be used to breed plutonium for an atomic bomb, but not without extensive redesign of the reactor, so that clandestine production would be easy to detect. The theoretical and computational tools needed for hydrogen bomb design are closely related to those needed for inertial confinement fusion, but have very little in common with (*the more scientifically developed*) magnetic confinement fusion.

FUSION POWER AS A SUSTAINABLE ENERGY SOURCE - ITER

Fusion power is often described as a "*clean*", "*renewable*", or "*sustainable*" energy source. Large-scale reactors using neutronic fuels (e.g. ITER at right) and thermal power production (*turbine based*) are most comparable to fission power from an engineering and economics viewpoint. Both fission and fusion power plants involve a relatively compact heat source powering a conventional steam turbine based power plant, while producing enough neutron radiation to make activation of the plant materials problematic. The main distinction is that fusion power produces no high-level radioactive waste (*though activated plant materials still need to be disposed of*). There are some power plant ideas which may significantly lower the cost or size of such plants, however research in these areas is nowhere near as advanced as in tokamaks.

CONCLUSIONS

A strong possibility exists that the United States is poised to repeat the errors of the Atoms for Peace Program in the 1950's, in which a torrent of public relations regarding the "*peaceful atom*" enveloped a release of sensitive nuclear fuel cycle technology that was intended politically to counterbalance the U.S. decision to abandon the goals of disarmament and international control of atomic energy in favor of massive nuclear weapons buildup. It is difficult to avoid the conclusion that the SSBS program has the potential to develop into as big a proliferation debacle as "*Atoms for Peace*." In a little noticed, unpublished dissent from the conclusions of the Drell SSBS Report in which he participated, Washington University physicist Jonathan Katz contrasted the SBSS approach to maintaining the U.S. deterrent with an approach he called "*curatorship*." Under this strategy, new experimental facilities such as NIF are not built, "*design and development skills are allowed to atrophy, and only those skills required to remanufacture weapons according to their original specifications are preserved*." Curatorship is preferable to SBSS, Professor Katz argued, because "*the chief nuclear danger in the present world is that of proliferation, and stewardship will exacerbate this danger, while curatorship will mitigate it while preserving our existing nuclear forces.*"



ITER

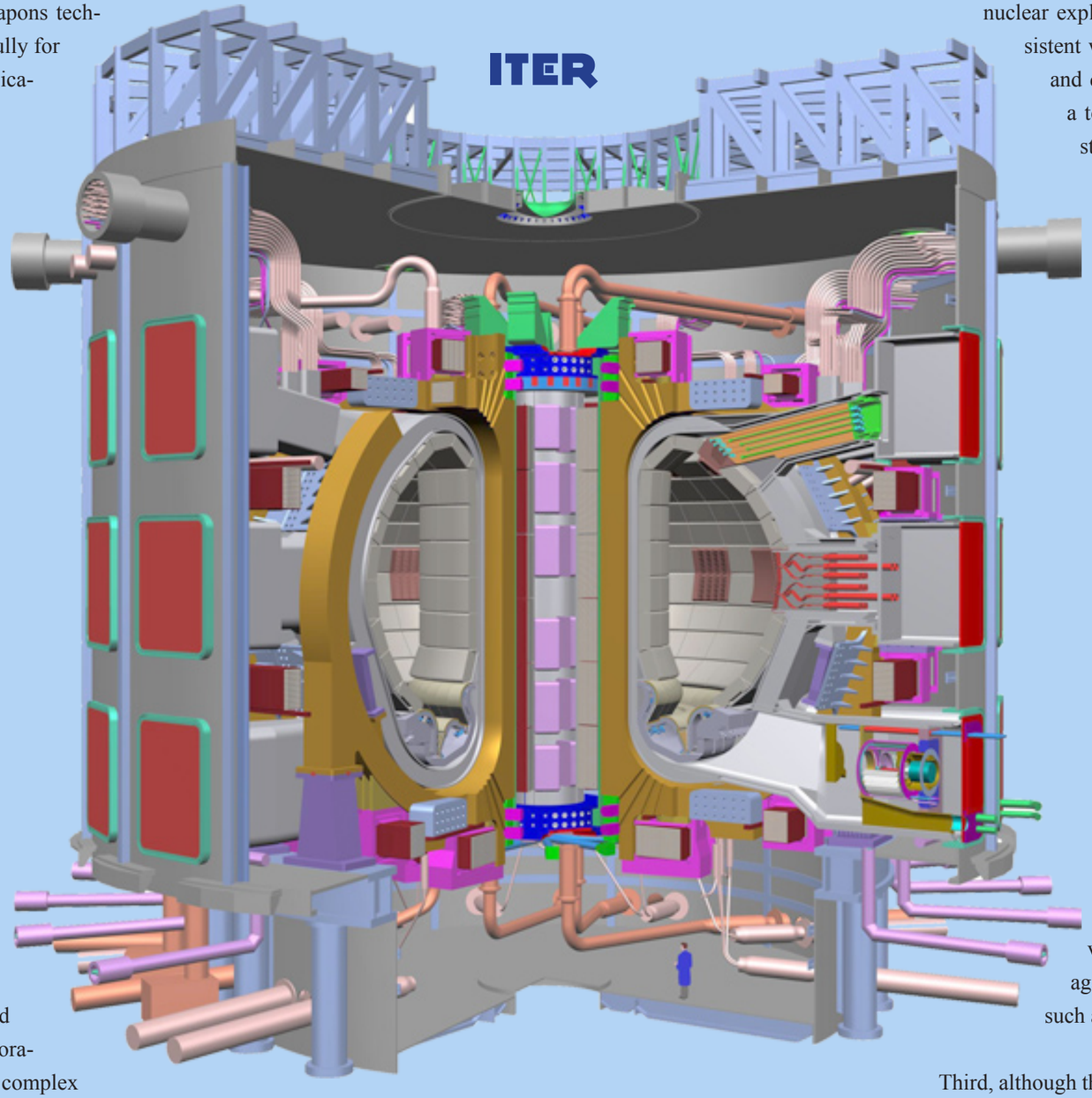
The construction and operation of the National Ignition Facility (NIF) and related facilities would not be cheap. More important are the consequences for the present and future danger of proliferation. NIF will bring together the weapons and unclassified communities. People will rub elbows, share facilities, collaborate on unclassified experiments, and communicate their interests and concerns to each other. Information and understanding will diffuse from the classified to the unclassified world, without any technical violation of security. The desire to achieve renown and career success by publication in the open literature will diffuse from the unclassified to the classified world.

Inertial (*chiefly laser*) fusion has similarly brought its classified and unclassified communities into intellectual and geographical contact over the last 25 years. The consequence has been the declassification of many nuclear weapon concepts and information. It is common knowledge that there is a great deal of physics in common between inertial fusion and nuclear weapons. The

unclassified inertial fusion community has reinvented weapons technology, and the classified community has pressed successfully for declassification of formerly classified concepts, some applicable to inertial fusion and some not so applicable.

This process would continue at NIF, which would provide a facility and funding for the unclassified world to rediscover nuclear weapons physics and (*implicitly*) to develop the understanding and computational tools required to design weapons. This reduction of the barriers to proliferation of both fission and thermonuclear weapons is not in the national interest.

In addition to the broad proliferation consequences of the SBSS raised in this paper, as yet unanswered questions unavoidably present themselves concerning specific pulsed power and HE-driven approaches to fusion. If such experiments are not prohibited under the NPT or CTBT, with or without any interim limit on fusion neutron output, who gets to conduct such experiments? Absent further clarification, it appear that Germany, a non-weapon state under the NPT, and possibly others, are reserving the legal "*right*" -- while perhaps not any immediate intention -- to do so. Should the international community therefore acquiesce in the conduct of such experiments by any non-weapon state?



In their zeal to create a "*technically challenging*" program in nuclear weapons simulation research to replace the perpetual cycle of nuclear weapons development and testing that historically had supported a lavish and cloistered research environment at the nation's nuclear weapons laboratories, the current managers of the U.S. nuclear weapons complex have confronted policymakers with a Hobson's choice between false alternatives – either buy the entire $4.5 billion "*virtual testing*" paradigm and absorb the self-inflicted proliferation risks that it entails, or lose confidence in stockpile reliability and safety by the middle of the next decade. As we have argued in this paper and elsewhere, this is a false choice, predicated on a concatenation of fallacies.

First, the record of the stockpile surveillance program shows that the nuclear explosive packages in operational U.S. nuclear weapons can be maintained – as opposed to developed or improved – over time without reliance on nuclear explosive testing. Hence stockpile "*stewardship*" that is consistent with the CTBT's avowed intent to constrain development and qualitative improvement of nuclear weapons need not, as a technical matter, seek to fashion a way around these constraints through an elaborate "*virtual testing*" program.

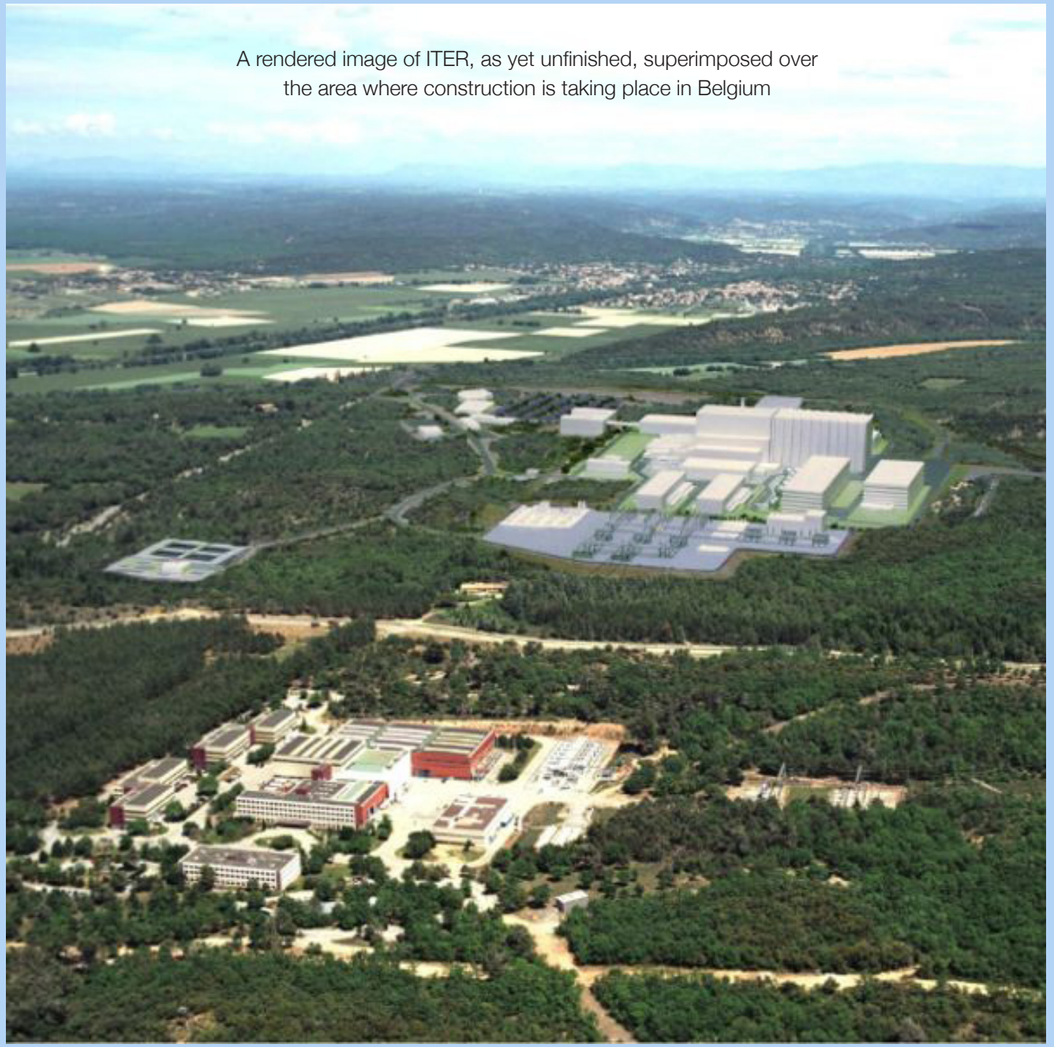
Second, it is not inherently necessary to predict (*through complex simulations*) the occurrence of aging effects and the point at which they cumulatively will begin to seriously degrade nuclear explosive performance -- it is necessary only to detect deterioration that exceeds, in the case of the nuclear explosive package, the previously demonstrated parameters associated with acceptable performance, or in the case of other components, the demonstrable parameters of acceptable performance, as the performance effects of "*aging*" on these components is not constrained by the existing database and can be exhaustively explored. While such an approach might result in a less than optimal schedule for remanufacture of the nuclear explosive package, we have seen no analysis that suggests that the incremental cost would even begin to approach the significant incremental cost of DOE's accelerated nuclear explosion simulation effort. Moreover, as the future stockpile decreases in size – one would hope dramatically so – any cost savings from optimizing schedules for remanufacture disappear as well, as these savings pale in comparison to the large capital investment and annual fixed costs of the SBSS program. But even if there were significant cost advantages from taking this approach, these must be weighed against the proliferation risks of the current program, and such a comparison finds DOE's current approach wanting.

Third, although the authors see no compelling reasons to do so, from a purely technical perspective, existing nuclear explosive packages can be integrated into new or modified warhead and bomb systems, and these systems in turn can be mated to new or modified delivery systems, without resort to the highly challenging but proliferation-prone "*first principles*" nuclear explosive simulation effort now being undertaken by DOE. In other words, under a CTBT many of the operational characteristics of nuclear weapon systems can be adapted – within the limits imposed by the certified performance envelopes of existing nuclear explosive packages – to changing military missions without incurring the considerable proliferation risks entailed by the DOE'S massive and increasingly unclassified "*science-based*" program of nuclear explosive

simulations, weapon-physics, and fusion experiments. Improved casings, radars, altimeters, boost-gas delivery systems, neutron generators, detonators, batteries, integrated circuits, fuzing and arming systems, permissive action links – all can be developed and integrated into nuclear bomb and warhead systems without modifying the nuclear explosive package design.

Given these technical realities, there is a legitimate cause for wondering exactly what is driving the U.S. decisionmaking process toward unquestioning acceptance of the SBSS program's fiscal, technical, and proliferation risks. We have a tentative answer to this question, and it is largely institutional and political in nature. Because the various administrations have done so little to change the ways in which the U.S. defense bureaucracies are directed to think about the future roles and missions of nuclear weapons in support of U.S. security policy, the vigorous and politically potent self-preservation reflex of the U.S. nuclear weapons research and development complex has filled the policy void, fashioning a program that assures, in essence, that all status quo nuclear weapon design capabilities will be preserved, and where possible, even enhanced. The result is a hugely ambitious surrogate weapons R&D program that integrates greatly expanded computational capabilities, fundamental data gathering on constituent bomb materials and explosive processes, and integrated demonstrations of nuclear design code predictive capabilities in a range of powerful new experimental facilities.

All of this is ultimately justified, we are told, not by the present state of Russian or other nuclear threats to American and allied security, which have arguably diminished to their lowest level in five decades, but by two other factors: (1) the need to retain a robust nuclear deterrent "*hedge*" against an uncertain future in which something like the Cold War complex of nuclear weapon design capabilities might once again be needed; and (2) the need to retain a convincing and "*flexible*" nuclear deterrent to biological and chemical weapons use by so-called "*rogue nations*." To the extent that the current bloated stewardship program relies on the latter justification, its proliferation impact takes on an acutely political as well as technical dimension: if the U.S. perceives the need for a nuclear deterrent to chemical-biological-radiological (CBR) weapons use, why shouldn't other nations facing similar and in some cases more immediate threats, likewise reach for a nuclear deterrent?



A rendered image of ITER, as yet unfinished, superimposed over the area where construction is taking place in Belgium

ITER project facts.

• ITER (International Thermonuclear Energy Reactor) is a joint international research and development project that aims to demonstrate the scientific and technical feasibility of fusion power.

• The aim of ITER is to show fusion could be used to generate electrical power, and to gain the necessary data to design and operate the first electricity-producing plant.

• The partners in the ITER project are the European Union (represented by EURATOM), Japan, the People's Republic of China, India, the Republic of Korea, the Russian Federation and the USA.

• The construction costs of ITER are estimated at five billion Euros over 10 years, and another five billion Euros are foreseen for the 20-year operation period.

• A tokamak is a machine producing a toroidal (doughnut-shaped) magnetic field for confining a plasma. It is one of several types of magnetic confinement devices and the leading candidate for producing fusion energy. ITER is a tokamak.

• ITER is a tokamak, in which strong magnetic fields confine a torus-shaped fusion plasma. The device's main aim is to demonstrate prolonged fusion power production in deuterium-tritium plasma.

• The ITER device is based on the tokamak concept, in which a hot gas is confined in a torus-shaped vessel using a magnetic field. The gas is heated to over 100 million degrees, and will produce 500 MW of fusion power.

• The idea for ITER originated from the Geneva superpower summit in November 1985 where Premier Gorbachov, following discussions with President Mitterrand of France, proposed to President Reagan that an international project be set up to develop fusion energy for peaceful purposes.

• ITER will produce about 500 MW (output power) of fusion power in nominal operation, for pulses of 400 seconds and longer. Typical plasma heating levels during the pulse are expected to be about 50 MW (input heating power), so power amplification (Q) is 10.

• The aim in the ITER design is to allay any concerns by compartmentalizing and minimizing any sources of airborne radioactivity (e.g. tritium, dust) into sufficiently small mutually exclusive amounts, and to physically arrange that they cannot be vented to the environment.

• If all goes well with the operation of ITER and the construction of the first electricity-generating plant that follows it, the first reliable commercially available electrical power from fusion should be available around 2045.

• ITER will consume about 16 kg (35.2 pounds) of tritium over its 20 year life, and thus need 17.5 kg to be delivered to the site taking account of radioactive decay. During the first 10 years of operation the need is about 7 kg.

• The construction of the ITER reactor began in the year 2009 and it will become operational in the year 2016 - 2019.

• ITER is more than just fusion energy sciences; it may well be the path forward for all of large-scale truly international science collaboration.

PART FIVE CONCLUSIONS

1. Nano technology and fusion-fission demolition devices the size of an apple and smaller is a stark reality that we all must deal with. Nano technology poses a distinct threat to the civilian population, especially in the wrong hands as can be seen by examining the events of September 11th, 2001.

THE IMAGE ON THE NEXT PAGE

This image was taken by a FEMA certified photographer before any excavation took place. You can see that these are rescue workers surveying the scene and they're walking on a 2.5 inch thick structural steel box column. Five inches of steel per side. The far right end of the column is cut clean and appears to have failed at a junction or connection point. It does not show the necessarily characteristic burning and melting of metal that would have to be concomitant with an energetic nano-compound burning, melting or exploding through the metal.

I can still see insulation on the box column at about 3 feet from the far right end, on the side facing the camera. It's an off-white color and has a fluffy look to it. I'm able to zoom this picture 7 times without any distortion. Many of the images in this eMagazine can be zoomed just the same or even more.

I see no evidence of conventional explosives or energetic nano-compound explosives or incendiaries in *any* of the images in this book or the 100s more that I have that aren't in this book. I own an extensive collection of extremely large, high quality, early FEMA Ground Zero images posted to the internet as public domain material in 2002 or so. Of course they're no longer available. They disprove the nano-energetic compound theory and we can't have that. I can't see evidence of explosives or incendiaries in any of the images. I've tried to post the images that provide the most credible and relevant evidence in this eMagazine.

PART SIX

THERMITE

Thermite patents from the 1940s are on the internet and we're not dealing with thermite here. Thermite is NOT an explosive. Energetic compounds need an explosive to be added to them if they are to have explosive properties or even be categorized as explosives. Otherwise, they are classified asincendiaries, fast burners. They burn in milliseconds and exhaust their fuel. That's why they're made at nano-scale, to increase burn speed. among other things.

It's important for me to express that I don't have a clue what place nano energetic compounds played on 911 or if they even played a part at all. Dr. Jones has a credibility gap not seen in the USGS ior Delta Group data and that's chain of possession of samples. Jones' samples are not secured chain of possession by any stretch.

I abhor the exchange of dialogue using terminology with flagrant disregard for meaning while expecting to have an intellectual discussions in the 911 truth movement as though thermite, super-thermite, nano-thermite, thermate, energetic compounds and metastable intermolecular compounds or sol gels all mean the same damned thing. They do not.

Thermite is an incendiary used as rocket fuel and in munitions cartridges. Thermite can only be an explosive if an explosive is added to it. If an explosive is not added to it and other non-explosive nano-elements are added it simply burns a little faster but it is still not classified as a military explosive. It MUST have an explosive element added to it to be classified as an explosive.

It's not that I don't believe that a nano-scale energetic compound was found by Dr. Stephen Jones in the dust at Ground Zero, NYC, or that it has a velocity of 300mps (*Harrit, 2011*). We know that the iron oxide rich and aluminum compound in a silica substrate at nano-scale found by Dr. Jones has a maximum velocity of 895mps (*peer reviewed 2011*). Dr. Jones' compound has a velocity of 300mps (*Jones 2010*). It's just that I don't believe it has the thermal capacity to cause the demolition we saw. Dr. Neils Harrit, in an email response to T. Mark Hightower and others, estimated between 29,000 and 144,000 metric tons of the energetic compound studied by himself, Jones, et al., would have been used based on his studies of the dust samples they have.

As I've said before, that would have required 100 days IF — 29,000 metric tons (*Dr. Harrit's low*) were moved by 1,500 tractor trailer loads (*that's how many trucks it would take to move 29,000 tons*) working round the clock unloading 1 metric ton crates from inside the trailer to the *final* destination every 15 minutes, non-stop. Over 300 days if they worked regular 8-hour union-scale day shifts, but that would be at 7 days a week without breaks. It's a flawed theory for many reasons, not just this one.

Yet it's a captivating theory is it not? No one ever heard of nano-thermite before and worse, no one has bothered to study it extensively or they would know it is entirely incapable of the demolition we saw. Imagine if everyone took the time to study nanoenergetics thoroughly. Perhaps using the Lawrence Livermore, Oak Ridge and Sandia web sites. Everyone would know. Nano-Thermite is just another 911, a Limited Hangout, a fraud on humanity.

The thermal capacity of energetic compounds with a velocity of 300mps (*even the maximum iron rich aluminum compound velocity by peer review, 895mps, is not enough*) is not enough to calcine 100,000 tons (*25% of the estimated concrete*) of concrete into a highly caustic dust similar to drain cleaner in less than 10 seconds as we all watched in awe as the sizzling clouds engulfed the city and enveloped everything in their paths; the clouds even spread out across the Hudson River. The images in this eMagazine show it clearly.
That's right. People 'heard' the clouds. They were sizzling as they passed. There were survivors who were running for their lives just on the very edge of the criticality of the event. They survived and told unimaginable stories. Yes, the clouds were described as '*sizzling*' and people were vaporized. This isn't energetic compounds.

Greater thermal capacity was required to turn the concrete to dust. Check with a physicist on the heat or thermal capacity necessary to calcine 100,000 tons of concrete into a highly caustic substance with the pH of drain cleaner in less than even a full 10 seconds time while also destroying the rest of two 100+ story steel buildings.

Everything that happened that day as regards the Twin Towers happened in less then 10 seconds per tower. The dust created in that very short period plays a key role in understanding what happened that day.

The dust is the ONLY evidence we have and the only evidence we'll ever have. More importantly, it's the only evidence we'll ever need.

That's one of the most important and crucial aspects of this event for me. 10 Seconds. All anomalies need to be accounted for in less then 10 seconds; the u-shaped girder that appears in this eMagazine for example, without creases, rips or tears on the long radius, along with numerous other known anomalies; everything needs to be accounted for in any theory that maintains full integrity within a ten second period. All of the anomalies.

None of the images on the pages that follow are cropped or altered in any way to change or conceal any part or portion of them. Are pictures worth 1000 words? Again, don't forget ... this happened to 2 buildings in less then 10 seconds each and some anomalies had to occur in just a few milliseconds.

please take the time to carefully examine the images in this eMagazine using the zoom feature

Many of them, but not all of them, as I've stated repeatedly, are high quality images that can be zoomed several times without distortion. I see no evidence of incendiary devices or conventional explosives.

What I do see is lacerated, slashed, ripped and torn metal; rows of 1" and larger bolts sheared from their holes, structural steel two and a half inches thick shredded, ripped and bent like rubber but no evidence of the thermal output of an energetic compound. However, if a nuclear device heated to 10 million degrees for a nano-second in a radius of 10 or 20 feet, with a secondary radius of another 50-100 feet of 300,000 degrees and a third radius at 50-200 feet of 3,000 degrees and then rapid heat deceleration from there – remember, the bomb lit to 10 millions of degrees for just a nano-second or so – then every anomaly associated with 911 is explained from the horse-shoe shaped I-beams to the vaporized people and the oddly burnt cars. No flames, nothing visible, no fire. Just the unseen yet incredibly enormous heat of highly charged, infinitesimally small reacting neutrons, invisible, but sizzling in the clouds as they passed.

Metals attract neutrons. Cars a good distance from demolition and on a straight unhindered path would burn, especially the heavier metal parts but paper floating everywhere wouldn't be affected. The 911 site, from Ground Zero outwards is littered with paper and none of it has burn marks on it. The buildings themselves would look like a fountain of destruction, as they did, but a fountain growing smaller and smaller, diminishing in height but not horror, again as they did. With a constant upward force spewing dust a mile high and ejecting multi-ton structural steel components at 50-60mph imbedding them into adjacent buildings on neighboring blocks, the force of energy, for less then ten seconds for each building was unimaginable. The force during each one of those single ten seconds was massive.

less than 10 seconds – then it was done

Dr. Stephen Jones writes:

"***Explosives such as RDX, or HMX, or superthermites***, when pre-positioned by a small team of operatives, ***would suffice to cut the supports at key points such that these tall buildings would completely collapse with little damage to surrounding buildings.*** *Radio-initiated firing of the charges is implicated, perhaps using superthermite matches. Using computer-controlled radio signals, it would be an easy matter to begin the explosive demolition near the point of entry of the planes in the Towers (to make it appear that the planes somehow initiated the collapse.) In this scenario, linear cutter-charges would have been placed at numerous points in the building, mostly on the critical core columns, since one would not know beforehand exactly where the planes would enter*."

Yet by Jones' own admission (*Harrit, 2010*) his iron oxide rich aluminum nano-compound in a silica substrate found at Ground Zero and studied extensively in the Bentham Open Chemical Physics Journal [http://www.benthamscience.com/open/tocpj/articles/V002/7TOCPJ.htm] has a velocity of 300 meters per second (*mps*). He classifies his nano-compound with RDX and HMX which have velocities closer to 9,000mps. Is this foolishness? Bad science? Three-hundred (*300*) meters per second versus Nine-thousand (*9,000*) meters per second? RDX and HMX and even TNT (*almost 9,200mps*) generate 30 times the explosive or total thermal energy or power than the nano-energetic compound Jones claims to have yet he compares them as being similar in explosive power? His compound is classified as an incendiary. The 911 truth movement has never recovered from this colossal, ignorant blunder. At 300mps his nano-compound would require "*29,000 metric tons*" (Harrit, 2011) in a revised increased estimate he made previously in print of 10 metric tons, now a new low or minimum with a maximum of 144,000 metric tons. *Per building*. This changing theory falls on its face more than once for a number of reasons. Energetic compounds alone simply can't do what we saw. Study the dust.

many of the pictures that follow are clearly rescue crew members at Ground Zero before clean-up and construction crews had access • I see no evidence of energetic compounds melting or heating away the structural steel in less than 10 seconds An energetic compound would have had to have collapsed every 10 floors in less than 1 second • At 300mps an iron oxide rich aluminum compound in a silica base can't do that.

enormous bolts ripped out of their holes ...

A Lot
Of Evidence
Of Torn & Ripped
Structural Steel And Dust.
A Lot Of Dust.
Above, left, right and center,
18 bolts, big as a fist
ripped apart,
the steel torn
to shreds. No
evidence
of thermite.

Enlarge the glass windows above. The glass is melted like a cloth, now solid, it was heated to a temperature so high for such a short period that it melted and re-solidified in milliseconds and formed the shape of hanging curtains. Examine these images. The bottom right window has stones impaled in it. This event was singularly instantaneous yet highly complex, in a few milliseconds.

The steel structural beams are still covered with the fine powdered dust seen everywhere else. Is the insulation blown off of the larger beams?

What kind of unseen force would blow the asbestos coating right off the two and a half inch steel beams it had been applied to?


9·24TF FH1

THE CIRCLES

There are lot's of circles on the images. The circles (*zoom in on the circles*) on the five previous pages (*and on other pages*) show box columns demolished in the rubble. All of the box columns are broken, disconnected or detached at their joints, where they were originally connected via a supporting system of structural steel; gusset plates, to fasten the columns together. Welded gusset plates and stand-off plates with bolts ripped from the floor truss supports are what we see. No signs of energetic compounds.

At these breaks there is no evidence, none at all, of the concomitant melted metal and burning that would be associated with an energetic compound of any kind, regardless of its velocity or maximum temperature.

The tubular steel structure of the Twin Towers, the box columns, were always under tremendous stress. They were supporting, just in the construction of the towers, approximately 300,000 tons of building material per tower. With 1000s of people, fixtures, carpet, toilets, etc., they were probably supporting well over 300,000 tons each. The steel structure was always under stress. Winds included.

The heat from a nuclear demolition, a very small series of deuterium-tritium fusion devices for just a millisecond, would have provided the necessary heat to cause total building failure and collapse, WITHOUT burning or melting the metal in most cases.

It would account for 1 inch steel bolts and larger being torn from their joints and it would account for the rips and tears we see in the structural steel, without burned and melted steel or tears in the longer radii to accompany those rips and tears. A demolition using very small micro-nuclear devices would account for the fact that nowhere in any of the images of the steel, and the images in this eMagazine were taken before demolition and during rescue operations, are showing signs concomitant with energetic compounds melting the steel.

There are images though, in this eMagazine, that show the signs of the heat of nuclear demolition; the heat of fast, invisible neutrons that are attracted to metal. Fast neutrons attracted to cars, structural steel and not paper or paper products, passing right through them. For just a millisecond or less. 911 was a nuclear event and *THAT* is the secret that no one wants us to know. Yet now we know. Some of us ...

At the top center of the image at right on the darker building in the background I see an example of high heat and a scorching effect; more than just a fire but a massive massive raging inferno. At the central column sticking up through the debris at the bottom center of the same image, protruding up behind the two Rescue Workers, I see evidence of scorching heat also and a small outward bulge at the top, long side, and a wider, longer inward bulge at the lower, long side. These structural steel components were stressed to their maximum temperatures for days, or they were subjected to massive heat for milliseconds. Millions of degrees. But I don't see evidence of 1, 2 or 3 seconds of 4500 degrees from Dr. Jones' thermite. It would have to be accomplished at 1 second per ten floors. This picture (☞) can be zoomed and there's a larger one on a previous page.

Above, bolts are ripped from their anchor holes but there seems to be no sign of melted metal as one would expect to see with a nano- energetic compound burning in excess of 4500+ degrees for less than 10 seconds. None of the metal I've seen in pre-clean-up rescue images has signs of melting, burning or detonating in a fiery explosion. The huge I-beams to the right look as though they were cut or failed at seams.

SHOP

I don't see evidence of 10 seconds, or even several seconds of steel columns burning, melting from a 1-2 second burn of an energetic compound. I don't see the evidence, for example in the two and a half inch thick beam below. With two sides this I-beam is 5 inches of structural steel (2.5 inches per side), bent like a horseshoe in less than 10 seconds. Without tears in the longer radii, and there aren't any, heat would have had to have reached many thousands of degrees for just milliseconds and the energetic compound found by Dr. Stephen Jones, with a velocity of 300mps and a maximum peer reviewed velocity for any iron oxide rich aluminum nano-compound in a silica substrate at 895mps maximum, simply won't accomplish this and adequately account for dozens of additional Ground Zero Twin Towers anomalies.

I see the result of 10 million degrees for 50 feet and 300,000 for another 100 and 3,000 for another hundred and much less thereafter, all in less than a millisecond or maybe two milliseconds. Rapid cooling, almost seemingly faster then the heat itself. Heat from radiation, unseen, at those temperatures for just milliseconds and then rapid cooling or return to normal temperatures isn't a normal experience for those on the very edges of survivability for events like this as the following quotes indicate:

For those running away whose testimony I've listened to and recorded, they experienced "*heat on the backs of my legs, my arms and my head, as though I were on fire*." One woman turned around for just a moment to "*see people vaporized where they stood*." Another saw "*cars burst into flames spontaneously*" as she was running away. A nuclear event, a neutron device based on deuterium, tritium and perhaps other exotic metals (*or not-so-exotic since lead, copper, silver and others are used too*) the size of an apple, explains these and many more anomalies.

With a small enough device many people within 500 feet might not even feel the effects of neutron bombardment. Others would breathe the dust unknowingly for 5 or 6 days in hectic, disorganized relief efforts where fireman couldn't talk to policeman because their radios were on different frequencies. They were unable to communicate or hear each others announcements. True enough.

If you liked Katrina then this rescue effort was the Marx Brothers, Laurel and Hardy and the Keystone Kops all rolled into one even though that won't be admitted in the mainstream media.

It was a "Get Wall Street Open Effort" from the first second, well before the dust even settled and even though it didn't settle for months, the politicians and media pundits were there telling us to go to the mall and shop, buy plastic stuff at WalMart or wherever you care to spend your dough. The message was clear.

Shop.

SHOP

PART SIX CONCLUSIONS

1. It's now time for you to draw some of your own conclusions. Will you use this eMagazine and the many links to study these issues further?

PART SEVEN
FRAGMENTS

*Nano energetic explosives require an added explosive element otherwise a nano-energetic compound is an incendiary albeit a very rapidly burning incendiary. If RDX, TNT or any other type of explosive were added to a nano-energetic compound it would then be explosive. Without an added explosive element it is considered an incendiary. An exception is when it's *highly compressed in pellet form* and formed gases create high pressure. To move several tons of steel at an estimated 50-73mph (*Kevin Ryan, 2010*) would require a compressed pellet the size of a single family home.

ENERGETIC NANO-COMPOUNDS
METASTABLE INTERMOLECULAR COMPOPUNDS (MIc)
SOL GEL BASED AND SILICA BASED
NANO SCALE INCENDIARIES & NANO-EXPLOSIVES*

The complexities of a nuclear explosion of a particular type and especially those of a radiological device (RDD) are difficult to explain and won't be discussed in depth here. Salted versions of both fission and fusion weapons can be made by a change in the materials used in their construction.

There are dozens of different types of nuclear weapons based on differing elements such as deuterium, plutonium, tritium, uranium, zinc, lead, silver, gold and other metals. They all have widely varying and substantially different radiation paths and zones of destruction.

There are neutron, hydrogen, salted gold, salted silver, and other salted bombs of proposed types such as the cobalt bomb, which uses the radioactive isotope cobalt-60 (^{60}Co). Other non-fissionable isotopes can be used, including gold-198 (^{198}Au), tantalum-182 (^{182}Ta) and zinc-65 (^{65}Zn). There are others.

Certain elements of these explosive devices are ones we can become familiar with if we're not already. There's enough credible material to make sense of a great deal of these little known technologies where science, physics and some of the once theoretical become proven and verifiable facts. And this includes nano-technology and everything associated with it in the field of nuclear explosive mechanics (physics). I've examined 100s of pictures (some in the pages that follow) of girders, steel plates, flanges as well as piles of utter destruction and none show anything resembling signs of a thermite or nano-energetic explosive burn across the steel structural components. Not that I've seen.


F.D.N.Y.
F.D.N.Y.

NIST IMAGES


Splice in the 98th floor
Fractured end near the 100th floor level


AA Flt.#11 Window/Fuselage Section
At 8:45 am September 11, 2001, hijacked American Airlines flight #11 was flown into the north tower of the World Trade Center


Exit
Vesey Street, West Broadway
New Jersey Ferries
Exit
Exit
Service exit

DUST

THE ARGUMENT FOR THERMITE OR ENERGETIC NANO-COMPOUNDS

Unexplained high levels. Levels that cannot be explained by gun sights, watches and 34 Boeing Exit and Emergency signs.

Totally unexplained high levels of thorium as well. And Potassium. And Sodium. And Zinc. And so on...

As a secondary mechanism for destruction wholly unnecessary to the destruction itself energetic compounds may have played a part in destroying the buildings by scaling the parts into easily maneuverable and disposable sizes. The thermal capacity of Dr. Jones, et al., energetic compound at a velocity of 300mps and with an iron oxide rich aluminum structure in a silica sol gel base with a maximum of 895mps the compound alone could not calcine 100s of 1000s of tons of concrete, create the micron sized aerosol particles and maintain temperatures in excess of 2500 degrees at Ground Zero "*boiling soil and glass*" as Dr. Thomas Cahill from the UC Davis Delta Group states. Particles, specifically aerosols, were being "*regenerated*" according to Cahill and the atmospheric dust samples were found coated with soot proving recent generation in the Ground Zero fires raging far beyond human control, even with a minimum 1,200 gallons of Pyrocool® and previously heavy rains.

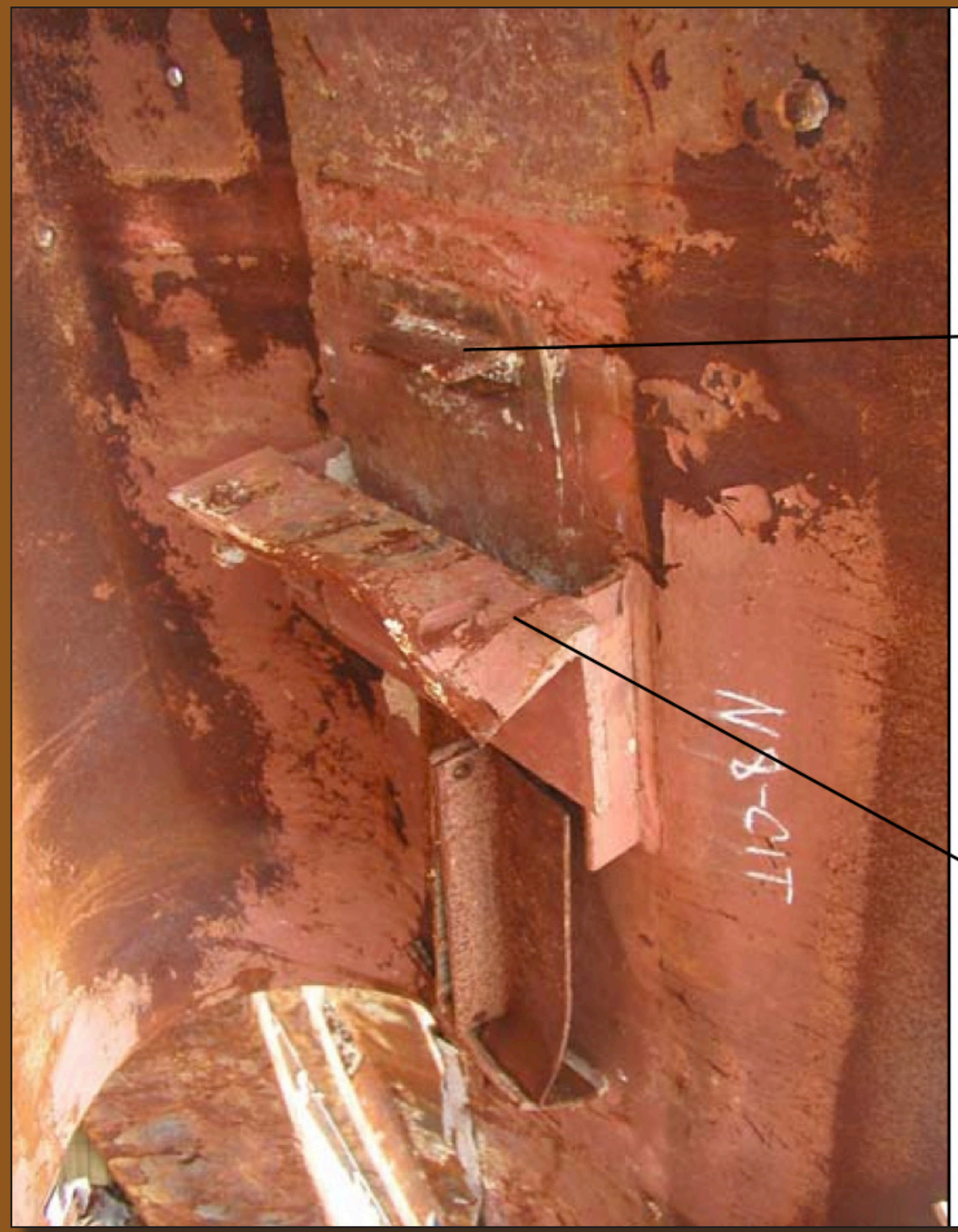
An argument against energetic compounds includes the following internet forum statement: "*Those marks in the last photo (center left), which is just a close up of the first (far left), indicate an oxy/acetylene torch cut. All of which, I have experience with. From being ex Army to having worked in mining*." Is this true? Seems so to me but I have no experience in welding on this level.

So we have varying interpretations of the ability of the energetic compound in Jones' possession to cause the damage seen and we have seriously and crucial questions as to the total thermal capacity needed to calcine so many tons of concrete. We also have strong anecdotal evidence in the many cancers and we have scientific evidence in the form of high levels of tritium and uranium.

NO BURNS

bolts ripped from their holes in 1” to 2”+ structural steel I-beams without burn or scorch marks
no apparent melting • the temperatures required to bend/bulge the center I-beam in the few seconds
there were to do so without melting the steel were in excess of 10s of 1000s of degrees

NO BURNS

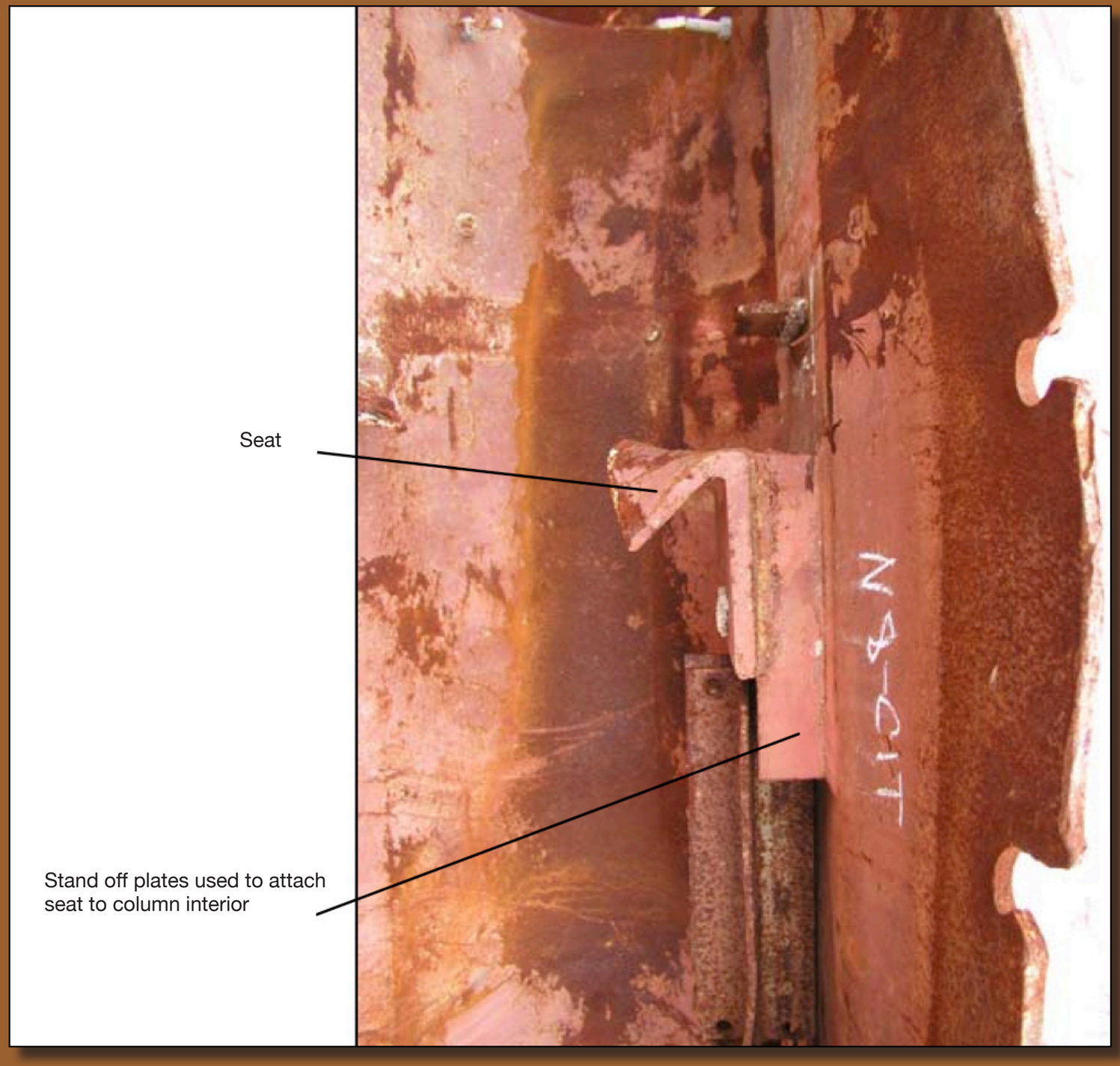


Bolts ripped from their floor truss holes in structural steel without burn or scorch marks. No melted metals visible.

Fuselage fragment

A fragment of a wing fuel tank found at the World Trade Center site shows a thick compound around the nuts, used to prevent fuel leaks.

NO BURNS



Bolts ripped from their seated stand off plates in structural steel without burn or scorch marks. No melted metals visible. At the far right we see ripped and torn structural steel without burn or scorch marks.

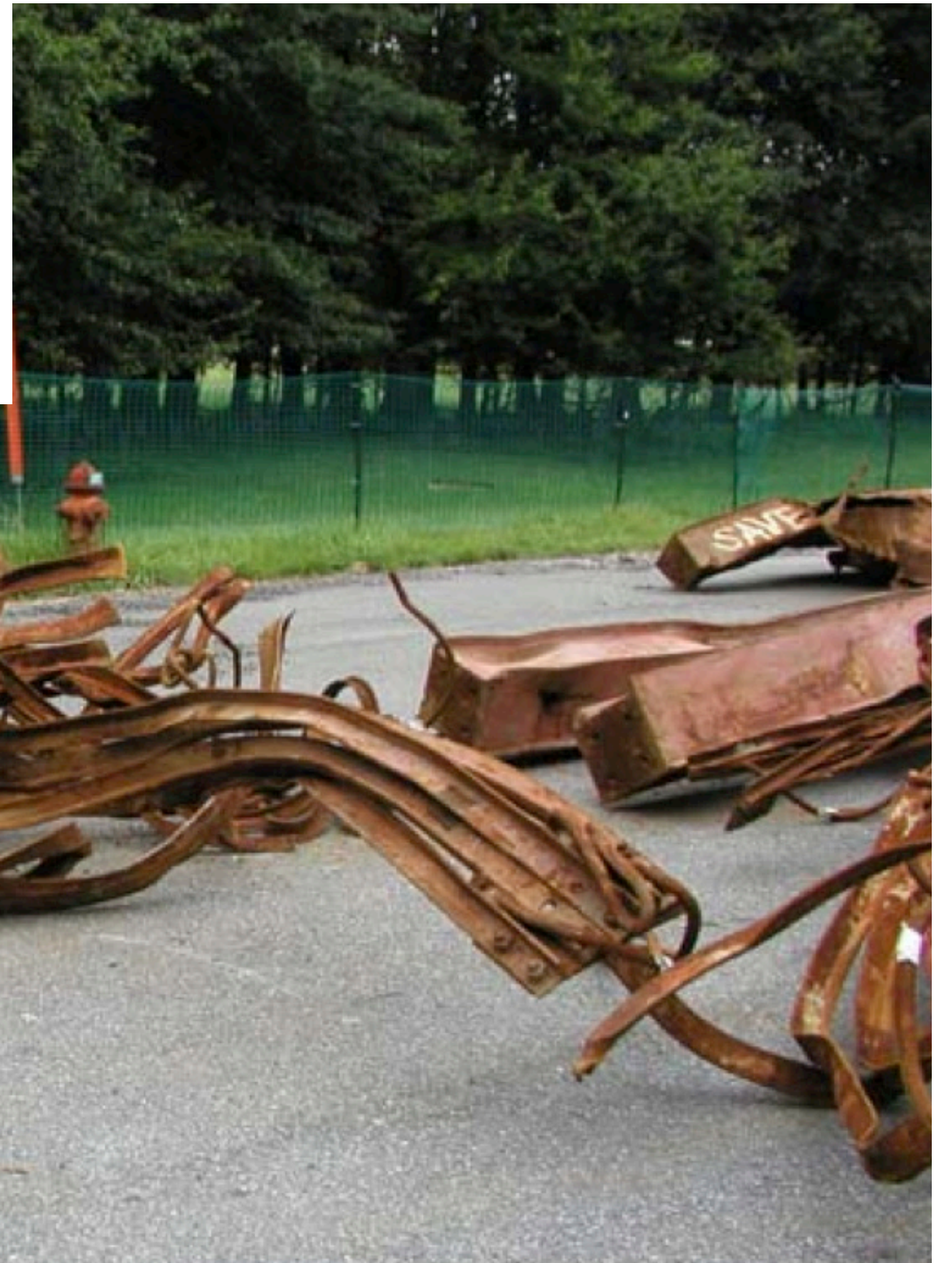
Fragment of fuselage skin found at World Trade Center site.

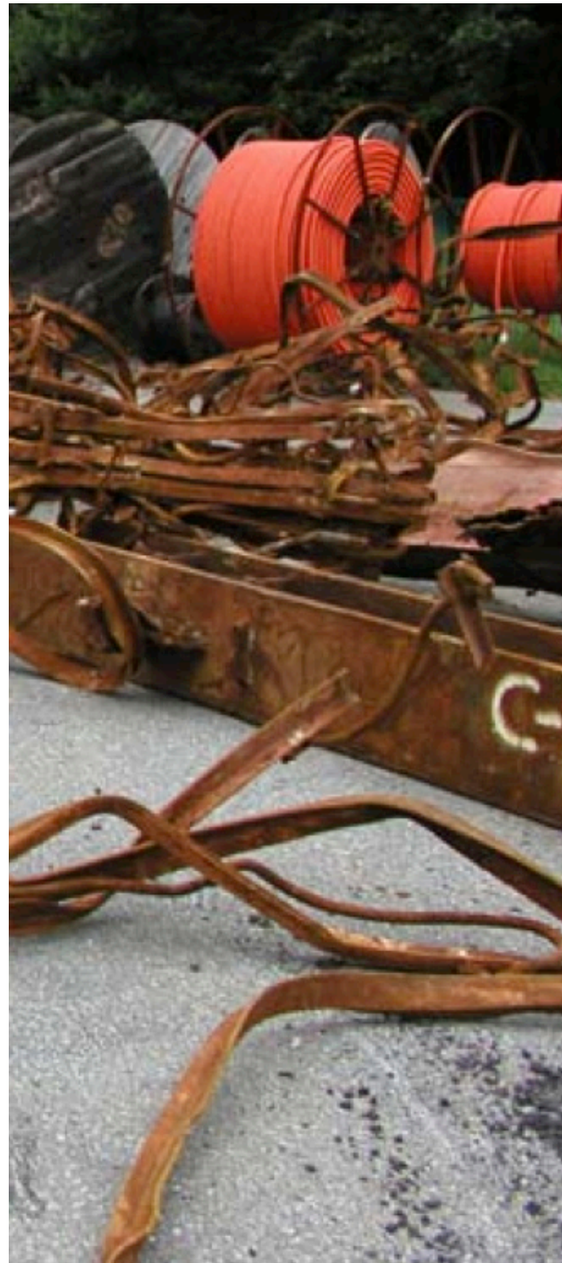
Seat belt from a crew member's jump seat on American Airlines Flight 11, the plane that was crashed into the north tower of the World Trade Center.

NO BURNS OR MELTED METAL

NO BURNS

These original images are available by request using a Facebook private message. No parts or portions of the images in this eMagazine are concealing anything that might be considered showing evidence of energetic compound reaction in the 300mps to 895mps range with temperatures in the 2500 - 4500+ degree range for the less than ten second period available per building.





the very fine dust covered everything uniformly and it was everywhere; in ducts, in clothes, in carpet, in cracks and crevices we didn't know and still don't know we had ...
you'll see from the image on the next page that the dust was inches thick and finer than baby powder outside - micron sized


SAFETY
Nano Patrol
FUSION DIVISION
MICRONS
John R. Microns
- FIRST RESPONDER -
September 11th, 2001
May 18th, 1970 - September 11, 2001

IMPALED BUILDINGS

There were more impaled buildings than the media would have you believe and this book has examples of a dozen or more. Look carefully and you'll see them. Some, but not all of the images can be zoomed several times. The circled area in this image is a 2.5 inch thick structural steel box beam, bent, torn and shredded without burn marks. And hoisted 100s of feet with extraordinary force.

This building wasn't just impaled. At the corner of the building just about an inch or two above the bottom of the image is a structural steel plate with 12 bolts showing and it's ripped apart, the bolts sheared. On close examination both the building and the structure that hit it are severely damaged and free of any visible burns. The velocity of the structural steel from the World Trade Center was enormous, estimated at between 50 and 60 miles per hour.

The estimated velocity of the energetic compound examined by Dr. Jones, even if it had a velocity of 895 meters per second, though his is estimated at 300mps, would still have far too little velocity to propel hundreds of tons of structural steel at speeds estimated to be at least 50-60 miles per hour, into buildings a block or more away from the towers.

I'm not going to say energetic compounds weren't used but if they were used they were inconsequential to the demolition of the Twin Towers; not an essential part at all.

There was a tremendous, incredible and massive amount of dust spread across lower Manhattan. As it settled as it would and as it did, it told an elaborately intricate human story. Examine the dust.

NUCLEAR FEET?

DESTROY ODER ON CONTACT

Oder Eaters meet the strictest USDA and IAEA standards for nuclear radiation fallout odor and will absorb all fallout odors to include alpha, beta, gamma fission radiation and even rare neutron odors from fusion reactions.

All radiation related odors are always guaranteed not to be detectable by the normal sense of smell and all standard Geiger Counters or your money will be fully refunded with your dated local store receipt.

Guaranteed to be effective against tritium and deuterium fallout.

Guaranteed!

NUCLEAR ODER EATERS™

EXPLOSIVE ERUPTION SEQUENCE – WHAT DO THESE PICTURES ACTUALLY SHOW?

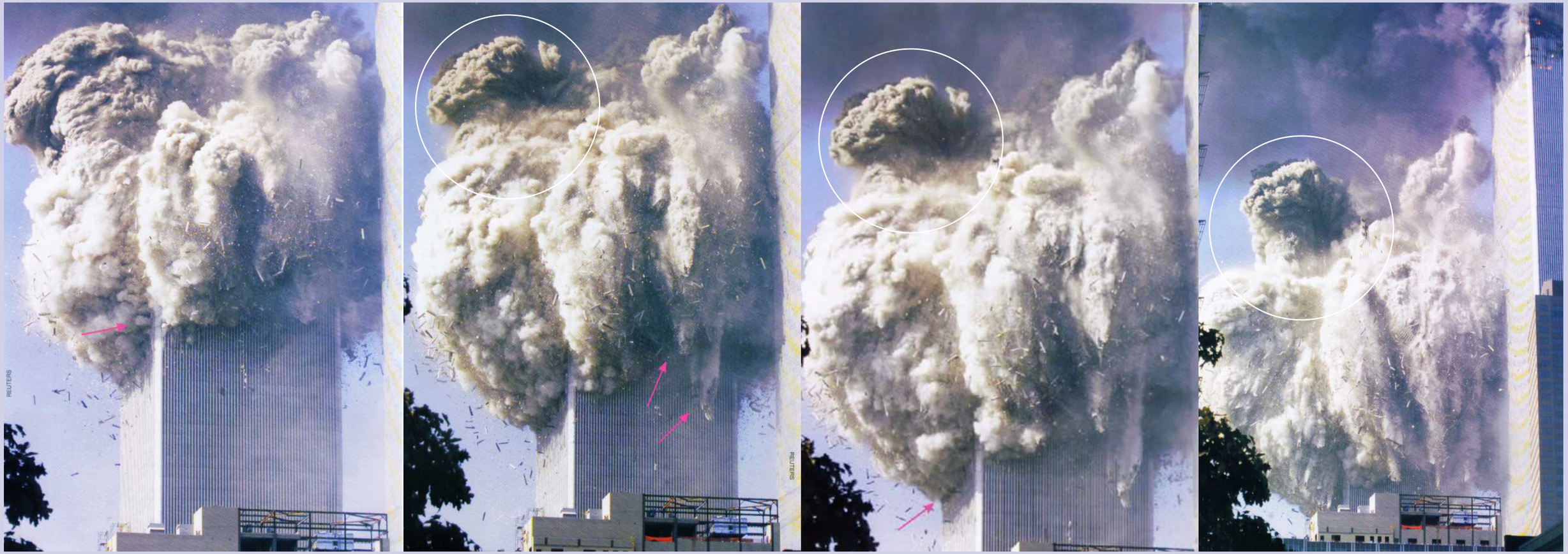
The large cloud developing at the top left in the far left picture exhibits tremendous explosive force and this is apparent as we look across the four images to the last image on the far right. This portion of the cloud is exploding upward with tremendous energy and power.

Each image, as we look from left to right at the darker cloud in the upper center *(as we move left to right*), shows an extraordinary upward thermal force. The fourth picture from the left or the last one on the right shows incredible upward energy.

The thermite found by Dr. Stephen Jones and confirmed by Dr. Neils Harrit to have a velocity of 300 meters per second (mps) can't do what we see here and that's just simple science.

As an example, RDX has an approximate 8,500 meters per second (mps) velocity as compared to Dr. Jones' energetic compound with an estimated velocity of 300mps and a maximum for iron oxide rich and aluminum energetic compounds in a silica substrate of 895 meters per second based on peer reviewed data specifically on iron oxide and aluminum nano-compounds. Energetic compounds can't hoist building structure components that weigh 100s of tons and eject them into adjacent buildings. An experienced controlled demolition expert would know this.

What's happening here is a well known but little understood force we've seen before. We've only seen it on very enormous scales so to visualize it on such a minimal scale is difficult but it seems to me we should all be thinking about apples. All 3 circled areas appear as upward explosive forces.



PART SEVEN CONCLUSIONS

1. This text within the pages of this eMagazine and the images that accompany it speak loudly and clearly for themselves; loudly and clearly. The text supports the assertions made and the conclusions arrived upon. The links within the text support the text itself. 911 was a nuclear event. A new, very small deuterium-tritium fusion triggered fission device; a weapon unlike others before it. It's the size of an apple, maybe smaller and perhaps even the size of a golf ball. Current technology allows for these sizes.

PART EIGHT

EVERYTHING TOWERS

Characteristics of the Twin Towers' Destruction and What They Show

The total destructions of the two towers were almost identical. The most apparent difference is that the top of the South Tower tipped for a few seconds before falling, whereas the top of the North Tower telescoped straight down from the start. Here are some of the principal characteristics of the destructions, a steel inventory and much more. This section is all about the towers.

• The cores were obliterated. There is no gravity collapse scenario that can account for the complete leveling of the massive columns of the towers' cores seen at right. Many of the core columns were simply never found.

• The perimeter walls were shredded. No gravity collapse scenario can account for the *ripping apart*, *not melting with thermite as the images in this eMagazine show*, of the three-column by three-floor prefabricated column and spandrel plate units along their welds. They ripped apart, no thermitic reaction is visible on any of the box beams or on the *three-floor prefabricated column and spandrel plate units*.

• Nearly all the concrete was pulverized in the air, so finely that it blanketed parts of Lower Manhattan with inches of dust. In a '*less than 10 second*' gravity collapse, there would not have been enough thermal energy to pulverize the concrete nor would there have been enough thermal energy to also cause the dust to be measured at a 12 pH, as caustic as drain cleaner.

• The towers exploded into immense clouds of dust, which were several times the original volumes of the buildings by the time their disintegration reached the ground.

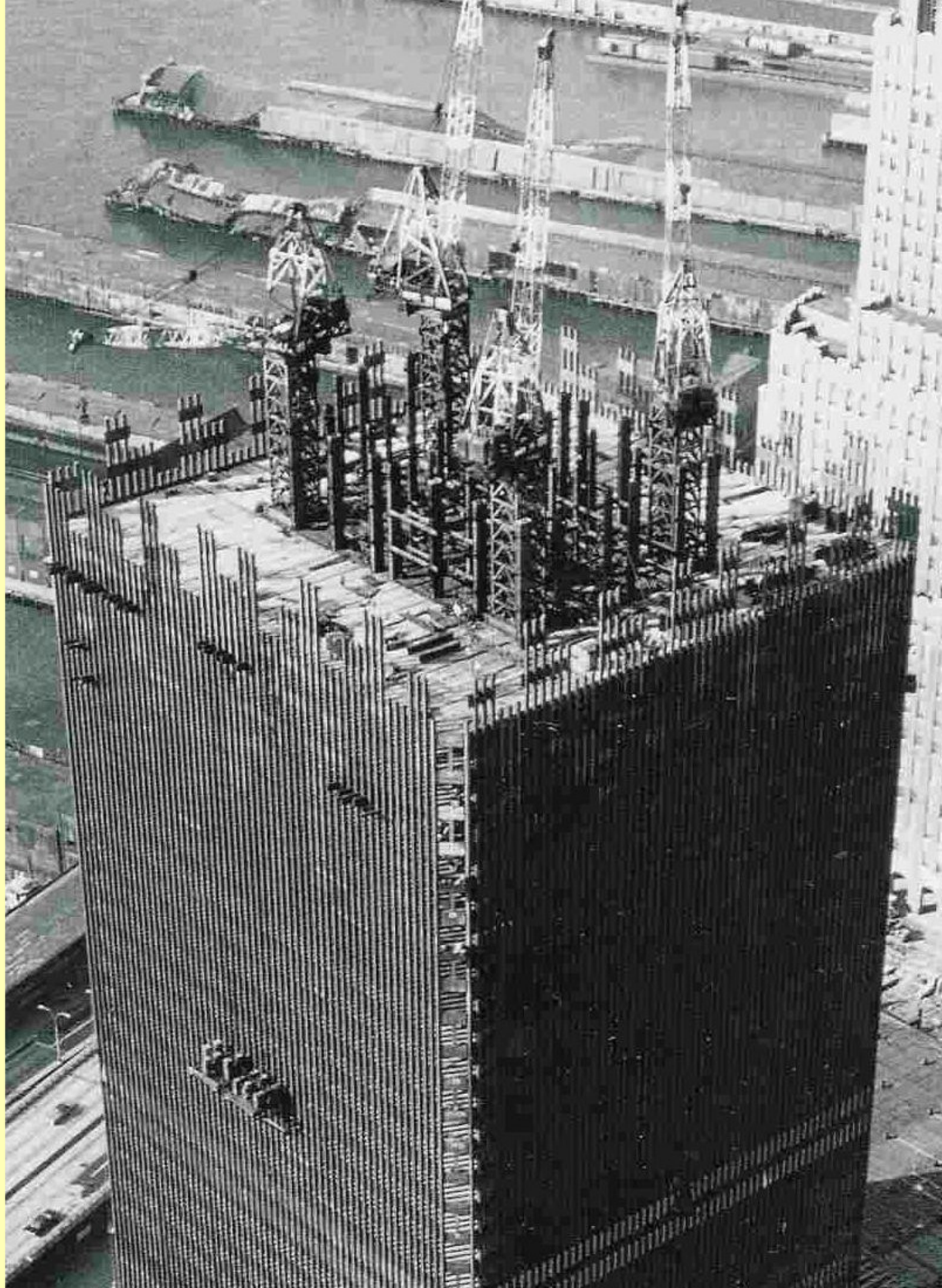
• Parts of the towers were thrown 500 feet laterally. The downward forces of a gravity collapse cannot account for the energetic lateral ejection of sections of structural steel weighing multiple tons. A 300mps velocity energetic compound (Dr. Stephen Jones, 2010) also can not account for the hoisting and tossing of multiple ton tower sections and impaling buildings more than 500 feet laterally.

• Explosive events were visible before many floors had collapsed. Since overpressures are the only possible explanations for the explosive dust plumes emerging from the buildings, the top would have to be falling to produce them in a gravity collapse. But in the South Tower collapse, energetic dust ejections are first seen while the top is only slightly tipping, not falling.

• The towers' tops mushroomed into thick dust clouds much larger than the original volumes of the buildings. Without the addition of large sources of pressure coupled with incredible heat (*remember, we have less than 10 seconds*) beyond the collapse itself, the falling building and its debris should have occupied about the same volume as the intact building.

• Explosive ejections of dust, known as squibs, occurred well below the mushrooming region in both of the tower collapses. A gravitational collapse explanation would account for these as dust from floors pancaking well down into the tower's intact region. But if the floors - the only major non-steel building component - were falling one on top of another in a gravitational collapse failure, where did the dust come from?

• The halting of rotation of the South Tower's



top as it began its fall can only be explained by its breakup which can only be explained by a micronuclear device.

• The curves of the perimeter wall edges of the South Tower about 2 seconds into its "collapse" show that many stories above the crash zone have been shattered into dust.

• The tops fell at near the rate of free fall. The rates of fall indicate that nearly all resistance to the downward acceleration of the tops had been eliminated ahead of them. The forms of resistance, had the collapses been gravity-driven, would include: the destruction of the structural integrity of each story; the pulverization of the concrete in the floor slabs of each story, and other non-metallic objects; and the acceleration of the remains of each story encountered either outward or downward. There would have to be enough energy to overcome all of these forms of resistance and do it rapidly enough to keep up with the near free-fall acceleration of the top.

CONCRETE PULVERIZATION

Twin Towers' Concrete Turned to Dust in Mid-Air

A striking feature of the Twin Towers' destruction was the pulverization of most of the concrete into gravel and dust before it hit the ground. This is evident from the explosive mushrooming of the towers into vast clouds of concrete as they fell, and from the fact that virtually no large pieces of concrete were found at Ground Zero, only twisted pieces of steel. Estimates put the size of the particles, which also included gypsum, chrysotile, vanadium, thorium, uranium, zinc, lead, cerium, yttrium, lanthanum, molybdenum, potassium, sodium and more; even hydrocarbons all in the ten- to 100-micron range.

Some idea of the volume of the dust clouds can be obtained by examining photographs taken during and shortly after each tower collapsed as seen in this eMagaine.

In trying to come to terms with what actually happened during the collapse of the World Trade Towers, the biggest and most obvious problem that I see is the source of the enormous amount of very fine dust that was generated during the collapses. Even early on, when the tops of the buildings have barely started to move, we see this characteristic fine dust (*mixed with larger chunks of debris*) being shot out very energetically from the building. During the first few seconds of a gravitational fall nothing is moving very fast, and yet from the outset what appears to be powdered concrete can be seem blowing out to the sides, growing to an immense dust cloud as the collapse progresses. Eventually a pyroclastic clouds envelopes the city with Fire Fighter and First Responder testimony that the cloud sizzled and sparkled as it passed. And it was hot. Very hot.

The city of New York was covered with two things. Dust and literally tons of unburned paper and this is the signature of neutron bombardment. Paper has no mass and neutrons pass right through it but they're attracted to metal and water, steel and humans, which explains the demolition anomalies and vaporized humans quite well.

The floors themselves are quite robust. Each one is 2-5+ inches thick; some are layered in a poured concrete slab, with interlocking vertical steel trusses (*or spandrel members*) underneath. This steel would absorb a lot of kinetic energy by crumpling as one floor fell onto another, at most pulverizing a small amount of concrete where the narrow edges of the trusses strike the floor below. And yet we see a very fine dust being blown very energetically out to the sides as if the entire mass of concrete (*about 200,000 tons per building*) were being converted to dust. Remember too that the tower fell at almost the speed of a gravitational free-fall, meaning that little energy was expended doing anything other than accelerating the floor slabs and steel structure.

Considering the amount of concrete in a single floor (*~1 acre x 4" average*) and the chemical bond energy to be overcome in order to reduce it to a fine powder and to actually calcine it into a highly caustic 12 pH, it appears that a very large energy input would be needed. The only source for this is the millisecond spark of nuclear energy.

Even beyond the question of the energy needed, what possible mechanism exists for pulverizing these vast sheets of concrete? Remember that dust begins to appear in quantity in the very earliest stages of the collapses, when nothing is moving fast relative to anything else in the structure. How then is reinforced concrete turned into dust and ejected laterally from the building at high speed?

Evidence indicates that the hundreds of thousands of tons of concrete in the Twin Towers was converted almost entirely to dust. Both reports of workers at Ground Zero and photographs of the area attest to the thoroughness of the pulverization of the concrete and other metallic and non-metallic solids in the towers. An examination of my extensive archives of images of Ground Zero and its immediate surroundings reveals no recognizable objects such as slabs of concrete, glass, doors, or office furniture. The identifiable constituents of the rubble can be classified into just five categories:

- pieces of steel from the towers' skeletons
- pieces of aluminum cladding from the towers' exteriors
- unrecognizable pieces of metal
- pieces of un-burned paper *everywhere*
- dust, dust and more dust

Despite the presence of 200,000 tons of concrete in each tower, the photographs reveal almost no evidence of macroscopic pieces of its remains.

PYROCLASTIC FLOWS

Many observers have likened the Towers' destruction to volcanoes, noting that the Towers seemed to be transformed into columns of thick dust in the air. An article about seismic observations of events in New York City on 911 relates the observations of scientists Won-Young Kim, Lynn R. Sykes and J.H. Armitage:

"*The authors also noted that, as seen in television images, the fall of the towers was similar to a pyroclastic flow down a volcano, where hot dust and chunks of material descend at high temperatures. The collapse of the World Trade Center generated such a flow...*"

As described by eyewitness testimony in this eMagazine witnesses testified that the cloud sizzled; the cloud could be heard. And the testimony to the heat generated by these pyroclastic clouds is recorded forever in 911 firefighter testimony. The clouds, at some points or at some radius not yet known, were hot enough to vaporize people, spontaneously combust vehicles blocks from Ground Zero and they deposited themselves across the city rapidly; an estimated 35 feet per second, as pyroclastic flows would.

Source:
Waste Industry, Others Help with Cleanup at World Trade Center Site, WasteAge.com, 11/1/01 [cached]
World Trade Center Dust Analysis Offers Good News For New Yorkers, sciencedaily.com, 12/24/02 [cached]
Sifting Through the Dust at Ground Zero, EnviroNews.com, [cached]
Damage to Buildings Near World Trade Center Towers Caused by Falling Debris and Air Pressure Wave, Not Ground Shaking, Seismologists Report, columbia.edu, 11/16/01 [cached]

VAST VOLUMES OF DUST

Dust From Collapses
Expanded to Many Times The Towers' Volumes

This photograph shows the dust from the North Tower disintegration about 30 seconds after the start of its disintegration.

Both Towers exploded into vast dust clouds, which photographs show to be several times the volumes of the intact buildings by the time the destruction reached the ground. The dust clouds continued to expand rapidly thereafter, growing to easily five times the buildings' original volume by 30 seconds after the initiation of each collapse.

The dust clouds rapidly invaded the surrounding city, filling the cavernous spaces between nearby skyscrapers in seconds. Eyewitness reports were consistent that it was impossible to outrun the dust clouds. Photographs can be used to calculate the speed at which the dust cloud from the North Tower grew. There is a photograph of the North Tower dust showing the spire and showing dust 700 feet in front of the nearest part of the building's footprint. That distance is calculated using buildings as reference points. Since it is known from real-time movies that the spire fell about 30 seconds after the initiation of the collapse, and that it took about 10 seconds for the bottom of the dust cloud to reach the ground, the average speed of advance on the ground in that direction was approximately 35 feet per second.

Another feature of the dust clouds was that they upwelled in immense columns, climbing to over the height of Building 7 (over 600 feet) in the seconds immediately after each collapse.

Such behavior clearly indicates the input of huge quantities of heat far in excess of what the friction of a gravity-driven collapse or even a thermite or Super-Thermite collapse could produce.

ACCESS RESTRICTIONS

The Closure of Ground Zero to Investigators

While the steel was being removed from the site of the three largest and most mysterious structural failures in history, even the team FEMA had assembled to investigate the failures - the Building Performance Assessment Team (BPAT) - was denied access to the evidence. The Science Committee of the House of Representatives later identified several aspects of the FEMA-controlled operation that prevented the conduct of an adequate investigation:

• The BPAT did not control the steel. "*The lack of authority of investigators to impound pieces of steel for investigation before they were recycled led to the loss of important pieces of evidence.*"
• FEMA required BPAT members to sign confidentiality agreements that "*frustrated the efforts of independent researchers to understand the collapse.*"
• The BPAT was not granted access to "*pertinent building documents.*"
• "*The BPAT team does not plan, nor does it have sufficient funding, to fully analyze the structural data it collected to determine the reasons for the collapse of the WTC buildings.*" Gene Corley complained to the Committee that the Port Authority refused to give his investigators copies of the Towers' blueprints until he signed a wavier that the plans would not be used in a lawsuit against the agency.

BILL MANNING CONDEMNS THE "HALF-BAKED FARCE"

Editor of Fire Engineering Magazine Bill Manning highlighted concerns among the firefighting community over the barring of investigators from the crime scene: Fire Engineering has good reason to believe that the "*official investigation*" blessed by FEMA and run by the American Society of Civil Engineers is a half-baked farce that may already have been commandeered by political forces whose primary interests, to put it mildly, lie far afield of full disclosure. Except for the marginal benefit obtained from a three-day, visual walk-through of evidence sites conducted by ASCE investigation committee members - described by one close source as a "*tourist trip*"- no one's checking the evidence for anything.

Manning also emphatically condemned the destruction of structural steel, declaring "*The destruction and removal of evidence must stop immediately.*" Manning contrasted the operation to past disasters: "*Did they throw away the locked doors from the Triangle Shirtwaist Fire? Did they throw away the gas can used at the Happyland Social Club Fire? Did they cast aside the pressure-regulating valves at the Meridian Plaza Fire? Of course not. But essentially, that's what they're doing at the World Trade Center.*"

Manning indicated that the destruction of the steel was illegal, based on his review of the national standard for fire investigation, NFPA 921, which provides no exemption to the requirement that evidence be saved in cases of fires in buildings over 10 stories tall. Respected firefighting professionals have harshly criticized the destruction of evidence from the World Trade Center. Calls for an independent investigation even came from politicians such as Senator Charles E. Schumer and Senator Hillary Rodham Clinton. Experts complained that the volunteer investigators selected by FEMA lacked financial support, staff support, and subpoena power.

NO PHOTOGRAPHS!

On September 26th, then-Mayor Rudolph Giuliani banned photographs of Ground Zero. An account by an anonymous photographer (AP), describes the treatment of this citizen investigator. At the end of his return walk a NYC police officer asked to be shown authorization for taking photographs. AP said there was none. The officer asked how access to the site was gained. AP said I just walked in. Other police officers were consulted, several said this is a crime scene, no photographs allowed. A NYC police captain was consulted who directed that AP be escorted from the site but that the digital photos need not be confiscated. The captain advised AP to apply for an official permit to photograph the site.

A NYC police officer took AP to New York State police officers nearby who asked to examine the digital camera and view the photographs. Without telling AP, who was being questioned by a State police officer, the photographs were deleted from the camera's compact flash memory chip by another State police officer. AP was then escorted to the perimeter of the site by yet another NYC police officer who recorded AP's name, and who issued a warning to stay away from the site or face arrest.

Source:
Mismanagement Muddled WTC Collapse Inquiry, New York Times, 3/7/02 [cached]
HEARING CHARTER, Learning from 9/11: Understanding the Collapse of the World Trade Center, House Science Committee, 3/6/02 [cached]
WTC Probe Ills Bared, Daily News, 3/7/02 [cached]
'Burning Questions...Need Answers': FE's Bill Manning Calls for Comprehensive Investigation of WTC Collapse, FireEngneering, 1/4/02 [cached]
Experts Urging Broader Inquiry in Towers' Fall, New York Times, 12/25/01 [cached]
City: No more photographs of World Trade Center site, AP, 9/26/01 [cached]

DESTRUCTION OF EVIDENCE

Talk of Rescue Used to Mask Destruction of Evidence

In the wake of the September 11th attack, the World Trade Center site was immediately dubbed Ground Zero, the term previously reserved for the central point of the destruction caused by the detonation of a nuclear weapon. Indeed, many people observed that this new icon of American tragedy looked exactly as if a nuclear bomb had gone off. Some observers pointed out that the way the Towers fell - exploding out in all directions - suggested that they had been destroyed with a nuclear device or at least in exactly the same manner as conventional controlled demolitions. But, with the exception of some early off-guard comments, the same media establishment that had christened the crime scene Ground Zero wouldn't whisper a word of such speculations. Could the term Ground Zero have been a ploy to cleverly mask the very phenomenon it had heretofore described?

For weeks, the story of Ground Zero told by television was all about the search for survivors. Yet the last three survivors - John McLoughlin, William J. Jimeno, and Genelle Guzman-McMillan - were pulled from the rubble within one day of the attack. As hopes faded, the real work at Ground Zero - the destruction of evidence - was gearing up to a phenomenal clip; the infrastructure for removing the steel having been put in place well in advance and with great immediacy.

Television specials on PBS and the Discovery Channel treated us to computer animations of falling trusses and an MIT professor comparing building structures to stacks of dominoes. Meanwhile the broadcast media appeared to be nearly perfectly free of any mention of the obvious fact that the evidence of the three greatest structural failures in history (*if you believe WTC 1, 2, and 7 crushed themselves*) was being hauled away and melted down.

Originally the cost of the "*cleanup*" was pegged at $7 billion. Later it was revised down to $1 billion. The job that was expected to take well over a year had been finished in six months.

FROM HEROES TO LANDFILL

As the "*cleanup operation*" geared up in late October of 2001, then psychotic Mayor Giuliani reduced the number of FDNY personnel allowed to do recovery work to a mere 24. Of the 343 firefighters killed in the attack, just 74 had been recovered. The Mayor's barricading of firefighters from Ground Zero came to a head on November 2, when altercations erupted during a protest march by firefighters. Union official Edward Burke said: "*They'll be scooping up our fallen brothers, putting them in a dump truck, and taking them out to the landfill in Staten Island. I'll be damned if I'm going to go out with a rake to a garbage dump and try to find the bones and return them to their families. They deserve to be removed with dignity.*" Giuliani disagreed.

CALLS TO STOP THE DESTRUCTION OF EVIDENCE

By early in 2002, many people had come to understand what was really happening at Ground Zero: the rapid destruction of the evidence of one of the largest mass murder/financial/military crimes in history. There were many calls for an immediate halt to the removal and recycling of the steel from the World Trade Center so that the disaster could be properly studied. In an article published on January 3 of 2002, James Quintiere, a Professor of Fire Protection Engineering at the University of Maryland, pointed out that fires could not have destroyed the Twin Towers and Building 7. He lamented the recycling of the evidence, and called for a genuine investigation.

In the January 2002 issue of Fire Engineering Magazine, editor Bill Manning published an scathing attack on the destruction of World Trade Center evidence titled, "*$elling Out the Investigation*", in which he called FEMA's "*official investigation*" a "*half-baked farce*".

Source:
Cleanup Crews Ahead of Schedule at WTC, DisasterRelief.org, 1/25/02 [cached]
Face-off at Ground Zero, BBC News, 11/2/01 [cached]
A Fire Prevention Engineer Asks: Why did the WTC Towers Fall?, Baltimore Sun, 1/3/02 [cached]
$elling Out the Investigation, Fire Engineering Magazine, [cached]

"a half-baked farce... "

CONTROLLING INTERESTS

Ownership, Control, and Insurance of The World Trade Center

The World Trade Center complex came under the control of a private owner for the first time only in mid-2001, having been built and managed by the Port Authority as a public resource. The complex was leased to a partnership of Silverstein Properties and Westfield America. The new controllers acquired a handsome insurance policy for the complex including a clause that would prove extremely valuable: in the event of a terrorist attack, the partnership could collect the insured value of the property, and be released from their obligations under the 99-year lease. Six weeks before the event.

OWNERSHIP CHANGE

Author Don Paul investigated this and related issues for his 2002 book, which contains the following passage detailing financial aspects and ownership changes of the complex preceding the attack:

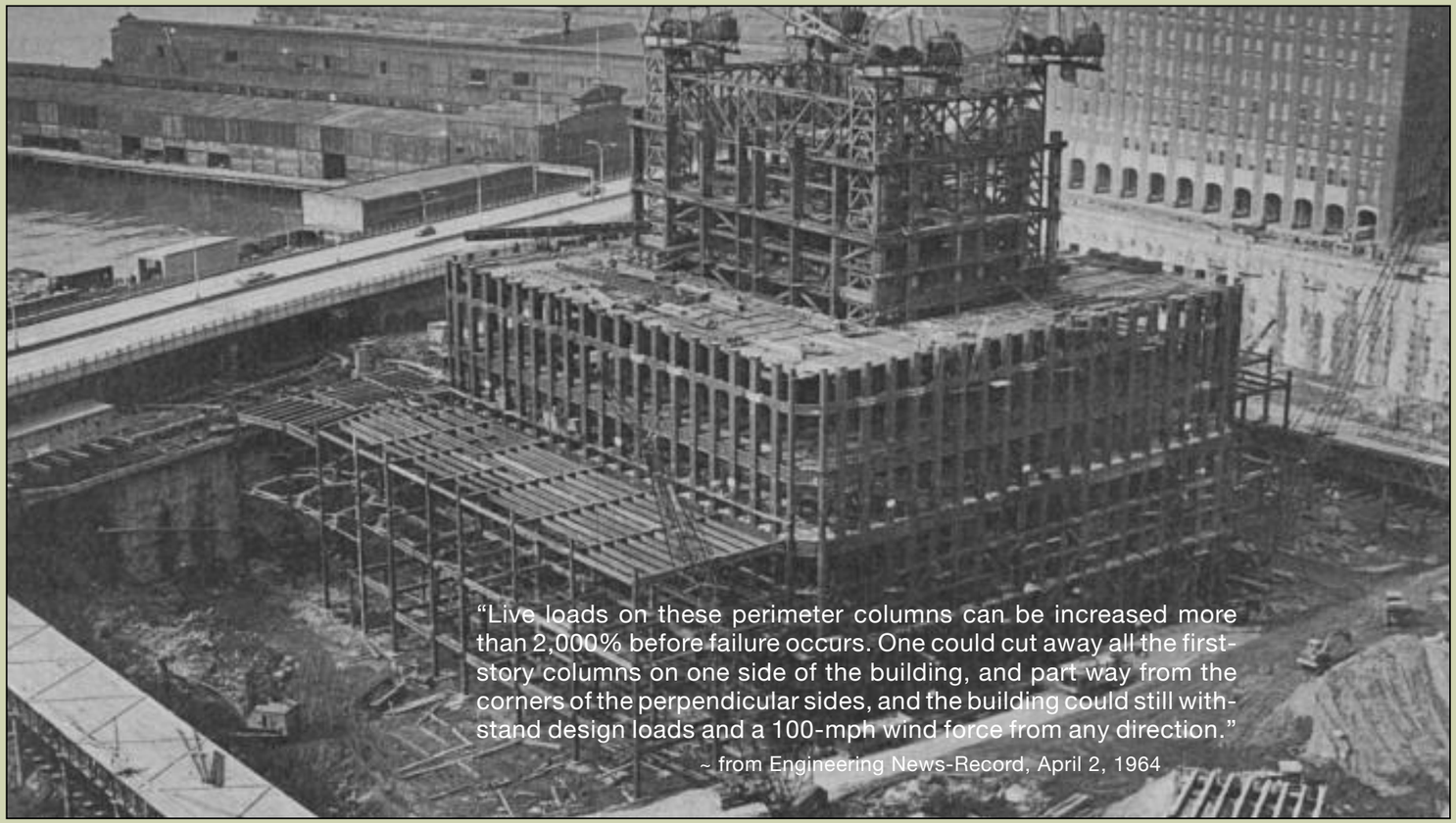
ROCKEFELLER?

"On April 26 of 2001 the Board of Commissioners for the Port Authority of New York and New Jersey awarded Silverstein Properties and mall-owner Westfield America a 99-year-lease on the following assets: The Twin Towers, World Trade Center Buildings 4 and 5, two 9-story office buildings, and 400,000 square feet of retail space. The partners' winning bid was $3.2 billion for holdings estimated to be worth more than $8 billion. JP Morgan Chase, a prestigious investment-bank that's the flagship firm of its kind for Rockefeller family interests, advised the Port Authority, another body long influenced by banker and builder David Rockefeller, his age then 85, in the negotiations."

The lead partner and spokesperson for the winning bidders, Larry Silverstein, age 70, already controlled more than 8 million square feet of New York City real estate. WTC 7 and the nearby Equitable Building were prime among these prior holdings. Larry Silverstein also owned Runway 69, a nightclub in Queens that was alleged 9 years ago to be laundering money made through sales of Laotian heroin. No one knew they bought nuclear devices and demolished the buildings with the ultimate in precision and clean demolition.

In December 2003, the Port Authority agreed to return all of the $125 million in equity that the consortium headed by Silverstein originally invested to buy the lease on the World Trade Center. The Port Authority rejected a request by the Wall Street Journal to review the transaction, of course. A press report from November 2003 about the same transaction noted that it would allow Silverstein to retain development rights. The lease deal didn't close until July 24th, just 6 weeks before the attack.

INSURANCE PAYOUTS



Don Paul also documented the money flows surrounding the loss of Building 7. In February of 2002 Silverstein Properties won $861 million from Industrial Risk Insurers to rebuild on the site of WTC 7. Silverstein Properties' estimated investment in WTC 7 was $386 million. So: This building's collapse resulted in a profit of about $500 million Federal Reserve notes (*dollars*).

The insurance money flows involved in the destruction of the original six World Trade Center buildings were far greater. Silverstein Properties, the majority owner of WTC 7, also had the majority interest in the original World Trade Center complex. Silverstein hired Willis Group Holdings Ltd. to obtain enough coverage for the complex. Willis undertook "*frenetic*" negotiations to acquire insurance from 25 carriers. The agreements were only temporary contracts when control of the WTC changed hands on July 24.

After the attack, Silverstein Properties commenced litigation against its insurers, claiming it was entitled to twice the insurance policies' value because, according to a spokesman for Mr. Silverstein, "*the two hijacked airliners that struck the 110-story twin towers Sept. 11 were separate 'occurrences' for insurance purposes, entitling him to collect twice on $3.6 billion of policies.*" This was reported in the Bloomberg News less than one month after the attack. The ensuing legal battle between the leaseholders and insurers of the World Trade Center was not about how the 911 attack on the WTC could be considered two attacks, when the WTC was only destroyed once. Rather it seemed to revolve around whether the beneficiaries thought it was one or two "*occurrences*." The proceedings before U.S. District Judge John S. Martin involved a number of battles over the insurers' discovery rights regarding conversations about this issue between insurance beneficiaries and their lawyers. In December 2004, a jury ruled in favor of the insurance holders' double claim.

A PARABLE

To put these events in perspective, imagine that a person leases an expensive house, and immediately takes out an insurance policy covering the entire value of the house and specifically covering bomb attacks. Six weeks later two bombs go off in the house, separated by an hour. The house burns down, and the lessor immediately sues the insurance company to pay him twice the value of the house, and ultimately wins. The lessor also gets the city to dispose of the wreckage, excavate the site, and help him build a new house on the site.

Source:
1. Westfield Nabs Trade Center mall, ICSC.org, 6/2/2001 [cached]
2. Governor Pataki, Acting Governor DiFrancesco Laud Historic Port Authority Agreement to Privatize World Trade Center, Port Authority on NY & NJ, 7/24/01 [cached]
3. Reinsurance Companies Wait to Sort Out Cost of Damage, New York Times, 9/12/01, page C6
4. Facing Our Fascist State, I/R Press, 2002, page 38
5. MetLife Will Sell Sears Tower, Wall Street Journal Online, 3/12/04 [cached]
6. Most of WTC Down Payment to Be Returned, 11/22/03 [cached]
7. Insurers Debate: One Accident or Two?, Bloomberg News, 10/10/01
8. Facing Our Fascist State, , page 47
9. Double Indemnity, law.com, 9/3/02 [cached]
10. Judge John S. Martin Jr.'s Latest Opinion in Swiss Re v. WTC., Newsday, 09/25/02 [cached]
11. Twin Tower Insurers Win Discovery Fight, 6/20/02 [cached]
12. World Trade Center's Mortgage Holder Loses Discovery Fight, 7/8/02 [cached]
13. Jury Awards $2.2 Billion in 9/11 Insurance, United Press International, 12/6/04 [cached]

FORENSIC METALLURGY

Metallurgical Examination of WTC Steel Suggests Explosives

Although virtually all of the structural steel from the Twin Towers and Building 7 was removed and destroyed, preventing forensic analysis, FEMA's volunteer investigators did manage to perform "*limited metallurgical examination*" of some of the steel before it was recycled. Their observations, including numerous micrographs, are recorded in Appendix C of the WTC Building Performance Study. Prior to the release of FEMA's report, a fire protection engineer and two science professors published a brief report in JOM disclosing some of this evidence.

The results of the examination are striking. They reveal a phenomenon never before observed in building fires: eutectic reactions, which caused "*intergranular melting capable of turning a solid steel girder into Swiss cheese*." The New York Times described this as "*perhaps the deepest mystery uncovered in the investigation*."

WPI provides a graphic summary of the phenomenon. A one-inch column has been reduced to half-inch thickness. Its edges - which are curled like a paper scroll - have been thinned to almost razor sharpness.

Gaping holes, some larger than a silver dollar let light shine through a formerly solid steel flange. This Swiss cheese appearance shocked all of the fire-wise professors, who expected to see distortion and bending but not holes. FEMA's investigators inferred that a "*liquid eutectic mixture containing primarily iron, oxygen, and sulfur*" formed during a "*hot corrosion attack on the steel*." The eutectic mixture (*having the elements in such proportion as to have the lowest possible melting point*) penetrated the steel down grain boundaries, making it "*susceptible to erosion.*" Following are excerpts from Appendix C, Limited Metallurgical Examination.

Evidence of a severe high temperature corrosion attack on the steel, including oxidation and sulfidation with subsequent intergranular melting, was readily visible in the near-surface microstructure. A liquid eutectic mixture containing primarily iron, oxygen, and sulfur formed during this hot corrosion attack on the steel. The thinning of the steel occurred by high temperature corrosion due to a combination of oxidation and sulfidation. The unusual thinning of the member is most likely due to an attack of the steel by grain boundary penetration of sulfur forming sulfides that contain both iron and copper ... liquid eutectic mixture containing primarily iron, oxygen, and sulfur formed during this hot corrosion attack on the steel. The severe corrosion and subsequent erosion of Samples 1 and 2 are a very unusual event. No clear explanation for the source of the sulfur has been identified.

The rate of corrosion is also unknown. It is possible that this is the result of long-term heating in the ground following the collapse of the buildings. It is also possible that the phenomenon started prior to collapse and accelerated the weakening of the steel structure.

The truth is that the 12 pH caustic dust started the corrosion process of rusting immediately and the dust was caustic from the millisecond of 5-10 million degrees of heat, or more, from the deuterium tritium fusion triggered fission device that was detonated on September 11th, 2001, in New York City, USA.

Perhaps a study of the effects of neutron bombardment from a deuterium-tritium fusion triggered fission device would provide these folks with the answers they're looking for. The metalurgy is simple. The dust was as caustic as drain cleaner with a pH of 12.0 and that's enough to immediately begin rusting *any* kind of exposed metals used in the construction of commercial buildings; cars too and rust was seen everywhere.

EXECUTIVE ORDERS

The Post 9/11/01 Attack on Civil Liberties
Through Executive and Judicial Orders

Since September 11th, the Bush Administration has made sweeping attacks on constitutional due process through executive orders and Justice Department rule changes. Several federal judges have cooperated in these attacks. Following is a partial chronology of the attacks.

• September 21, 2001 - Secrecy of Immigration Hearings - Chief Immigration Judge Michael Creppy issued a memo to all immigration judges requiring the closure of all deportation proceedings to the public and press when directed by the Justice Department.

• October 17, 2001 - Freedom of Information Act - Attorney General Ashcroft issued a directive limiting FOIA compliance and cites the threat of terrorism as justification. However, the directive actually covers all government information, much of which has no national security or law enforcement connection.

• October 31, 2001 - Attorney-Client Privilege - The Department of Justice published a new regulation authorizing prison officials to monitor communications between detainees and their lawyers without obtaining a court order. The government can listen to conversations between attorneys and their clients in federal custody, whether they have been convicted or merely accused of a crime. Previously, this type of monitoring could only occur if the government had obtained a court order based on probable cause to believe that communication with an attorney was being used to facilitate a new crime or for foreign intelligence purposes.

• November 9, 2001 - Racial Profiling - Attorney General John Ashcroft announced a plan to target some 5,000 young men of Middle Eastern and South Asian heritage who entered the country in the last two years on non-immigrant visas but who are not suspected of any criminal activity for questioning by the federal government.

• November 13, 2001 - Secret Military Tribunals - President Bush issued an order that asserted his authority to try by military commission any non-citizen suspected of being a terrorist, aiding a terrorist, or harboring a terrorist. Under the order, the President effectively decides who will be entitled to constitutional rights and who will not. In these

courts, military officers would serve as judges and jurors and a two-thirds vote would be sufficient for conviction in all but capital cases, where unanimity would be required. The trials may be held in secret. No court - federal, state, foreign or international - is allowed to review the military commission's proceedings.

• March 2002 - Privacy - Attorney General John Ashcroft announced the expansion and increased funding of the National Neighborhood Watch Program. The plan extended the neighborhood watches to include terrorism prevention, a move critics fear could fuel ethnic and religious scapegoating. Ashcroft asked neighborhood groups to report on people who are "*unfamiliar*" or who act in ways that are "*suspicious*" or "*not normal*."

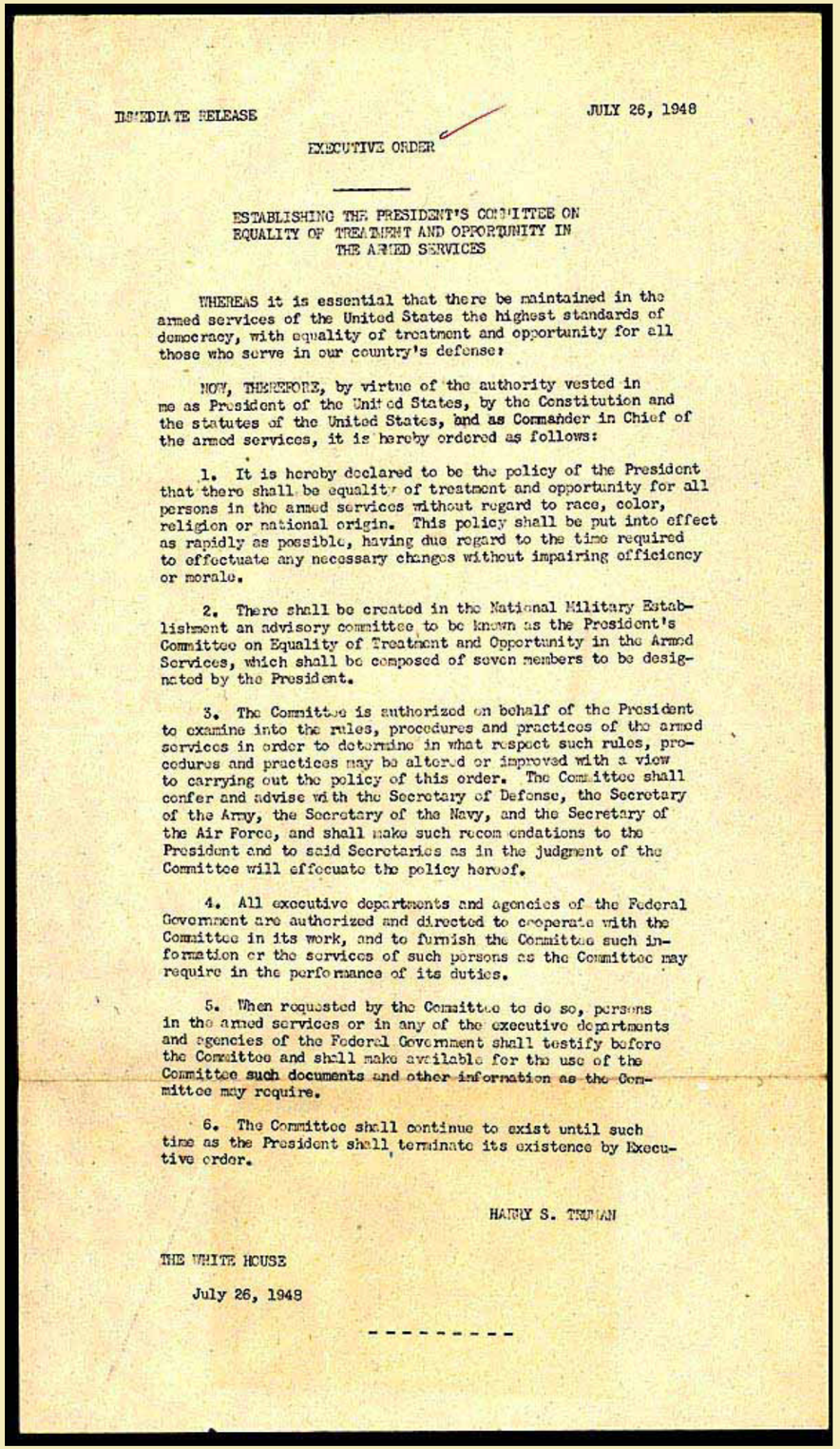
• March 20, 2002 - Racial Profiling - FBI Dragnet - Attorney General John Aschroft announced a second FBI dragnet plan to question an additional 3,000 individuals of Middle Eastern and South Asian heritage.

EXECUTIVE ORDERS

• April 18, 2002 - Government Secrecy - Attorney General John Ashcroft ordered state and local governments not to release the names of people detained since September 11, stating that federal law supersedes any state or local claims to the information. In January, the ACLU of New Jersey sued, claiming the names of people arrested and held in New Jersey are public information under the state's right-to-know law. A New Jersey court mandated that the names of immigration detainees in jails be released under the state's open records law by April 22, 2002. Immediately, Ashcroft ordered state and local governments not to release the names. The ACLU is seeking the names to find out how the detainees are being treated and to provide access to legal representation.

• May 30, 2002 - Domestic Spying/New FBI Guidelines - Attorney General John Ashcroft announced new FBI guidelines that granted agents new authority to monitor the activities of private citizens and organizations. The FBI can freely infiltrate mosques, churches, synagogues and other houses of worship, attend public meetings, listen in on online chat rooms and read message boards even if it has no evidence of criminal activity. The FBI will now be able to purchase information from data mining companies to build profiles on individuals and will be able to conduct full investigations for one year with no evidence of a crime being committed. The guidelines were originally put in place in response to well-documented FBI abuses in the 1950s and 1960s.

• June 5, 2002 - Ethnic Discrimination - Attorney General John Ashcroft announces a plan that would require hundreds of thousands of lawful visitors - including those already in the country - from mostly Muslim nations to provide fingerprints to authorities upon arrival and register with the Immigration and Naturalization Service after 30 days in the country. Visitors who fail to do either of these things face fines or even deportation. The fingerprinting and tracking proposal is only the latest Bush administration action targeted at Muslims and people of Middle Eastern descent.



IMMEDIATE RELEASE JULY 26, 1948

EXECUTIVE ORDER

ESTABLISHING THE PRESIDENT'S COMMITTEE ON EQUALITY OF TREATMENT AND OPPORTUNITY IN THE ARMED SERVICES

WHEREAS it is essential that there be maintained in the armed services of the United States the highest standards of democracy, with equality of treatment and opportunity for all those who serve in our country's defense:

NOW, THEREFORE, by virtue of the authority vested in me as President of the United States, by the Constitution and the statutes of the United States, and as Commander in Chief of the armed services, it is hereby ordered as follows:

1. It is hereby declared to be the policy of the President that there shall be equality of treatment and opportunity for all persons in the armed services without regard to race, color, religion or national origin. This policy shall be put into effect as rapidly as possible, having due regard to the time required to effectuate any necessary changes without impairing efficiency or morale.

2. There shall be created in the National Military Establishment an advisory committee to be known as the President's Committee on Equality of Treatment and Opportunity in the Armed Services, which shall be composed of seven members to be designated by the President.

3. The Committee is authorized on behalf of the President to examine into the rules, procedures and practices of the armed services in order to determine in what respect such rules, procedures and practices may be altered or improved with a view to carrying out the policy of this order. The Committee shall confer and advise with the Secretary of Defense, the Secretary of the Army, the Secretary of the Navy, and the Secretary of the Air Force, and shall make such recommendations to the President and to said Secretaries as in the judgment of the Committee will effectuate the policy hereof.

4. All executive departments and agencies of the Federal Government are authorized and directed to cooperate with the Committee in its work, and to furnish the Committee such information or the services of such persons as the Committee may require in the performance of its duties.

5. When requested by the Committee to do so, persons in the armed services or in any of the executive departments and agencies of the Federal Government shall testify before the Committee and shall make available for the use of the Committee such documents and other information as the Committee may require.

6. The Committee shall continue to exist until such time as the President shall terminate its existence by Executive order.

HARRY S. TRUMAN

THE WHITE HOUSE

July 26, 1948

• June 9, 2002 - U.S. Citizen Subject to Military Detention - President Bush designated U.S. citizen, Jose Padilla, an "*enemy combatant*" who is under military detention despite earlier assurances that U.S. citizens would not be subject to military jurisdiction. Padilla was suspected of plotting to detonate a so-called "*dirty bomb*" even though law enforcement officials concede that the plot might never have moved beyond the discussion stage. The Brooklyn-born Puerto Rican has been held in military custody since May 8 and has not been charged with any crime. On June 11, the Bush administration announced that Padilla may be held indefinitely without a trial.

• August 12, 2002 - Fingerprinting Immigrants from Muslim Nations -- The Department of Justice finalized a plan that would require thousands of lawful visitors -- from a list of predominantly Muslim nations -- to provide fingerprints to authorities upon arrival and register with the Immigration and Naturalization Service after 30 days in the country. Visitors who fail to do either of these things face fines or even deportation. Attorney General John Ashcroft, with the support of the Administration, made this announcement despite intense opposition from the State Department.

• October 8, 2002 - Upholding of Secret Immigration Hearings -- The Third Circuit Court of Appeals in New Jersey ruled that immigration hearings involving people detained after September 11 may be closed by the government without the input of the court. At issue is a policy set forth in a September 21, 2001 memo from Chief Immigration Judge Michael Creppy to all immigration judges requiring the closure of all proceedings to the public and the press, when directed by the Justice Department.

MISSING BODIES

More Than 1000 Bodies Are Unaccounted For

The number of people believed to have been killed in the World Trade Center attack hovers around 2,780, three years after the attack. No trace has been identified for about half the victims, despite the use of advanced DNA techniques to identify individuals. Six weeks after the attack only 425 people had been identified. A year after the attack, only half of the victims had been identified. 19,906 remains were recovered from Ground Zero, 4,735 of which were identified. Up to 200 remains were linked to a single person. Of the 1,401 people identified, 673 of the IDs were based on DNA alone. Only 293 intact bodies were found. Only twelve could be identified by sight.

New York City Medical Examiner Charles Hirsch had the difficult job of informing the friends and families of the victims that the remains of their loved ones might never be identified. The forensic investigation ended in early 2005, when the medical examiner's office stated it had exhausted efforts to identify the missing. The victim identification statistics reported in a February 23, 2005 AP article, listed in the following table, remained about the same as those reported in articles published years after the attack.

nearly	2,800 victims
fewer than	300 whole bodies found
fewer than	1,600 victims identified
over	1,100 victims remain unidentified
over	800 victims identified by DNA alone
nearly	20,000 pieces of bodies found
over	6,000 pieces small enough to fit in test-tubes
over	200 pieces matched to single person
nearly	10,000 unidentified pieces for more analysis

The aircraft impacts and fires in all probability would not have destroyed a single body beyond positive identification. Nor have building collapses ever been known to destroy human remains beyond recognition. However, the buildings were destroyed in a manner that converted most of their non-metallic contents to homogeneous dust, including the bodies. This destruction of the bodies assured that no exact determination could ever be made regarding who was piloting the jets at impact, and the condition of the people on board. A nuclear event.

This is one of many examples in which evidence which could either confirm or refute the official story was destroyed. For example, a finding that the people onboard Flights 11 and 175 had been killed by some means before reaching the Towers would undermine the official story of multiple hijackings. The effective cremation of the bodies eliminated most of the evidence that would support such a finding, or any other finding at all.

HUMAN REMAINS DISCOVERED SINCE 2006

About a year after the official program to identify victims had ended, more human remains turned up on top of the Deutsche Bank Building, which stands about *400 feet* to the south of the location of the former South Tower. According to the Associated Press, more than 300 human bone fragments were recovered from the roof of the 43-story skyscraper as workers removed toxic debris in preparation for a floor-by-floor take-down of the building. Most of the fragments were less then 1/16th inch in length and were found in gravel raked to the sides of the roof of the building. The Lower Manhattan Development Corporation purchased the building and is planning to begin its deconstruction in June, 2002, after removal of toxic waste - including, lead, zinc, vanadium, yttrium, cerium, lanthanum, uranium, tritum and other materials deposited on it by the destruction of the Twin Towers.

Some victims' family members, indignant that the human remains in the Deutsche Bank remained undiscovered for so long, said that the planed deconstruction should be postponed until the building is thoroughly searched for other remains. According to the New York Daily News, as of the second week of April, 2006, 1,151 of the 2,749 people killed in the attack have not been identified, and the medical examiner holds more than 9,000 unidentified human remains.

In October, 2006, more human remains were discovered in two manholes by Con Edison workers. In April, 2008, the remains for four more victims were identified using remains recovered from a road, paved to clean up Ground Zero, whose excavation for human remains started after the manhole discoveries.

In June of 2010, 72 human remains were announced found, following a 2 month-long sifting of 800 cubic yards of debris from Ground Zero and underneath adjacent roads. Some of the remains were found when new debris was uncovered during construction work at the WTC site. Although a CBS news article stated that "*some have been matched to previously unidentified Sept. 11 victims*," it did not provide further details. The bodies of hundreds of victims are still missing, vaporized in micronuclear explosions that shocked the world. And no one knew, until now.

Source:
1. Closure from 9/11 Elusive for Many, USA Today, 9/3/03 [cached]
2. World Trade Center death toll drops by two, cnn.com, 11/2/02 [cached]
3. First victims identified by DNA testing, Guardian, 10/25/01 [cached]
4. 1000 9/11 victims 'never identified', news.com.au, [cached]
5. Memories of 9/11, 9/11/03 [cached]
6. Forensics at New York's Ground Zero Ends, AP, 2/23/05 [cached]
7. More human remains found on roof next to World Trade Center site, USA Today, 4/6/06 [cached]
8. More 9/11 bone fragments found, USAToday.com, 4/13/06 [cached]
9. 400 bits of bone on bldg. roof, NYDailyNews.com, 4/14/06 [cached]
10. Relatives Of 9/11 Victims Speak Out Against City's Recovery Efforts, NY1 News, 10/20/06 [cached]
11. Officials warned 9/11 search too rushed, Chron.com, 10/23/06 [cached]
12. Remains of More 9/11 Victims Identified, AP, 4/8/08 [cached]
13. Latest NYC 9/11 Search Finds 72 Human Remains, CBSNews.com, 6/23/2010 [cached]

SHREDDING OF STEEL

Twin Towers' Steel Frames Ripped to Small Pieces

This section of a larger photograph of the North Tower's destruction (*right*) shows metal objects - steel column sections and aluminum cladding - being propelled away from the Tower.

A feature of the collapses that is less obvious than the symmetrically mushrooming tops or the vast clouds of concrete dust is their effect on the towers' steel frames. The only large remnants of the towers standing after the collapses were base sections of the perimeter walls extending upward several stories. Some of these sections were about 200 feet wide by 80 feet tall. Virtually all of the remaining steel was broken up into small pieces:

• There were no remnants of the core structures that rose much above the rubble piles. The core structures were structural steel box frames more than 3 feet by 2 feet in size and with a minimum 2.5 inches of wall thickness or 5 inches per side. Base columns were 52x22 inches with 5 inch walls.

• Most of the perimeter walls above the standing bases were broken up into the three-floor by three-column prefabricated sections commonly seen in the rubble, so conveniently, and many of those sections were ripped apart at the welds, not burned or melted as they would be with thermite or an energetic compound.

• There were no large sections of the corrugated pans underlaying the floor slabs or the trussing beneath them. If it were possible for the towers to have collapsed of their own weight, they would have exhibited a pattern of destruction very different from this. What would the collapse look like if all structure throughout a tower suddenly lost 95 percent of its strength, leaving the building too weak to support gravity loads? It would look like a normal building demolition without vaporized humans and unburned paper strewn across the city. There would have been a limited dust load, not 400,000 tons of the stuff. And few fires beyond Ground Zero. Certainly no burnt cars.

• The core columns, being thicker than perimeter columns, and abundantly cross-braced, would have deflected falling rubble, and would have out-survived the perimeter walls. They would have survived and they would be standing. They didn't survive and they are not standing. They're gone.

• The accumulation of forces as the collapse progressed would have damaged portions of the outer wall closer to the ground more than higher portions, despite the thicker gauge of the steel lower in the tower.

• The rubble pile would have contained a stack of floor platters, since gravity would have pancaked, not shredded them; or more accurately, turned them to micron sized dust.

THE CORE STRUCTURES

The Structural System Of The Twin Towers

Each tower was supported by a structural core extending from its bedrock foundation to its roof. The cores were rectangular pillars with numerous large columns and girders, measuring 87 feet by 133 feet. The core structures housed the elevators, stairs, and other services. The cores had their own flooring systems, which were structurally independent of the floor diaphragms that spanned the space between the cores and the perimeter walls. The core structures, like the perimeter wall structures, were 100 percent steel-framed.

The exact dimensions, arrangement, and number of the core columns remained somewhat mysterious until the publication of a leaked collection of detailed architectural drawings of the North Tower in 2007. Although the drawings show the dimensions and arrangement of core columns, they do not show other engineering details such as the core floor framing. It is clear from photographs that the core columns were abundantly cross-braced.

CORE DENIAL

Establishing the true nature of the core structures is of great importance given that the most widely read document on the World Trade Center attack, the 911 Commission Report, denies their very existence, claiming the towers' cores were "*hollow steel shaft[s]*"

For the dimensions, see FEMA report, "World Trade Center Building Performance Study," undated. In addition, the outside of each tower was covered by a frame of 14-inch-wide steel columns; the centers of the steel columns were 40 inches apart. These exterior walls bore most of the weight of the building. The interior core of the buildings was a hollow steel shaft, in which elevators and stairwells were grouped. Ibid. For stairwells and elevators, see Port Authority response to Commission interrogatory, May 2004.

COLUMNS

The core columns were steel box-columns that were continuous for their entire height, going from their bedrock anchors in the sub-basements to near the towers' tops, where they transitioned to H-beams. Apparently the box columns, more than 1000 feet long, were built as the towers rose by welding together sections several stories tall. The sections were fabricated by mills in Japan that were uniquely equipped to produce the large pieces.

Some of the core columns apparently had outside dimensions of 36 inches by 16 inches. Others had larger dimensions, measuring 52 inches by 22 inches. The core columns were oriented so that their longer dimensions were perpendicular to the core structures' longer, 133-foot-wide sides. Construction photographs found at the Skyscraper Museum in New York City indicate that the outermost rows of core columns on the cores' longer sides were of the larger dimensions. Both the FEMA's World Trade Center Building Performance Study and the NIST's Draft Report on the Twin Towers fail to disclose the dimensions of the core columns, and the NIST Report implies that only the four core columns on each core's corners had larger dimensions.

Like the perimeter columns -- and like steel columns in all tall buildings -- the thickness of the steel in the core columns tapered from bottom to top. Near the bottoms of the towers the steel was four inches thick, whereas near the tops it may have been as little as 1/4th inch thick.

COLUMN ARRANGEMENT

The exact arrangement of the columns and how they were cross-braced is not apparent from public documents such as FEMA's World Trade Center Building Performance Study. The arrangement of box columns depicted in Figure 2-10 of Chapter 2 (*pictured to the right*) seems plausible, even though it contradicts other illustrations in the report showing a more random arrangement. It depicts the top floors of a tower and does not indicate the widths of the columns on a typical floor.

CROSS-BRACING

Construction photographs show that the core columns were connected to each other at each floor by large square girders and I-beams about two feet deep. The debris photographs show what appears to be one of the smaller core columns surrounded by perpendicular I-beams approximately three feet deep. In addition, the tops of core structures were further connected by the sloping beams of the hat truss structures.

52 by 22 inches, with walls at least 5 inches thick

This image from the documentary Up From Zero shows the base of a core column, whose dimensions, minus the four flanges, are apparently 52 by 22 inches, with walls at least 5 inches thick.

Source:

9-11 Commission Report; NOTES; Chapter 9 Heroism and Horror; Note 1, 9-11Commission.gov,
APPENDIX B: Structural Steel and Steel Connections, FEMA.gov, 2002
World's Tallest Towers Begin to Show Themselves on New York City Skyline, Engineering News Record, 1/1/1970

MOLTEN METAL

Workers Reported Molten Metal In Ground Zero Rubble

Reports of molten metal in the foundations of the three World Trade Center skyscrapers are frequently noted in literature of proponents of theories that the buildings were destroyed through controlled demolition. The first such report to be widely publicized was one by American Free Press reporter Christopher Bollyn citing principals of two of the companies contracted to clean up Ground Zero. The president of Tully Construction of Flushing, NY, said he saw pools of "literally molten steel" at Ground Zero. Bollyn also cites Mark Loizeaux, president of Controlled Demolition Inc. (CDI) of Phoenix, MD, as having seen molten steel in the bottoms of elevator shafts "three, four, and five weeks" after the attack.

Although reports of molten steel are consistent with the persistent heat at Ground Zero in the months following the attack, we find the American Free Press report suspect for two reasons. First, Tully Construction was one of four companies awarded contracts by New York City's Department of Design and Construction to dispose of the rubble at Ground Zero, and CDI was subcontracted by Tully and was instrumental in devising a plan to recycle the steel. The involvement of Steve Tully and Mark Loizeaux in the destruction of the evidence of the unprecedented collapses would seem to disqualify them as objective reporters of evidence. Interestingly, CDI was also hired to bury the rubble of the Murrah Building in the wake of the Oklahoma City Bombing. That Loizeaux stood trial on charges of illegal campaign contributions casts further doubt on his credibility.

A second reason to doubt this molten steel report is the fact that it has been used by Bollyn and others to support the dubious theory that the collapses were caused by bombs in the Towers' basements.

CORROBORATING REPORTS

There are reports of molten steel beyond those cited by American Free Press. Most of these have come to light as a result of a research paper by Professor Steven E Jones, which has stimulated interest in the subject of molten steel at Ground Zero.

A report by Waste Age describes New York Sanitation Department workers moving "*everything from molten steel beams to human remains.*" A report on the Government Computer News website quotes Greg Fuchek, vice president of sales for LinksPoint Inc. as stating: "*In the first few weeks, sometimes when a worker would pull a steel beam from the wreckage, the end of the beam would be dripping molten steel*."

A Messenger-Inquirer report recounts the experiences of Bronx firefighter "Toolie" O'Toole, who stated that some of the beams lifted from deep within the catacombs of Ground Zero by cranes were "*dripping from the molten steel.*"

A transcription of an audio interview of Ground Zero chaplain Herb Trimpe contains the following passage: "*When I was there, of course, the remnants of the towers were still standing. It looked like an enormous junkyard. A scrap metal yard, very similar to that. Except this was still burning. There was still fire. On the cold days, even in January, there was a noticeable difference between the temperature in the middle of the site than there was when you walked two blocks over on Broadway. You could actually feel the heat.*"

"It took me a long time to realize it and I found myself actually one day wanting to get back. Why? Because I felt more comfortable. I realized it was actually warmer on site. The fires burned, up to 2,000 degrees, underground for quite a while before they actually got down to those areas and they cooled off."

"*I talked to many contractors and they said they actually saw molten metal trapped, beams had just totally had been melted because of the heat. So this was the kind of heat that was going on when those airplanes hit the upper floors. It was just demolishing heat.*"

A report in the Johns Hopkins Public Health Magazine about recovery work in late October quotes Alison Geyh, Ph.D., as stating: "*Fires are still actively burning and the smoke is very intense. In some pockets now being uncovered, they are finding molten steel.*"

A publication by the National Environmental Health Association quotes Ron Burger, a public health advisor at the National Center for Environmental Health, Centers for Disease Control and Prevention, who arrived at Ground Zero on the evening of September 12th. Burger stated: "*Feeling the heat, seeing the molten steel, the layers upon layers of ash, like lava, it reminded me of Mt. St. Helen's and the thousands who fled that disaster*."

An article in The Newsletter of the Structural Engineers Association of Utah describing a speaking appearance by Leslie Robertson (structural engineer responsible for the design of the World Trade Center) contains this passage: "*As of 21 days after the attack, the fires were still burning and molten steel was still running.*"

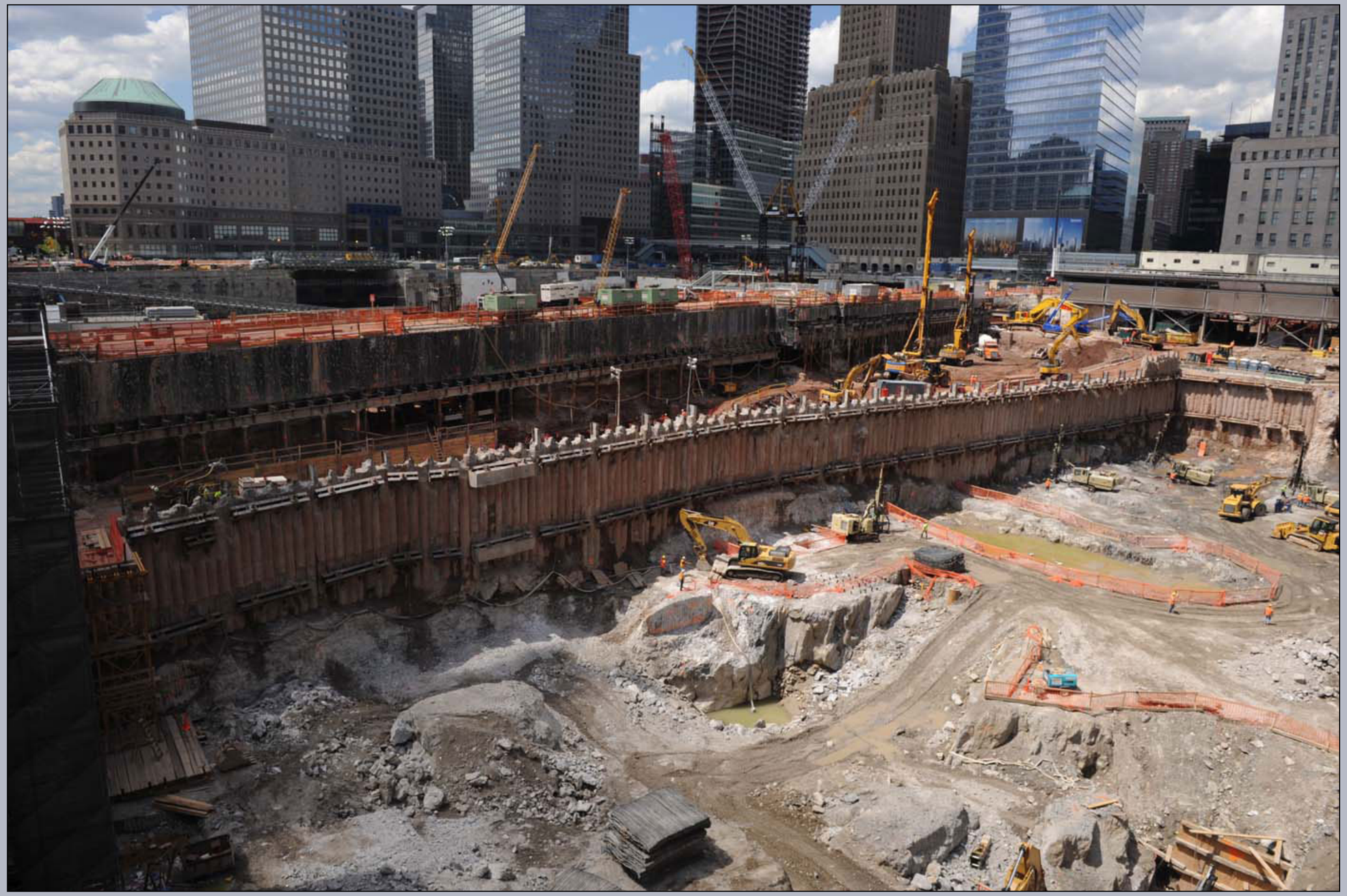
A member of the New York Air National Guard's 109th Air Wing was at Ground Zero from September 22 to October 6. He kept a journal on which an article containing the following passage is based: "*Smoke constantly poured from the peaks. One fireman told us that there was still molten steel at the heart of the towers' remains. Firemen*

sprayed water to cool the debris down but the heat remained intense enough at the surface to melt their boots."

The book American Ground, which contains detailed descriptions of conditions at Ground Zero, contains this passage: "*... or, in the early days, the streams of molten metal that leaked from the hot cores and flowed down broken walls inside the foundation hole...*"

A review of of the documentary Collateral Damage in the New York Post describes firemen at Ground Zero recalling "*heat so intense they encountered rivers of molten steel.*"

This photograph shows the foundation of the towers. The foundations were seven stories deep.



Source:

1. Fire Power: It Took Three Lawyers to Stop the Destruction of CDI Inc., The Daily Record, 10/7/00
2. D-Day: NY Sanitation Workers' Challenge of a Lifetime, WasteAge.com, 4/1/02 [cached]
3. Handheld app eased recovery tasks, GCN.com, 9/11/02 [cached]
4. Recovery worker reflects on months spent at Ground Zero, Messenger-Inquirer.com, 6/29/02 [cached]
5. The Chaplain's Tale, RecordOnline.com, [cached]
6. Mobilizing Public Health, Johns Hopkins Public Health Magazine, [cached]
7. The scene at Ground Zero, NEHA.org, [cached]
8. WTC a Structural Success, SEAU News, , page 3
9. Ground Zero, 12/01 [cached]
10. American Ground, , page 32
11. Unflinching Look Among the Ruins, NYPost.com, 3/3/04

THE TOWERS' HISTORY

Origins of the World Trade Center and the World's Tallest Buildings

The origins of the World Trade Center extend back to 1946, when the New York Legislature created the World Trade Corporation with a view to creating a trade center in Manhattan. The history is recounted in greater detail at Great Buildings Online.

The Port Authority chose as the site for the WTC in 1962 the block bounded by West, Church, Liberty, and Vesey Streets, and selected architect Minoru Yamasaki to design the project. At Yamasaki's request, Worthington, Skilling, Helle and Jackson was selected as the engineering firm, and Yamasaki worked closely with its engineers John Skilling and Leslie Robertson. The architectural firm Emery Roth & Sons handled production work.

The site Master Plan from 1963, though detailed, was modified in some respects prior to implementation. In particular, the final configuration of the low-rise buildings WTC 4, 5, and 6 was different than shown in the Master Plan.

CONSTRUCTION

Construction began in 1966. World Trade Center 1, the North Tower, rose ahead of World Trade Center 2. Although not completed until 1972, lower floors were ready for their first tenants in late 1970. World Trade Center 2, the South Tower, was finished in 1973. Of the more than 10,000 workers involved in building the complex, eight were killed in construction accidents.

The towers were dedicated on April 4th, 1973. The owners initially had difficulty finding tenants to fill the enormous towers, which had over 8 million square feet of floor space. Most of the North Tower was still unoccupied when a serious fire broke out in February of 1975. The 110-story Twin Towers, rising 1,368 and 1,362 feet, remained the world's tallest and largest buildings until they were surpassed by the Sears Tower in 1974.

PRIVATIZATION

With the exception of World Trade Center 7 and World Trade Center 5, the World Trade Center was controlled by the Port Authority of New York and New Jersey (PANYNJ) until being leased to private interests six weeks before the 911 attack (obviously Silverstein had foreknowledge). World Trade Center 3, originally the Vista Hotel, was purchased by the PANYNJ in 1980 for $78 million. Then, in 1996 the PANYNJ sold the Vista to Marriott for $141 million.

THE TRUSS FAILURE THEORY

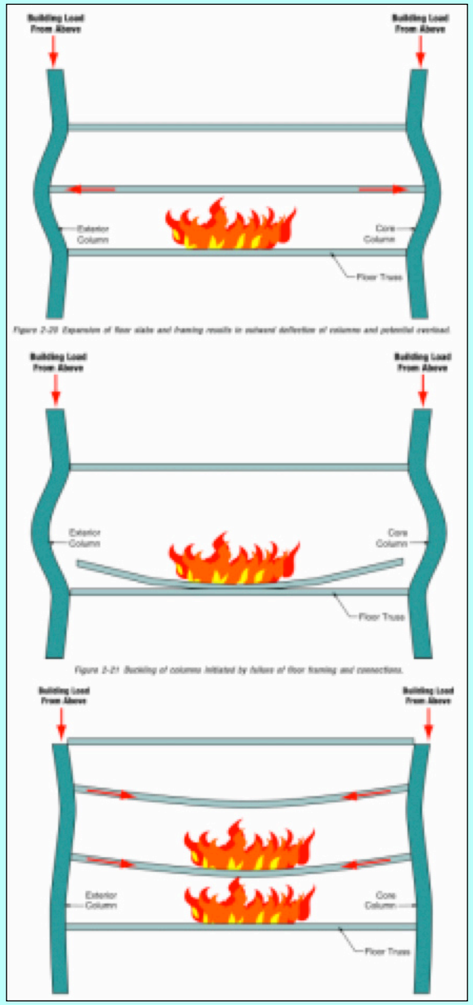
Fanciful Theory Doesn't Begin to Explain Total Collapse

Figure 2-20 (image at right) from FEMA's Building Performance Study gives the impression that floors spanned the entire width of the Towers. The fine print indicates that the illustration depicts only a section of floors spanning the perimeter (left) and core (right).

The truss failure theory, a key ingredient of the better known floor pancake theory, was endorsed by FEMA in its 2002 World Trade Center Building Performance Study . It invites us to imagine the floors assemblies detaching from their connections to the columns of the core and perimeter walls, precipitating a chain reaction of floors falling on one another. Without the lateral support of the floors, the columns, FEMA tells us, buckled and precipitated total building collapse.

The truss-failure/pancake theory offered a way around the obvious problem with the column failure theory: the need for all the columns to be heated to 800º C. It offered instead prerequisite conditions that were far less implausible: that trusses holding up the floor slabs were heated to that temperature, and began to experience some combination of expansion and sagging. Floor trusses are much easier to heat because, unlike the columns, they are not well thermally coupled to the rest of the steel structure.

The Truss Failure Theory was was abandoned by NIST's investigation in 2004 because NIST was unable to get floor assemblies to fail as required by the theory. Documentaries that had promoted the truss failure theory became obsolete, and were quietly replaced with updated versions.



THE MISSING STEEL

Some critics of FEMA's theory attacked the truss failure theory for the wrong reasons. One assumption of the theory is that the floor sections that spanned the Towers' cores and perimeter walls were undergirded only by the light web trusses. Although many structural details remain mysterious thanks to the unavailability of detailed engineering drawings, this assumption appears to be mostly true, modulo the observation that some floors appeared to be framed entirely with solid I-beams.

However, the anonymous Guardian author suggested that the idea that so many of the floors rested only on web trusses was a lie concocted to sell the pancake theory, arguing in a 2002 article that:

• FEMA's building description leaves 32,000 tons of steel unaccounted for in each tower, given that the towers were known to each use 96,000 tons of steel.
• A truss-only-based floor construction system would leave the floors too weak to transfer loads between the core and perimeter walls.

Guardian's conclusion about the extent of web trusses in the Towers appears to be mistaken: Between construction photographs and 60s-era articles in the Engineering News Record, there appears to be sufficient evidence to establish that floors outside of the cores, with the exceptions of top-most, bottom-most, and mechanical equipment floors, were supported entirely by web trusses. However, Guardian's calculations about the quantities of steel accounted for by FEMA's building description underline the failure of the official reports to provide a truthful and complete picture of the Towers' construction.

DECEPTIVE PROPAGANDA

Since the failure of a few trusses on a floor wouldn't automatically lead to a whole floor falling and starting the pancake syndrome, some fine tuning in the theory was needed. Dr. Thomas Eagar provided us with the zipper theory to explain how the failure of one truss could cause adjacent ones to fail. A horizontal domino effect of unzipping would precede the vertical one of pancaking. NOVA created a website to feature Eagar's promotion of the pancake theory which included a misleading animation of falling trusses, which failed to show either the transverse trusses or the steel floor pans.

FROM SAGGING TRUSSES TO LEVELED BUILDING

The unverified assumptions of the truss theory listed above are the least of its problems. It pretends that a few truss failures would automatically lead to the entire steel building crushing itself. What would be the likely chain of events following a floor failure envisioned by the truss theory?

Let's accept Dr. Eagar's zipper scenario (despite the clear evidence that fires did not cover a whole floor in either tower) and imagine that all the trusses of a floor failed in rapid succession and the whole floor fell. Then what? It would fall down about ten feet, then come to rest on the floor below, which was designed to support at least five times the weight of both floors, the fall cushioned by the folding of the trusses beneath the upper floor. But let's imagine that the lower floor suddenly gave up the ghost, and the two floors fell onto the next, and that failed, and floors kept falling. Then what? The floor diaphragms would have slid down around the core like records on a spindle, leaving both the core and perimeter wall standing.

Truss theory proponents hold that the core and perimeter wall lacked structural integrity without mutual bracing provided by the floor diaphragms. That may have been true in the event of a 140 mph wind, but not on a calm day. Note that the core had abundant cross-bracing, and would have been perfectly capable of standing in a hurricane by itself. And even if one imagines the outer wall buckling without that support, it does not begin to explain how it shattered into thousands of pieces, many of the column sections ripped from the spandrel plates at the welds, and how it shattered so quickly that no part of the wall remained standing above the falling dust cloud.

WORLD TRADE CENTER STEEL REMOVAL

The Expeditious Destruction of the Evidence at Ground Zero

Steel was the structural material of the buildings. As such it was the most important evidence to preserve in order to puzzle out how the structures held up to the impacts and fires, but then disintegrated into rubble. Since no steel-framed buildings had ever collapsed due to fires, the steel should have been subjected to detailed analysis. So what did the authorities do with this key evidence of the vast crime and unprecedented engineering failure?

They recycled it!

Some 185,101 tons (*I can not substantiate or confirm this statement re: 185,101 tons*) of structural steel, of a total estimate of almost 200,000 tons, have been hauled away from Ground Zero. Most of the steel has been recycled as per the city's decision to swiftly send the wreckage to salvage yards in New Jersey. The city's hasty move has outraged many victims' families who believe the steel should have been examined more thoroughly. Last month, fire experts told Congress that about 80% of the steel was scrapped without being examined because investigators did not have the authority to preserve the wreckage. Is this a WTF moment?

The bulk of the steel was apparently shipped to China and India. The Chinese firm Baosteel purchased 50,000 tons at a rate of $120 per ton, compared to an average price of $160 paid by local mills in the previous year. Mayor Bloomberg, a former engineering major, was not concerned about the destruction of the evidence; he stated: "*If you want to take a look at the construction methods and the design, that's in this day and age what computers do. Just looking at a piece of metal generally doesn't tell you anything.*" Bloomberg is a fucking lunatic.

The pace of the steel's removal was very rapid, even in the first weeks after the attack. By September 29, 130,000 tons of debris - most of it apparently steel (?) - had been removed. During the official investigation controlled by FEMA, one hundred fifty pieces of steel were saved for future study. *One hundred fifty pieces out of hundreds of thousands of pieces!* Moreover it is not clear who made the decision to save these particular pieces. It is clear that the volunteer investigators were doing their work at the Fresh Kills dump, not at Ground Zero, so whatever steel they had access to was first picked over by the people running the cleanup operation.

HIGHLY SENSITIVE GARBAGE

Given that the people in charge considered the steel garbage, useless to any investigation in this age of computer simulations, they certainly took pains to make sure it didn't end up anywhere other than a smelting furnace. They installed GPS locater devices on each of the trucks that was carrying loads away from Ground Zero, at a cost of $1000 each. The securitysolutions.com website has an article on the tracking system with this passage.

Ninety-nine percent of the drivers were extremely driven to do their jobs. But there were big concerns, because the loads consisted of highly sensitive material. One driver, for example, took an extended lunch break of an hour and a half. There was nothing criminal about that, but he was dismissed.

Shielding Investigators From the Evidence

According to FEMA, more than 350,000 tons of steel were extracted from Ground Zero and barged or trucked to salvage yards where it was cut up for recycling. Four salvage yards were contracted to process the steel.

- Hugo Nue Schnitzer at Fresh Kills (FK) Landfill, Staten Island, NJ
- Hugo Nue Schnitzer's Claremont (CM) Terminal in Jersey City, NJ
- Metal Management in Newark (NW), NJ
- Blanford and Co. in Keasbey (KB), NJ

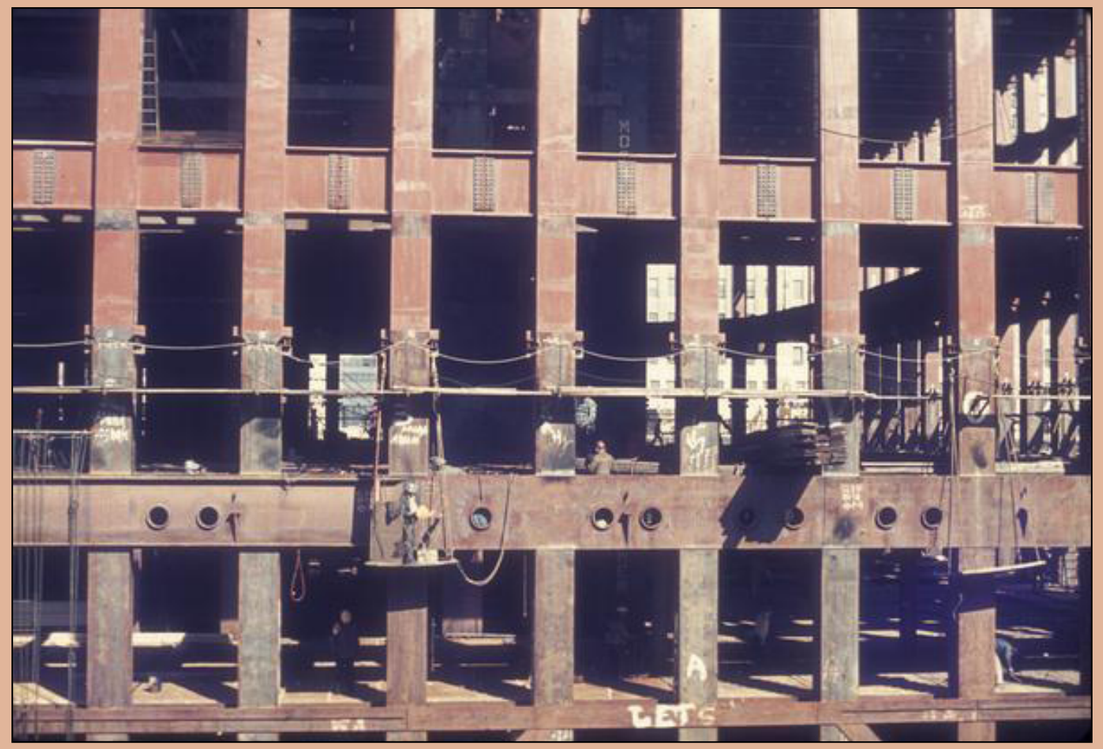
FEMA's BPAT, who wrote the WTC Building Performance Study, were not given access to Ground Zero. Apparently, they were not even allowed to collect steel samples from the salvage yards. According to Appendix D of the Study:

Collection and storage of steel members from the WTC site was not part of the BPS Team efforts sponsored by FEMA and the American Society of Civil Engineers (ASCE).

Fate of Some Steel Revealed Years Later

Given that the removal and recycling of World Trade Center seel continued over the objections of victims' families and others seeking a genuine investigation, revelations, years later, that some of Twin Towers' steel parts were preserved comes as something of a surprise. Many of the heaviest steel pieces from the Twin Towers are stored in an 80,000-square-foot hangar at John F. Kennedy International Airport. These include some of the base sections of the Towers' massive core columns and 13 of the 153 steel trees from the bases of the Towers' perimeter walls. Some of these pieces are shown in the film Up From Zero.

The hangar, which reportedly holds one five-hundredth of the "total debris field", is off-limits to the public. Scott Huston, president of the Graystone Society, is attempting to obtain three of the steel trees for the National Iron & Steel Heritage Museum in Coatesville, PA.



The discovery of the existence of intact pieces of the Twin Towers' columns would appear to be good news for independent investigators who would like to test samples of steel. However, the locations of these pieces within the towers suggests a reason they were allowed to be preserved. The large core column sections stood on the Towers' foundations, seven stories below street level, and the perimeter column trees were from the lobby level, just above street level. Only these lower sections of the Towers were spared the blasting that shredded the steel frames down to about their fourth stories. This is evident from the facts that 18 people survived in the lower reaches of the North Tower's core, and fragments of the perimeter walls of each Tower remained standing.

Although it was believed that the last structrural steel remains had been removed from the site in May of 2003, in January of 2007, several large steel pieces were recovered in excavations of the site, below a road created during the cleanup operation. The excavation, which was commissioned to discover human remains, had already yielded nearly 300 bones. Two steel remains were described as columns, measuring about 18 feet long and weighing perhaps 60 tons, and three connected steel columns from the perimeter walls. The steel beams had apparently been buried during the cleanup operation, perhaps to stabalize the ground. Also discovered at the opposite side of the WTC site was a column which "appeared to be burned at one end", according to a person "with knowledge of the discovery".

Recycled WTC Steel Used In US Warship

News stories in 2006 reported that 24 tons of steel from the World Trade Center was being used to manufacture a warship named the U.S.S. New York by Northrop Grumman in a shipyard on the banks of the Mississippi.

Source:

1. , N.Y. Daily News, 4/16/02
2. Baosteel Will Recycle World Trade Center Debris, eastday.com, 1/24/02 [cached]
3. Baosteel Will Recycle World Trade Center Debris, china.org.cn, 1/24/02 [cached]
4. 250 Tons of Scrap Stolen From Ruins, telegraph.co.uk, 9/29/01 [cached]
5. WTC Steel Data Collection, www.fema.gov, 5/02
6. GPS on the Job in Massive World Trade Center Clean-up, securitysolutions.com, 7/1/2002 [cached]
7. Fragments of Twin Towers may return to Coatesville, DailyLocal.com, 07/24/06 [cached]
8. JFK Hangar Houses 9/11 Relics, 7online.com,
9. Twin Towers wreckage turning up all over the place, OnlineJournal.com, 8/7/06
10. WTC Steel Found Buried at Ground Zero, 1/31/07 [cached]
11. The U.S.S. New York, AmericanTribute.us, [cached]
12. Warship built out of Twin Towers wreckage, TimesOnline.co.uk, 5/22/06 [cached]

INSIDER TRADING

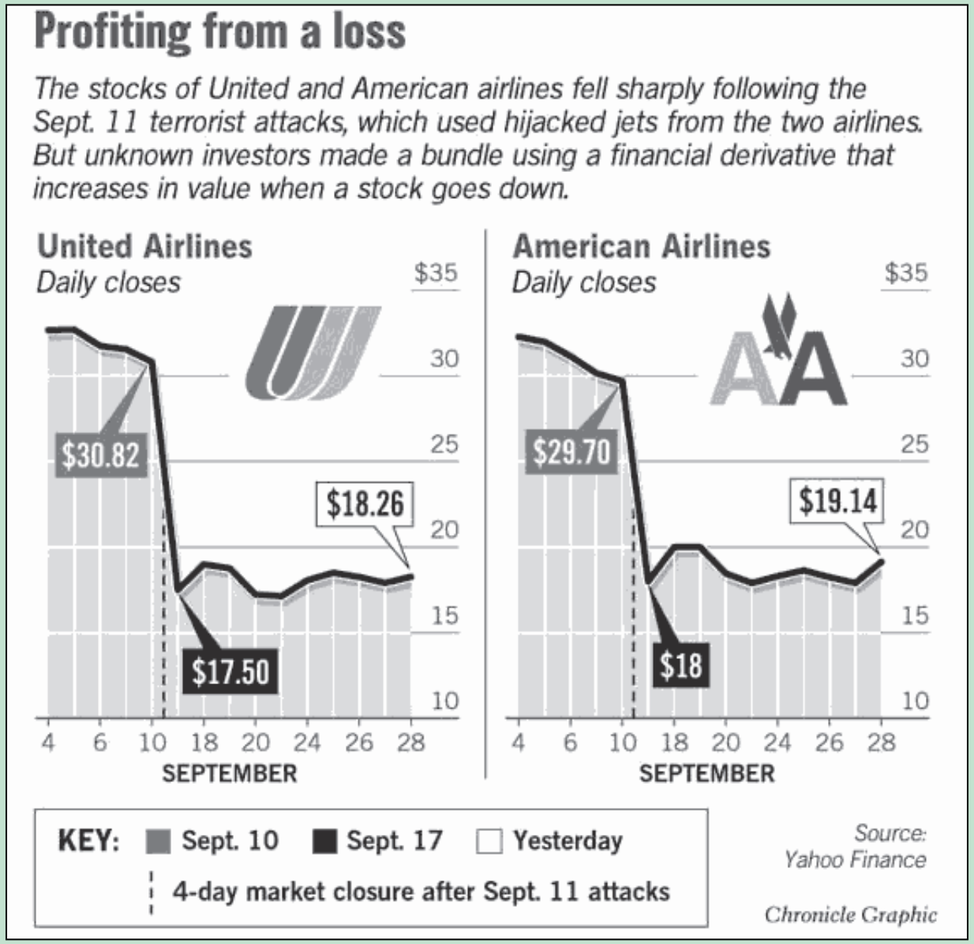
Pre-9/11 Put Options on Companies Hurt by Attack Indicates Foreknowledge

Financial transactions in the days before the attack suggest that certain individuals used foreknowledge of the attack to reap huge profits. The evidence of insider trading includes:

- Huge surges in purchases of put options on stocks of the two airlines used in the attack, those being - United Airlines and American Airlines
- Surges in purchases of put options on stocks of reinsurance companies expected to pay out billions to cover losses from the attack -- Munich Re and the AXA Group
- Surges in purchases of put options on stocks of financial services companies hurt by the attack were found at Merrill Lynch & Co., and Morgan Stanley and Bank of America
- Huge surge in purchases of call options of stock at a weapons manufacturer expected to gain from the attack - Raytheon
- Huge surges in purchases of 5-Year US Treasury Notes

In each case, the anomalous purchases translated into large profits as soon as the stock market opened a week after the attack: put options were used on stocks that would be hurt by the attack, and call options were used on stocks that would benefit.

Put and call options are contracts that allow their holders to sell and buy assets, respectively, at specified prices by a certain date. Put options allow their holders to profit from declines in stock values because they allow stocks to be bought at market price and sold for the higher option price. The ratio of the volume of put option contracts to call option contracts is called the put/call ratio. The ratio is usually less than one, with a value of around 0.8 considered normal.



LOSERS

American Airlines and United Airlines, and several insurance companies and banks posted huge loses in stock values when the markets opened on September 17. Put options - financial instruments which allow investors to profit from the decline in value of stocks - were purchased on the stocks of these companies in great volume in the week before the attack.

UNITED AIRLINES AND AMERICAN AIRLINES

Two of the corporations most damaged by the attack were American Airlines (AMR), the operator of Flight 11 and Flight 77, and United Airlines (UAL), the operator of Flight 175 and Flight 93. According to CBS News, in the week before the attack the put/call ratio for United Airlines was 25 times above normal on September 6. This graph shows a dramatic spike in pre-attack purchases of put options on the airlines used in the attack.

Source: www.optionsclearing.com

The spikes in put options occurred on days that were uneventful for the airlines and their stock prices. On Sept. 6-7, when there was no significant news or stock price movement involving United, the Chicago exchange handled 4,744 put options for UAL stock, compared with just 396 call options - essentially bets that the price will rise. On Sept. 10, an uneventful day for American, the volume was 748 calls and 4,516 puts, based on a check of option trading records.

The Bloomberg News reported that put options on the airlines surged to the phenomenal high of 285 times their average. Over three days before terrorists flattened the World Trade Center and damaged the Pentagon, there was more than 25 times the previous daily average trading in a Morgan Stanley “put” option that makes money when shares fall below $45. Trading in similar AMR and UAL put options, which make money when their stocks fall below $30 apiece, surged to as much as 285 times the average trading up to that time.

They knew. They planned it.

When the market reopened after the attack, United Airlines stock fell 42 percent from $30.82 to $17.50 per share, and American Airlines stock fell 39 percent, from $29.70 to $18.00 per share.

REINSURANCE COMPANIES THE QUIET SCAM

Several companies in the reinsurance business were expected to suffer huge losses from the attack: Munich Re of Germany and Swiss Re of Switzerland -- the world’s two biggest reinsurers, and the AXA Group of France. In September, 2001, the San Francisco Chronicle estimated liabilities of $1.5 billion for Munich Re and $0.55 billion for the AXA Group and Telegraph.co.uk estimated liabilities of £1.2 billion for Munich Re and £0.83 billion for Swiss Re.

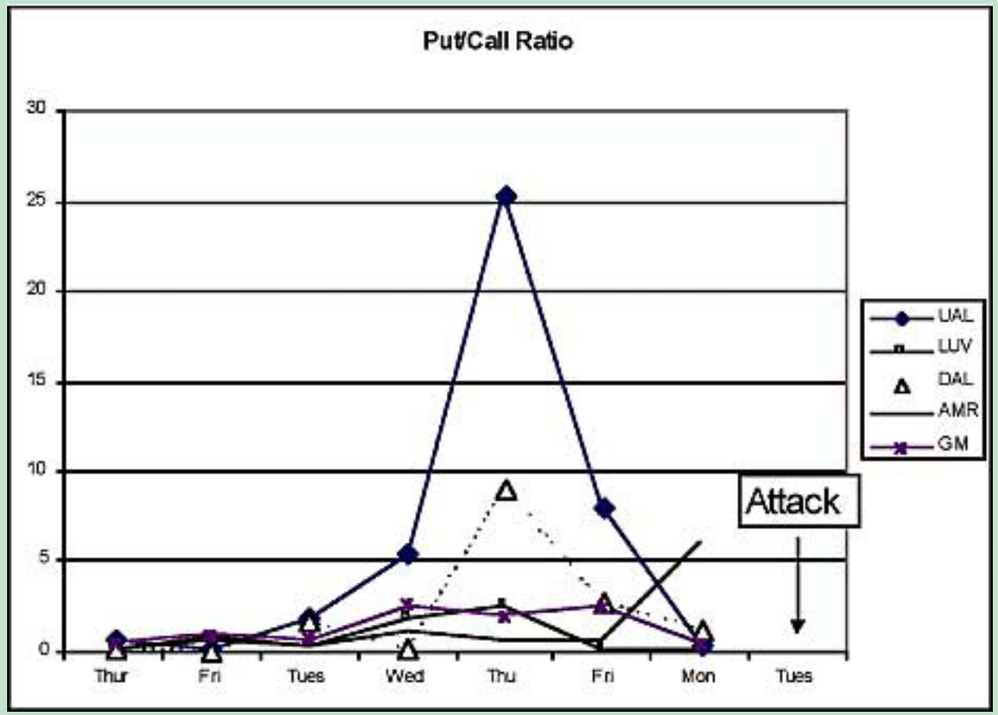
Trading in shares of Munich Re was almost double its normal level on September 6, and 7, and trading in shares of Swiss Re was more than double its normal level on September 7.

FINANCIAL SERVICES COMPANIES

Morgan Stanley Dean Witter & Co. and Merrill Lynch & Co. were both headquartered in lower Manhattan at the time of the attack. Morgan Stanley occupied 22 floors of the North Tower and Merrill Lynch had headquarters near the Twin Towers. Morgan Stanley, which saw an average of 27 put options on its stock bought per day before September 6, saw 2,157 put options bought in the three trading days before the attack. Merrill Lynch, which saw an average of 252 put options on its stock bought per day before September 5, saw 12,215 put options bought in the four trading days before the attack. Morgan Stanley's stock dropped 13% and Merrill Lynch's stock dropped 11.5% when the market reopened.

They knew. They planned it.

Bank of America showed a fivefold increase in put option trading on the Thursday and Friday before the attack.A Bank of America option that would profit if the No. 3 U.S. bank's stock fell below $60 a share had more than 5,900 contracts traded on the Thursday and Friday before the September 11 assaults, almost five times the previous average trading, according to Bloomberg data. The bank's shares fell 11.5 percent to $51 in the first week after trading resumed on September 17th.



WINNERS

While most companies would see their stock valuations decline in the wake of the attack, those in the business of supplying the military would see dramatic increases, reflecting the new business they were poised to receive.

RAYTHEON

Raytheon, maker of Patriot and Tomahawk missiles, saw its stock soar immediately after the attack. Purchases of call options on Raytheon stock increased sixfold on the day before the attack.

A Raytheon option that makes money if shares are more than $25 each had 232 options contracts traded on the day before the attacks, almost six times the total number of trades that had occurred before that day. A contract represents options on 100 shares. Raytheon shares soared almost 37 percent to $34.04 during the first week of post-attack U.S. trading. Raytheon has been fined millions of dollars for inflating the costs of equipment it sells the US military. Raytheon has a secretive subsidiary, E-Systems, whose clients have included the CIA and NSA.

US TREASURY NOTES

Five-year US Treasury notes were purchased in abnormally high volumes before the attack, and their buyers were rewarded with sharp increases in their value following the attack. The Wall Street Journal reported on October 2 that the ongoing investigation by the SEC into suspicious stock trades had been joined by a Secret Service probe into an unusually high volume of five-year US Treasury note purchases prior to the attacks. The Treasury note transactions included a single $5 billion trade. As the Journal explained: "*Five-year Treasury notes are among the best investments in the event of a world crisis, especially one that hits the US. The notes are prized for their safety and their backing by the US government, and usually rally when investors flee riskier investments, such as stocks.*" The value of these notes, the Journal pointed out, has risen sharply since the events of September 11.

THE SEC'S INVESTIGATION

Shortly after the attack the SEC circulated a list of stocks to securities firms around the world seeking information. A widely circulated article states that the stocks flagged by the SEC included those of the following corporations: American Airlines, United Airlines, Continental Airlines, Northwest Airlines, Southwest Airlines, US Airways airlines, Martin, Boeing, Lockheed Martin Corp., AIG, American Express Corp, American International Group, AMR Corporation, AXA SA, Bank of America Corp, Bank of New York Corp, Bank One Corp, Cigna Group, CNA Financial, Carnival Corp, Chubb Group, John Hancock Financial Services, Hercules Inc., L-3 Communications Holdings, Inc., LTV Corporation, Marsh & McLennan Cos. Inc., MetLife, Progressive Corp., General Motors, Raytheon, W.R. Grace, Royal Caribbean Cruises, Ltd., Lone Star Technologies, American Express, the Citigroup Inc., Royal & Sun Alliance, Lehman Brothers Holdings, Inc., Vornado Reality Trust, Morgan Stanley, Dean Witter & Co., XL Capital Ltd., and Bear Stearns. All the players we expect to see based on the forensic financial investigations completed and published in July of 2011 (http://www.datafilehost.com/download-0c99b14c.html and http://www.datafilehost.com/download-71072e4d.html).

An October 19 article in the San Francisco Chronicle reported that the SEC, after a period of silence, had undertaken the unprecedented action of deputizing hundreds of private officials in its investigation: The proposed system, which would go into effect immediately, effectively deputizes hundreds, if not thousands, of key players in the private sector. The same people that profited on the stock trades. The fox guarding the henhouse.

In a two-page statement issued to "*all securities-related entities*" nationwide, the SEC asked companies to designate senior personnel who appreciate "*the sensitive nature*" of the case and can be relied upon to "*exercise appropriate discretion*" as "*point*" people linking government investigators and the industry.

Michael Ruppert, a former LAPD officer, explains the consequences of this action:

What happens when you deputize someone in a national security or criminal investigation is that you make it illegal for them to disclose publicly what they know. Smart move. In effect, they become government agents and are controlled by government regulations rather than their own conscience. In fact, they can be thrown in jail without a hearing if they talk publicly. I have seen this implied threat time and again with federal investigations, intelligence agents, and even members of the United States Congress who are bound so tightly by secrecy oaths and agreements that they are not even able to disclose criminal activities inside the government for fear of incarceration.

REINTERPRETING THE DATA

An analysis of the press reports on the subject of apparent insider trading related to the attack shows a trend, with early reports highlighting the anomalies, and later reports excusing them. In his book Crossing the Rubicon Michael C. Ruppert illustrates this point by first excerpting a number of reports published shortly after the attack:

• A jump in UAL (United Airlines) put options 90 times (*not 90 percent*) above normal between September 6 and September 10, and 285 times higher than average on the Thursday before the attack. - CBS News, September 26.

• A jump in American Airlines put options 60 times (not 60 percent) above normal on the day before the attacks again from CBS News, September 26.

• No similar trading occurred on any other airlines - Bloomberg Business Report, the Institute for Counterterrorism (ICT), Herzliyya, Israel [citing data from the CBOE].

• Morgan Stanley saw, between September 7 and September 10, an increase of 27 times (not 27 percent) in the purchase of put options on its shares.

• Merrill-Lynch saw a jump of more than 12 times the normal level of put options in the four trading days before the attacks.

EXCERPTED ENDNOTES

"*Mechanics of Possible Bin Laden Insider Trading Scam*," Herzlyya International Policy Institute for Counter Terrorism (ICT), September 22, 2001. Michael C. Ruppert, "*The Case for Bush Administration Advance Knowledge of 9-11 Attacks*," From the Wilderness April 22, 2002. Posted at Centre for Research and Globalization <www.globalresearch.ca/articles/RUP203A.html>.

"*Terrorists trained at CBPE*." Chicago Sun-Times, September 20, 2001, <www.suntimes.com/terror/stories/cst-nws-trade20.html>. "*Probe of options trading link to attacks confirmed*," [...] Chicago Sun-Times, September 21, 2001, <www.suntimes.com/terror/stories/cst-fin-trade21.html>.

Ruppert then illustrates an apparent attempt to bury the story by explaining it away as nothing unusual. A September 30 New York Times article claims that "*benign explanations are turning up*" in the SEC's investigation. The article blames the activity in put options, which it doesn't quantify, on "*market pessimism*," but fails to explain why the price of the stocks in the airlines doesn't reflect the same market pessimism.

The fact that $2.5 million of the put options remained unclaimed is not explained at all by market pessimism, and is evidence that the put option purchasers were part of a criminal conspiracy and they couldn't claim the profits without revealing themselves to the world. But we know who they are anyway. Criminals. Thugs. Murderers.

Source:
1. Insider Trading Apparently Based on Foreknowledge of the 9/11 Attacks, London Times, 9/18/01 [cached]
2. Put/Call Ratio, StreetAuthority.com,
3. Profiting From Disaster?, CBSNews.com, 9/19/01 [cached]
4. Prices, Probabilities and Predictions, OR/MS Today, [cached]
5. Exchange examines odd jump, Associated Press, 9/18/01 [cached]
6. SEC asks Goldman, Lehman for data, Bloomberg News, 9/20/01 [cached]
7. Black Tuesday: The World's Largest Insider Trading Scam?, ict.org.il, September 19, 2001 [cached]
8. Suspicious profits sit uncollected Airline investors seem to be lying low, San Francisco Chronicle, 9/29/01 [cached]
9. Profits of doom, telegraph.co.uk, 9/23/01 [cached]
10. Profits of doom ..., 9/23/01
11. Black Tuesday ..., 9/19/01
12. Bank of America among 38 stocks in SEC's attack probe, Bloomberg News, 10/3/01 [cached]
13. Bank of America ..., 10/3/01
14. Raytheon, corpwatch.org,
15. Suspicious trading points to advance knowledge by big investors of September 11 attacks, wsws.org, 10/5/01 [cached]
16. Bank of America ..., 10/3/01
17. SEC wants data-sharing system Network of brokerages would help trace trades by terrorists, San Francisco Chronicle, 9/19/01 [cached]
18. Crossing the Rubicon, , page 243
19. Crossing the Rubicon, , page 238-239,634
20. Whether advance knowledge of U.S. attacks was used for profit, New York Times, 9/30/01 [cached]
21. Suspicious profits ..., 9/29/01


MAX KAISER
WITH
KATHERINE AUSTIN FITTS
AND
DANIELE GANSER
~ 911 INSIDER TRADING ~
by Lars Schall
PROFITING ON MASS MURDER

PUT'S, ITM'S, ATM'S, OTM'S, SPX'S, CBOE'S, UAL'S FOIA'S, EUREX'S, HUST'S, BAWE'S & COKES!

...AND HEY, WHO HAS THAT COUPLE HUNDRED MILLION ANYWAY?

In a scientific study by US economist Allen M. Poteshman from the University of Illinois at Urbana-Champaign, which had been carried out in 2006 regarding the put option trading around 911 related to the two airlines involved, United Airlines and American Airlines, Poteshman came to this conclusion: "*Examination of the option trading leading up to September 11 reveals that there was an unusually high level of put buying. This finding is consistent with informed investors having traded options in advance of the attacks*."

Another scientific study was conducted by the economists Wong Wing-Keung (*Hong Kong Baptist University, HKBU*), Howard E Thompson (*University of Wisconsin*) and Kweehong Teh (*National University of Singapore, NUS*), whose findings were published in April 2010 under the title "*Was there Abnormal Trading in the S&P 500 Index Options Prior to the September 11 Attacks?*"

Motivated by the fact that there had been many media reports about possible insider trading prior to 911 in the option markets, the authors looked in this study at the Standard & Poor's 500 Index (*SPX Index Options*), in particular with a focus on strategies emanating from a bear market, namely those under the labels "*Put Purchase*," "*Put Bear Spread*" and "*Naked ITM Call Write*", as each of these are in accordance with the assumption that one would be betting on a general bear market if one wanted to profit in anticipation of the 911 event.

Along these lines, the authors refer to an article which Erin E. Arvedlund published on October 8, 2001, in Barron's, the heading of which suggested precisely that thesis: "*Follow the money: Terror plotters could have benefited more from the fall of the entire market than from individual stocks*."

Basically, Wong, Thompson and Teh came to the conclusion "*that our findings show that there was a significant abnormal increase in the trading volume in the option market just before the 9-11 attacks in contrast with the absence of abnormal trading volume far before the attacks*". More specifically, they stated, "*Our findings from the out-of-the-money (OTM), at-the-money (ATM) and in-the-money (ITM) SPX index put options and ITM SPX index call options lead us to reject the null hypotheses that there was no abnormal trading in these contracts before September 11th.*"

Instead, they found evidence for "*abnormal trading volume in OTM, ATM and ITM SPX index put options*" for September 2001, and also in "*ITM-SPX index call options*" for the same month. "*In addition, we find that there was evidence of abnormal trading in the September 2001 OTM, ATM and ITM SPX index put options immediately after the 9-11 attacks and before the expiration date. This suggests that owning a put was a valuable investment and those who owned them could sell them for a considerable profit before the expiration date.*" From all of this, they took the position that whilst they couldn't definitively prove that insiders were active in the market, "*our results provide credible circumstantial evidence to support the insider trading claim*".

"our findings show that there was a significant abnormal increase in the trading volume in the option market just before the 9-11 attacks in contrast with the absence of abnormal trading volume far before the attacks"

Disambiguation

"*In the money*" means that the circumstances arise on which the owner of a put option is betting – the market price of the underlying asset, for example a stock (*or in this case an index of shares*), is lower at that moment compared to the price at the time when the transaction took place. "*At the money*" means that the price of the underlying asset has remained equal or nearly equal. And "*out-of-the-money*" means that the price of the underlying asset has gone up, so the opposite of what the owner of the put option was betting on took place.

"*In the money*" = win. "*Out of the money*" = loss

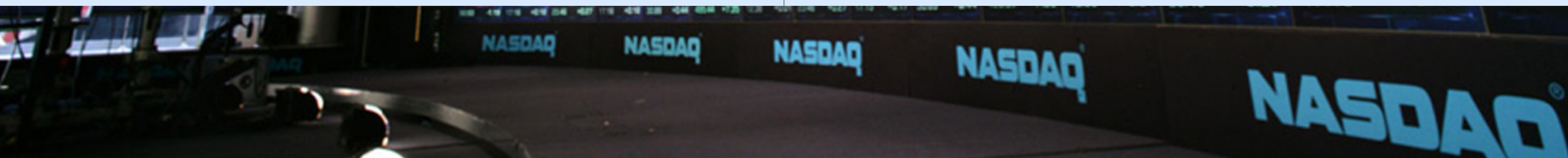
There are also ITM, ATM and OTM options both for trading strategies with put and call options, depending on which kind of risk one would like to take. For example, according to Wong, Thomson and Teh, the "*Put-Purchase Strategy*" in the case of a downward movement of the underlying asset "*is a cheaper alternative to short-selling of the underlying asset and it is the simplest way to profit when the price of the underlying asset is expected to decline*". The use of the OTM put option compared to the ITM put option, however, offers "*both higher reward and higher risk potentials; if the underlying asset falls substantially in price. However, should the underlying asset decline only moderately in price, the ITM put often proves to be the better choice – because of the relative price differential*."

That is why speculators would fare best, if they bought ITM put options, "*unless the speculators would expect a very substantial decline in the price of the underlying asset.*" After they calculated such strategies in the light of the available trading data in the CBOE relating to 911, the three economists ultimately do not accept a possible counter-argument that their results could be attributed to the fact that the stock markets were generally falling and that there had already been a negative market outlook. Finally they pointed out: "*More conclusive evidence is needed to prove definitively that insiders were indeed active in the market. Although we have discredited the possibility of abnormal volume due to the declining market, such investigative work would still be a very involved exercise in view of the multitude of other confounding factors*," such as confusing trading strategies, "*intentionally employed by the insiders*" in order to attract less attention. That would be – and if only to invalidate these scientific results once and for all – primarily a task for the SEC, the FBI and other governmental authorities of the United States. However, we will have to wait for this in vain.

I think that not less worthy of a mention is an article that the French financial magazine Les Echos published in September 2007 about a study conducted by two independent economics professors from the University of Zurich, Marc Chesney and Loriano Mancini. Journalist Marina Alcaraz summarized the content of the findings in Les Echos with these words and with these explanations by Professor Chesney, which I for the first time translated into German (*and do now translate from French into English*):

"*The atypical volumes, which are very rare for specific stocks lead to the suspicion of insider trading*." Six years after the attacks on the World Trade Center this is the disturbing results of a recent study by Marc Chesney and Loriano Mancini, professors at the University of Zurich. The authors, one of them a specialist in derivative products, the other a specialist in econometrics, worked on the sales options that were used to speculate on the decline in the prices of 20 large American companies, particularly in the aerospace and financial sector.

Their analysis refers to the execution of transactions between the 6th and 10th of September 2001 compared to the average volumes, which were collected over a long period (*10 years for most of the companies*). In addition, the two specialists calculated the probability that different options within the same sector in significant volumes would be traded within a few days. "*We have tried to see if the movements of specific stocks shortly before the attacks were normal. We show that the movements for certain companies such as American Airlines, United Airlines, Merrill Lynch, Bank of America, Citigroup, Marsh & McLehnan are rare from a statistical point of view, especially when compared*



to the quantities that have been observed for other assets like Coca-Cola or HP," explains Marc Chesney, a former Professor at the HEC and co-author of Blanchiment et Financement du Terrorisme (*Money laundering and financing of terrorism*), published by Editions Ellipses. "*For example 1,535 put option contracts on American Airlines with a strike of $30 and expiry in October 2001 were traded on September 10th, in contrast to a daily average of around 24 contracts over the previous three weeks. The fact that the market was currently in a bear market is not sufficient to explain these surprising volumes*."

The authors also examined the profitability of the put options and trades for an investor who acquired such a product between the 6th and 10th September. "*For specific titles, the profits were enormous*. *For example, the investors who acquired put options on Citigroup with an expiry in October 2001 could have made more than $15 million profit,*" he said.

On the basis of the connection of data between volumes and profitability, the two authors conclude that "*the probability that crimes by Insiders (Insider trading) occurred , is very strong in the cases of American Airlines, United Airlines, Merrill Lynch, Bank of America, Citigroup and JP Morgan. There is no legal evidence, but these are the results of statistical methods, confirming the signs of irregularities*."

As Alcaraz continued to state for Les Echos, the study by Chesney/Mancini about insider trading related to the 911 attacks was not the first of its kind; but it was in sharp contrast to the findings of the US Securities and Exchange Commission (SEC) and the 911 Commission, since they classified the insider trading as negligible – the trades in question had no connection to 911 and had "*consistently proved innocuous*".

Different in the assessment is also the scientific work that Chesney and Mancini had published together with Remo Crameri in April 2010 at the University of Zurich, "*Detecting Informed Trading Activities in the Option Markets*." In the segment that is dedicated to the terror attacks of 911, the three authors come to the conclusion, that there had been notable insider trading shortly before the terrorist attacks on September 11 that was based on prior knowledge.

Without elaborating on the detailed explanation of the mathematical and statistical method, which the scientific trio applied during the examination of the put option transactions on the CBOE for the period between 1996 and 2006, I summarize some of their significant conclusions.

"*Companies like American Airlines, United Airlines, Boeing*" – the latter company is a contractor of the two airlines as aircraft manufacturer – "*and to a lesser extent, Delta Air Lines and KLM seem to have been targets for informed trading activities in the period leading up to the attacks. The number of new put options issued during that period is statistically high and the total gains realized by exercising these options amount to more than $16 million. These findings support the results by Poteshman (2006) who also reports unusual activities in the option market before the terrorist attacks*."

In the banking sector, Chesney, Crameri and Mancini found five informed trading activities in connection to 911. "*For example the number of new put options with underlying stock in Bank of America, Citigroup, JP Morgan and Merrill Lynch issued in the days before the terrorist attacks was at an unusually high level. The realized gains from such trading strategies are around $11 million.*"

For both areas, the aviation and the banking sector, the authors state that "*in nearly all cases the hypothesis*", that the put options were not hedged, "*cannot be rejected*".

Regarding the options traded on EUREX, one of the world's largest trading places for derivatives, which in 1998 resulted from the merger between the German and Swiss futures exchanges DTB and SOFFEX, Chesney, Mancini and Crameri focused on two reinsurance companies, which incurred costs in terms of billions of dollars in connection with the World Trade Center catastrophe: Munich Re and Swiss Re.

On the basis of EUREX trading data provided by Deutsche Bank, the three scientists detected one informed option trade related to Munich Re, which occurred on August 30, 2001. The authors write: "*The detected put option with underlying Munich Re matured at the end of September 2001 and had a strike of € 320 (the underlying asset was traded at € 300 on August 30th). That option shows a large increment in open interest of 996 contracts (at 92.2% quintile of its two-year empirical distribution) on August 30th.*"

Its price on that day was € 10, 22 ... On the day of the terrorist attacks, the underlying stock lost more than 15% (*the closing price on September 10th*

Let's Talk About This Image

I can zoom in on this image 8x without losing clarity on my 21.5 inch monitor starting with the PDF opened as large as possible on the screen and it gets pretty big, no? What's notable? Let's make a list.

On the car we see that the car door handles are missing and this is seen in many other 911 vehicles. The tires are gone with little sign of melted rubber, looking at the rear wheel it's easy to see that some of the axle support system is missing, the brake drums or discs as well, the car appears sand-papered because the paint is intact to a great degree but the surface is affected somehow, the seats and the entire interior are burned to a crisp (*paints still OK*), the glass is gone, and remember those door handles.

On the bus we see the front is obviously dented badly. But are those dents? Based on the image color; the guy in the orange and yellow vest, the buildings, it appears that the front of the bus still has a consistent coloring across it. It looks like a kind of copper color. I suspect that's the color of the front of the bus and the paint is still intact to some degree. What else do we see on this bus? On the headlight to the right (*which would be the left front headlight*) we see the material surrounding the light fixture area is shredded, not necessarily burned. Certainly all of the glass and plastic elements of the bus are gone, even the three little lights at the very top-front of the bus. The fragile, metal portions of the windshield wipers, presumably metal, are visible and the bus is sitting on it's rims.

In the far corner we see an immense amount of paper, perhaps a ream (500 sheets?).

Everything in this image is what would be expected from a micro-nuclear detonation within a large city; a device with a gram or two of D-T gas, a little uranium, some additional metals for cladding and other features perhaps and something that small is well within the current technology and in fact we've proven earlier in this text that these small bombs were conceived of, designed and built decades ago, well before September 11th, 2001.

März 20th, 2012

AN ASIA TIMES ONLINE EXCLUSIVE INVESTIGATION: There can be no dispute that speculative trade in put options – where a party bets that a stock will drop abruptly in value – spiked in the days around September 11, 2001 – even if the US Securities and Exchange Commission and the 911 Commission will not say so. More than a few people must have had advance warning of the terror attacks, and they cashed in to the tune of 100s of millions of dollars.

was € 261, 88 and on September 11th € 220, 53) and the option price jumped to € 89, 56, corresponding to a return of 776% in eight trading days. The gains ... related to the exercise of the 996 new put options issued on August 30th correspond to more than 3.4 million . Similar is true, according to the authors, for one informed option trade on Swiss Re on August 20, 2001 with "*a return of 4,050% in three trading weeks*", or more than € 8 million.

In a new version of their study that was published on September 7, 2011, the authors stuck to their findings from April 2010. They added the emphasis that in no way the profits gained with the put options to which they point could have been achieved due to sheer fortunate coincidence, but that in fact they were based on prior knowledge which had been exploited.

"In a new version of their study that was published on September 7, 2011, the authors stuck to their findings from April 2010. They added the emphasis that in no way the profits gained with the put options to which they point could have been achieved due to sheer fortunate coincidence, but that in fact they were based on prior knowledge which had been exploited"

With those results in terms of what went on at the EUREX according to Chesney, Crameri and Mancini, I again addressed the BaFin, which had written to me that for the financial centers in Germany insider trading around 911 could be excluded, and asked:

"How does this go with your information that the federal supervisory for securities trading (BAWe) could in its comprehensive analysis not find evidence for insider trading? Do the authors, so to speak, see ghosts with no good reason?"

In addition, I stated:

If it is true what Chesney, Crameri and Mancini write, or if you at the BaFin cannot (ad hoc) refute it, would this then cause the BaFin to thoroughly investigate the matter again? If the findings of Chesney, Crameri, and Mancini were true, this would constitute illegal transactions relating to a capital crime, which has no statute of limitations, or not?"

In case that a need for clarification had arisen at the BaFin, I added Professor Chesney to my e-mail-inquiry in the "*carbon copy*" – address field, as because these were the results of his scientific work.

The response that I received from BaFin employee Dominika Kula was as follows:
"As I already told you in my e-mail, the former federal supervisory for securities trading (BAWe) carried out a comprehensive analysis of the operations in 2001. As a result, no evidence of insider trading has been found. For clarification purposes, I wish to point out that violations of statutory provisions of securities or criminal law can never be excluded with absolute certainty. In order to pursue and prosecute such matters concrete evidence of an unlawful act is required ... Such evidence does not exist here.

With regard to the sources you mentioned, I ask for understanding that I can neither comment on scientific analyses, nor on reviews by third parties."

Regarding the statutes of limitations for offences relating to the violation insider trading regulations trading I can give you the following information: A violation of the law to prohibit insider trading is punishable with imprisonment up to 5 years or with fines. The statutes of limitations applied for crimes carrying this kind of penalty (section 78 paragraph 3 No. 4 Penal Code) are five years. These limitations are described in the statutes of limitations (§§ 78 et seq.) (Criminal Code). So, in addition, I turned to the EUREX with three questions:

1. How do you as EUREX comment on the findings of Messrs Chesney, Mancini and Crameri?
2. Did you at EUREX perceive the particular trading in Munich Re and Swiss Re in any way as strange?
3. Have domestic (*eg BAWe and BaFin*) or foreign (*such as the U.S. Securities and Exchange Commission*) authorities ever inquired if there may have been evidence of insider trading via the EUREX in connection with the 9/11 attacks?

I subsequently received the following response from Heiner Seidel, the deputy head of the press office of the Deutsche Borse in Frankfurt. We do not give you a public written response on behalf of the Deutsche Börse or Eurex regarding the topics of your inquiry. This is for the following reason: the trade monitoring agency (HüSt) is part of the Exchange, but it is independent and autonomous. Their investigations are confidential and are carried out in close coordination with the BaFin. They are never public, a request with HüSt is therefore not meaningful.

I leave it to the reader to draw his/her conclusions from these two replies from the press offices of

BaFin and Deutsche Borse. Regarding the topic of option trades related to 911, I once more talked with Swiss historian Dr Daniele Ganser ("*Operation Gladio*"), by asking him this time about the importance of those put options, which were traded shortly before the attacks of September 11, 2001.

Daniele Ganser: This is an important point. This is about demonstrating that there was insider trading on the international stock exchanges before 11 September. Specifically put options, ie speculation on falling stock prices were traded. Among the affected stocks were United Airlines and American Airlines, the two airlines involved in the attacks.

A colleague of mine, Marc Chesney, professor at the Institute of banking at the University of Zurich, has examined these put options. You first of all have to check if there may have been international speculation that the aviation industry would be experiencing a weak period and whether accordingly also put options on Singapore Airlines, Lufthansa and Swiss were bought. This was not the case.

Very significant put option trades were only transacted for these two airlines involved in the attacks. Secondly, you must examine the ratio of put options to call options and look if they had also been purchased to a similarly significant extent that would constitute speculations on rising stock prices. And that is also not the case. There were only significant put options and only significant transactions for United Airlines and American Airlines.

Now you need to look further in order to see who actually bought the put options, because that would be the insider who made millions on September 11. Most people are unaware that money was also earned with the attacks on September 11. The Security and Exchange Commission (SEC) of the United States, however, does not publish the information on who bought the put options, because you can do this anonymously. It is disturbing that this data is not made public.

What you have is the 911 Commission report, and here it is pointed out that there has been insider trading, but that this insider trading cannot be traced to [al-Qaeda leader] Osama bin Laden, which means that it is highly unlikely that it had been bin Laden.

Question: If this is not pursued any further, what does it mean?

Daniele Ganser: This means that the investigation of the terrorist attacks was incomplete, and always at the point where there are contradictions to the SURPRISE story, no further investigations are made. It looks very much as if one wants to examine only one story, the investigation is therefore one-sided. But this does not only apply to the put options. Interestingly enough, when Dr. Ganser points out in his reply that this important data is not published, it is actually only half of the truth. Why? The answer is very simple and odd at the same time: David Callahan, the editor of the US magazine *SmartCEO*, filed a request to the SEC about the put options which occurred prior to September 11 within the framework of the Freedom of Information Act (*FOIA*). The SEC informed Callahan in its reply of December 23, 2009 under the number "*09 07659-FOIA*" as follows:

"*This letter is in response to your request seeking access to and copies of the documentary evidence referred to in footnote 130 of Chapter 5 of the September 11 (9/11) Commission Report... We have been advised that the potentially responsive records have been destroyed.*"

Therefore, we will unfortunately never know exactly how the SEC and the 911 Commission came to their conclusions regarding the 911 put options trading for their final report, because relevant documents were not only held back, but also destroyed – and that *in spite* of an agreement between the SEC and the National Archive of the United States, in which the SEC has agreed to keep all records for at least 25 years.

The 9/11 Commission report wrote this in footnote 130 of Chapter 5, which briefly focuses on the alleged insider trading scams such that all real discussion were avoided:

> "*Highly publicized allegations of insider trading in advance of 9 / 11 generally rest on reports of unusual pre-9/11 trading activity in companies whose stock plummeted after the attacks. Some unusual trading did in fact occur, but each such trade proved to have an innocuous explanation. For example, the volume of put options – investments that pay off only when a stock drops in price – surged in the parent companies of United Airlines on September 6 and American Airlines on September 10 – highly suspicious trading on its face.*
>
> *Yet, further investigation has revealed that the trading had no connection with 9/11. A single US-based institutional investor with no conceivable ties to al-Qaeda purchased 95 percent of the UAL puts on September 6 as part of a trading strategy that also included buying 115,000 shares of American on September 10. Similarly, much of the seemingly suspicious trading in American on September 10 was traced to a specific US-based options trading newsletter, faxed to its subscribers on Sunday, September 9, which recommended these trades.*
>
> *These examples typify the evidence examined by the investigation. The SEC and the FBI, aided by other agencies and the securities industry, devoted enormous resources to investigating this issue, including securing the cooperation of many foreign governments. These investigators have found that the apparently suspicious consistently proved innocuous. (Joseph Cella interview (Sept 16, 2003; May 7, 2004; May 10-11, 2004); FBI briefing (Aug 15, 2003); SEC memo, Division of Enforcement to SEC Chair and Commissioners, "Pre-September 11, 2001 Trading Review," May 15, 2002; Ken Breen interview (Apr. 23, 2004); Ed G. interview (Feb. 3, 2004)."*

AUTHOR MARK H. GAFFNEY COMMENTS ON "INNOCUOUSNESS":

Notice … the commission makes no mention in its footnote of the 36 other companies identified by the SEC in its insider trading probe. What about the pre-911 surge in call options for Raytheon, for instance, or the spike in put options for the behemoth Morgan Stanley, which had offices in WTC 2? The 911 Commission Report offers not one word of explanation about any of this. The truth, we must conclude, is to be found between the lines in the report's conspicuous avoidance of the lion's share of the insider trading issue.

Indeed, if the trading was truly "*innocuous*", as the report states, then why did the SEC muzzle potential whistle-blowers by deputizing everyone involved with its investigation? The likely answer is that so many players on Wall Street were involved that the SEC could not risk an open process, for fear of exposing the unthinkable. This would explain why the SEC limited the flow of information to those with a "*need to know*", which, of course, means that very few participants in the SEC investigation had the full picture.

It would also explain why the SEC ultimately named no names

All of which hints at the true and frightening extent of
criminal activity on Wall Street in the days and hours before 911

The SEC was like a surgeon who opens a patient on the operating room table to remove a tumor, only to sew him back up again after finding that the cancer has metastasized through the system.

At an early stage of its investigation, perhaps before SEC officials were fully aware of the implications, the SEC did recommend that the FBI investigate two suspicious transactions. We know about this thanks to a 911 Commission memorandum declassified in May 2009 which summarizes an August 2003 meeting at which FBI agents briefed the commission on the insider trading issue. The document indicates that the SEC passed the information about the suspicious trading to the FBI on September 21, 2001, just ten days after the 911 attacks.

WIRT III

Although the names in both cases are censored from the declassified document, thanks to some nice detective work by Kevin Ryan we know whom (*in one case*) the SEC was referring to. The identity of the suspicious trader is a stunner that should have become prime-time news on every network, world-wide. Kevin Ryan was able to fill in the blanks because, fortunately, the censor left enough details in the document to identify the suspicious party who, as it turns out, was none other than Wirt Walker III, a distant cousin to then-president G. W. Bush.


Wirt

Several days before 911, Walker and his wife Sally purchased 56,000 shares of stock in Stratesec, one of the companies that provided security at the World Trade Center up until the day of the attacks. Notably, Stratesec also provided security at Dulles International Airport, where AA 77 alledgedly took off on 911, and also security for United Airlines, which owned two of the other three allegedly hijacked aircraft. At the time, Walker was a director of Stratesec. Amazingly, Bush's brother Marvin was also on the board. Walker's investment paid off handsomely, gaining $50,000 in value in a matter of a few days. Given the links to the World Trade Center and the Bush family, the SEC lead should have sparked an intensive FBI investigation. Yet, incredibly, in a mind-boggling example of criminal malfeasance, the FBI concluded that because Walker and his wife had "*no ties to terrorism … there was no reason to pursue the investigation.*" The FBI did not conduct a single interview.

For this translation, I asked Kevin Ryan via e-mail for his "*detective work*". Ryan replied:

"*You are referring to my paper "Evidence for Informed Trading on the Attacks of September 11." The following two references from the paper are relevant to what you are describing. 911 Commission memorandum entitled "FBI Briefing on Trading", prepared by Doug Greenburg, 18 August 2003.*

The 9/11 Commission memorandum that summarized the FBI investigations refers to the traders involved in the Stratesec purchase. From the references in the document, we can make out that the two people had the same last name and were related. This fits the description of Wirt and Sally Walker, who were known to be stock holders in Stratesec. Additionally, one (Wirt) was a director at the company, a director at a publicly traded company in Oklahoma (Aviation General), and chairman of an investment firm in Washington, DC (Kuwam Corp). Here are two other recent articles on Stratesec and its operators."

The stock of Stratesec, I should add by myself, increased in value from $0.75 per share on September 11 to $1.49 per share when the market re-opened on September 17. As a firm that provides technology-based security for large commercial and government facilities, Stratesec benefited from the soaring demand of security companies immediately after 911.

MORE WIRT III

This is the same man, Judge John M. Walker of the 2nd Circuit of the United States Court of Appeals, who was part of a three-judge panel hearing the case of April Gallop vs. former vice-president Dick Cheney, former defense secretary Donald Rumsfeld and former chairman of the Joint Chiefs of Staff Richard Myers. The author discussed the suit briefly with April Gallops's attorney, Mr. William Veale, via email. The suit was recently dismissed as of this writing and Veale was fined $10,000; for what I can't remember.

Briefly, the case was wholly ignored by the mainstream media in the weeks leading up to it going to court April 5th of 2010 or 2011, I believe. Not a peep. And most media have ignored the

developments concerning the involvement of Judge Walker. One exception is CNBC, which carried an online story with the headline: "*Extraordinary Conflict of Interest: Bush Cousin Presides Over Federal Court Case Against Former Bush Administration Officials*." Good for them, but this is an all-too isolated exception. That the story was kept almost entirely out of the media further reveals that the idea of a free and vigorous press is largely a fantasy.

Gallop, a former U.S. Army executive administrative assistant (*with top secret clearance*), sued Dick Cheney, a general and another related individual for damages in connection with injuries she and her newborn son suffered in the supposed terrorist attack at the Pentagon on Sept. 11, 2001. The two were injured when the allegedly hijacked American Airlines Flight 77 supposedly slammed into the building. Gallop and many others in the 911 Truth movement contend that explosives were planted inside the Pentagon and that Flight 77 never hit the building. I'll have to agree with Ms. Gallop. The case was dismissed.

VIISAGE

It is also remarkable what Ryan wrote to me regarding a company on which he did some research, too: Viisage Corp, another high-tech security firm.

Kevin Ryan: In late 2005, George Tenet became a director for Viisage, which had been flagged by the SEC for 911 trading but never investigated. Viisage was led by Roger LaPenta, formerly of Lockheed.

Seven months later, in 2006, FBI director Louis Freeh also joined the Viisage board. One might think that when both the CIA director (*on 911*) and the FBI director (*from 1993 to June 2001*) joined a company suspected of 911 insider trading, we might want to go back and actually investigate the SEC's flagging of that company.

But, of course, that was not the case. In 2009, "*Bandar Bush*" hired Freeh as his personal attorney.

Freeh is nowadays the bankruptcy trustee of the alleged market manipulator MF Global. And about his client, the former Saudi ambassador Prince Bandar, I should add that we know for sure that he bankrolled indirectly via his wife two of the alleged would-be 911 hijackers, Khalid Al-Mihdhar and Nawaf Al-Hazmi.

But let's get back to the subject of destruction. On September 11, not only human life, aircraft and buildings were destroyed in New York City, but also data on computers and in archives.

For example, several federal agencies occupied space in Building 7 of the World Trade Center, including the Securities and Exchange Commission on floors 11 to 13.

Those and other data could have given information about the alleged 911 insider trading (*though it seems to be very unlikely that no backup existed elsewhere independent of the local computer systems*).

In fact, some technology companies were commissioned to recover damaged hard disks, which had been recovered from the debris and dust of Ground Zero. The dust provided a lot and it was the one thing they couldn't get rid of. It was everywhere.

One of these companies was the English company group Convar, more precisely: their data rescue center in the German city Pirmasens. Erik Kirschbaum from the news agency Reuters reported in December 2001 that Convar had at that time successfully restored information from 32 computers, supporting "*suspicions that some of the 911 transactions were illegal*".

According to the employee, about five minutes before the attack the entire Deutsche Bank computer system had been taken over by something external that no one in the office recognized and every file was down loaded at lightning speed to an unknown location. The employee is afraid for his life

"*The suspicion is that inside information about the attack was used to send financial transaction commands and authorizations in the belief that amid all the chaos the criminals would have, at the very least, a good head start,*" says Convar director Peter Henschel.

Convar received the costly orders – according to Kirschbaum´s report the companies had to pay between $20,000 and $30,000 per rescued computer – in particular from credit card companies, because: "*There was a sharp rise in credit card transactions moving through some computer systems at the WTC shortly before the planes hit the twin towers. This could be a criminal enterprise – in which case, did they get advance warning? Or was it only a coincidence that more than $100 million was rushed through the computers as the disaster unfolded?*"

The companies for which Convar was active cooperated with the FBI. If the data were reconstructed they should have been passed on to the FBI, and the FBI, according to its statutory mandate, should have initiated further investigation based on the data to find out who carried out these transactions. Henschel was optimistic at the time that the sources for the transactions would come to light.
Richard Wagner, a Convar employee, told Kirschbaum that:

"*illegal transfers of more than $100 million might have been made immediately before and during the disaster. 'There is a suspicion that some people had advance knowledge of the approximate time of the plane crashes in order to move out amounts exceeding $100 million, "* he says. "*They thought that the records of their transactions could not be traced after the main frames were destroyed*'."

Wagner's observation that there had been "*illegal financial transactions shortly before and during the WTC disaster*" matches an observation which Ruppert describes in Crossing the Rubicon. Ruppert was contacted by an employee of Deutsche Bank, who survived the WTC disaster by leaving the scene when the second aircraft had hit its target.

According to the employee, about five minutes before the attack the entire Deutsche Bank computer system had been taken over by something external that no one in the office recognized and every file was downloaded at lightning speed to an unknown location. The employee, afraid for his life, lost many of his friends on September 11, and he was well aware of the role which the Deutsche Bank subsidiary Alex Brown had played in insider trading.

I was curious and wanted more information from

Convar regarding their work on the WTC-computer hard drives, but also about the statements made by Peter Henschel and Richard Wagner. Thus, I contacted the agency which represents Convar for press matters, with a written request. But their agency "*ars publicandi*" informed me swiftly:

"*Due to time constraints, we can currently offer you neither information nor anyone on the part of our client to talk to regarding this requested topic*."

I also approached KrollOntrack, a very interesting competitor of Convar in writing. Ontrack Data Recovery, which also has subsidiaries in Germany, was purchased in 2002 by Kroll Inc – "*one of the nation's most powerful private investigative and security firms, which has long-standing involvement with executive protection US government officials including the president. This would require close liaison with the Secret Service.*"

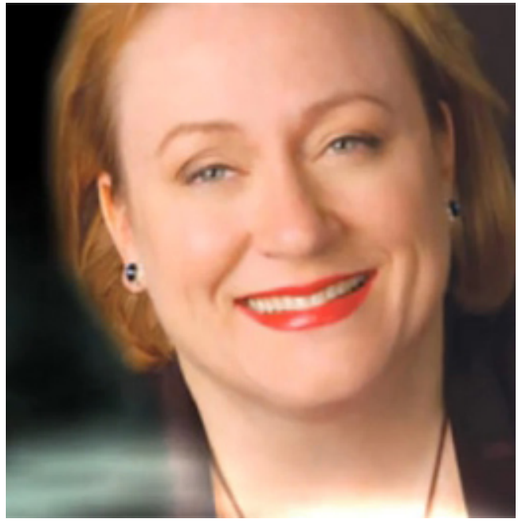
At the time of the 9/11 attacks, a certain Jerome Hauer was one of the managing directors at Kroll Inc. He had previously established the crisis center for the mayor of New York City as director of the Office of Emergency Management (OEM), which occupied office space on the 23rd floor of World Trade Center Building 7. Hauer helped former FBI agent John O'Neill to get the post of the head of Security Affairs at the World Trade Center, and spent the night of September 11 with O'Neill in New York before the latter lost his life on September 11 in the World Trade Center. Hauer was most likely involved in the planning of "*Tripod II*", the war game exercise at the port of New York City.

(*see: NORAD 911 and the USS Cole at http://www.datafilehost.com/download-0f633e09.html for more information on the very mysterious death and background of John O'Neill*)

Therefore, I found it appealing to uncover some more details of this aspect, or, more accurately to find out if Ontrack or KrollOntrack had received an order in 2001 or after to rescue computer hard drives from the World Trade Center. The answer I received from KrollOntrack said:

"Kroll Ontrack was not at the site of the data recovery – the devices at the Twin Towers have been completely destroyed or vaporized. The firm Kroll was, however, at that time active in the field of computer-forensic investigations, securing devices in the surrounding buildings."

In essence, these two inquiries did not help me at all. If anything, a further question arose: why did KrollOntrack send me a response, where it was really obvious that the content did not match the facts? After all, I had written in my inquiry that Convar had received orders to restore damaged computer hard drives from the World Trade Center. I sent a new inquiry, attaching a link for Erik Kirschbaum's Reuters article and additional cinematic reports on Convar's which showed that some of the WTC disks had not been "*completely destroyed or vaporized*". I stated to KrollOntrack: "*Your answer does not seem to match the facts, when it comes to 'completely destroyed or vaporized'. Will you still stick to your answer?*"



KrollOntrack then replied that their previously given assessment constituted "*not a statement, but an opinion*".

I do not find this assessment worthless, because it is in line with the knowledge of the general public and can easily be refuted in argumentum in contrario by Convar´s activities. One film report to which I referred to in my second inquiry to KrollOntrack originated from the German television journal Heute-Journal broadcast on March 11, 2002, on ZDF, and the other from the Dutch TV documentary Zembla, broadcast on September 10, 2006.

The ZDF report showed that Convar received the World Trade Center disks from the US Department of Defense and that Convar had managed until March 2002 to recover more than 400 hard drives. It also reported that the private companies that employed Convar had paid between $25,000 and $50,000 per hard drive. In the TV documentary Zembla, Convar essentially maintained its position as it had been reported by Erik Kirschbaum in 2001.

Obviously, in connection with 911 there has not only been insider trading via put options, but there is additional evidence that there have been illegal financial transactions via credit cards through which more than 100 million US dollars were removed from the WTC computer systems.

Those occurred shortly before and during the WTC disaster. It remains unclear what the FBI did later on with the data recovered by Convar. On the other hand, it may have been not very much, as can be seen from a memorandum from the 911 Commission, which was released in May 2009.

The 911 Commission asked the FBI about the use of credit cards for insider dealing. On the basis of the information provided by the FBI, the commission came to the conclusion that no such activity occurred because "*the assembled agents expressed no knowledge of the reported hard-drive recovery effort or the alleged scheme*" – but above all "*everything at the WTC was pulverized to near powder, making it extremely unlikely that any hard-drives survived*".

The activities of Convar, however, prove the exact opposite.

But it gets even better. According to Zembla, the FBI was directly involved with the data rescue efforts of Convar. And on top of it, the broadcast of Heute-Journal reported that Convar worked in that "*highly sensitive*" matter with several federal agencies of the United States government.

So there have been ample indications for insider trading based on foreknowledge of the attacks, but there are very few hard facts as Catherine Austin Fitts, a former managing director and member of the board of the Wall Street investment bank Dillon, Read & Co, Inc (*now part of UBS*), pointed out when I talked with her about this topic. Ms Fitts, what are your general thoughts related to the alleged 9/11-insider trading?

Catherine Austin Fitts: Well, I've never been able to see concrete evidence that the insider trading has been proved. There's a lot of anecdotal information from investment bankers and people in the investment community that indicate that there was significant insider trading, particularly in the currency and bond markets, but again it hasn't been documented.

I think around situations like 911 we've seen things that can only be explained as insider trading. Therefore, it wouldn't surprise me if it turns out the allegations are true, because my suspicion is that 911 was an extremely profitable covert operation and a lot of the profits came from the trading. It wouldn't even surprise me if it turns out that the Exchange Stabilization Fund (ESF) traded it and that some of the funding for the compensation fund for the victims came from the ESF.

Insider trading happens around these kinds of events, but if you really want to produce evidence of insider trading, you need the subpoena powers of the SEC, and of course we know that they haven't exercised them. If anything, right after 911, the government settled a significant amount of cases I presume because a lot of the documents were destroyed by the destruction of World Trade Center building number 7, where the SEC offices and other governmental investigation offices were.

Fitts, who had written a longer essay in 2004 related to this,
replied to my question about who had benefited from 911:

Catherine Austin Fitts: 911 was extraordinarily profitable for Wall Street, they of course got a kind of "*Get Out of Jail Free card*" as I've just described. In addition, the largest broker of government bonds, Cantor Fitzgerald, was destroyed, and there was a great deal of money missing from the federal government in the prior four or five years. If you look at the amount of funds involved, it is hard to come to a conclusion other than massive securities fraud was involved, so I find it very interesting that this happened.

A short explanation: Cantor Fitzgerald's headquarters were located in the North Tower of the World Trade Center (*floors 101-105*). On 911, the company lost nearly two-thirds of its entire workforce, more than any other tenant in the World Trade Center. (*also, the top 6 executives of Cantor Fitzgerald were scheduled to have September 11th off under unusual circumstances and two other government bonds brokers, Garbon Inter Capital and Eurobrokers, occupied office space in the World Trade Center towers that were destroyed*.)

Back to Fitts and the question: "Cui bono 911?"

Catherine Austin Fitts: In addition, the federal government took the position that they couldn't produce audited financial statements after 911, because they said the office at the Pentagon that produced financial statements was destroyed. Now given what I know of the federal set up of financial statements, I am skeptical of that statement. But needless to say, if you take the government on its word, you had another "*Get Out of Jail Free card*" for four trillion dollars and more missing from the federal government. So if you're just looking at the financial fraud angle, there were a lot of parties that benefited from 911. But then of course what 911 did, it staged the passage of the Patriot Act and a whole series of laws and regulations that I collectively refer to as "*The Control on Concentration of Cash Flow Act.*" It gave incredible powers to centralize.

In addition, if you look at monetary policies right after 911 – I remember I was over in the City of London driving around with a money manager and his phone rang and he answered it on his speaker phone. It was somebody on Wall Street who he hadn't talked to since before 911, and he said to him: "*Oh Harry, I am so sorry about what has happened, it must have been very traumatic.*" And the guy said: "*Don't be ridiculous! We were able to borrow cheap short and invest long, we're running a huge arbitrage, we're making a fortune, this is the most profitable thing that ever happened to us!*" – So you could tell the monetary policies and sort of insider games were just pumping profits into the bank at that time, so that was very profitable.

But of course the big money was used for a significant movement of the military abroad and into Afghanistan and then into Iraq … You could see that the country was being prepared to go to war. And sure enough, 911 was used as a justification to go to war in Afghanistan, to go to war in Iraq, and commit a huge number of actions, and now much of the challenges about the budget are the result of extraordinary expenditures on war including in Afghanistan and Iraq and the costs of moving the army abroad and engaging in this kind of empire building with ground military force.

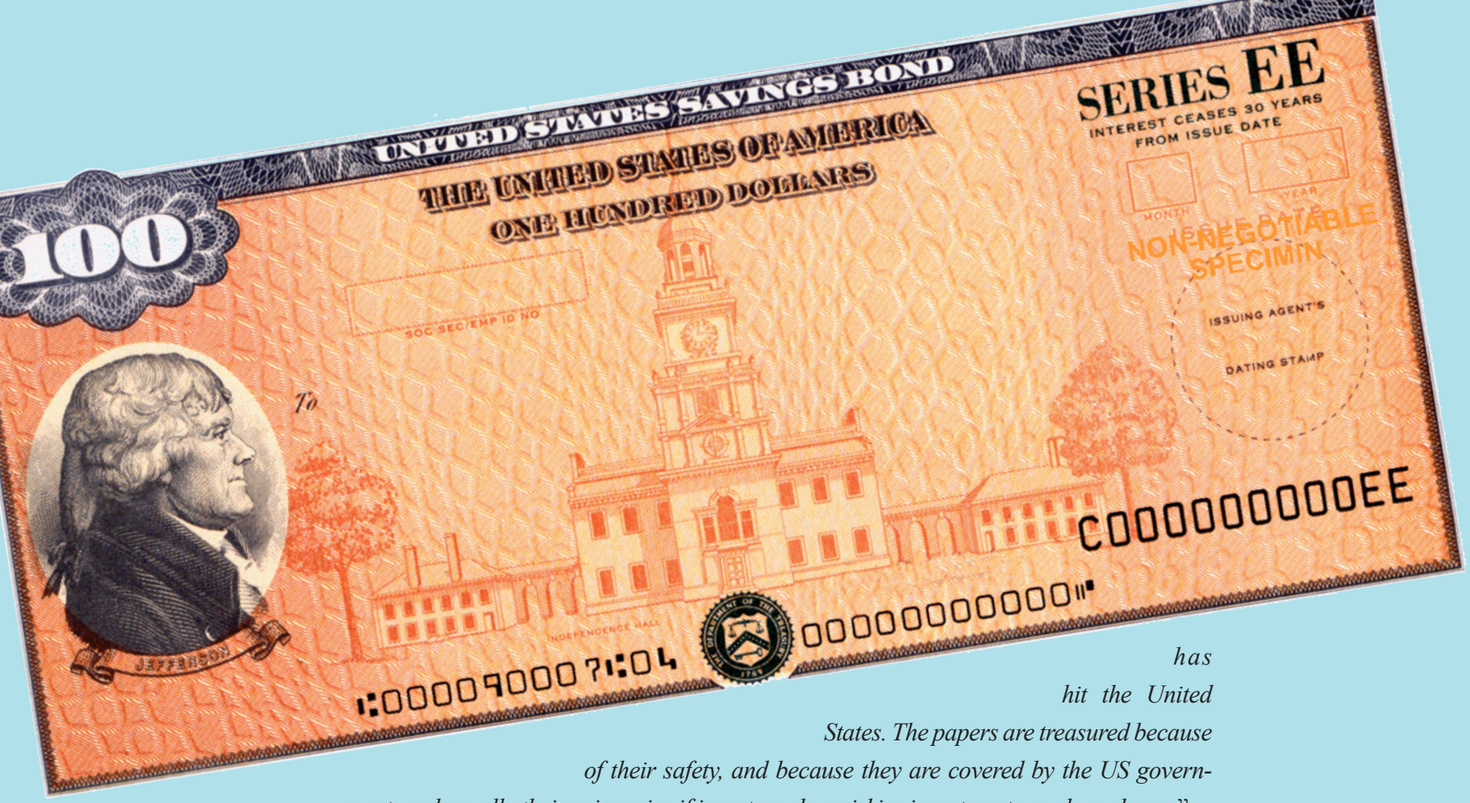
So I think if you ask Cui Bono on 911, one of the big categories was all the people who made money on engineering the popular fear they needed to engineer these wars. I believe whether it was financial fraud, engineering new laws or engineering wars, it was a fantastically profitable covert operation.

In that category of people who benefit from 911 are also the arms manufacturer Raytheon, whose share price gained directly from the 911 attacks. Trading of the shares of Raytheon, the producer of Tomahawk and Patriot missiles (*and parent company of E-systems, whose clients include the National Security Agency and CIA*), experienced an abrupt six-time increase of call option purchases on the day immediately before September 11.

The outright purchase of call options implies the expectation that a stock price will rise. In the first week after 911, when the New York Stock Exchange opened again, the value of Raytheon actually shot up considerably. Looking at the development of the stock price, the impression is a very weak performance before the attacks – and then, after resumption of trade, a "*gap*" (*at substantial volume*) upwards. In other words: just under $25 on September 10, the low in the period between August 20 to September 28, at $31.50 on September 17 and up to $34.80 on September 27, 2001.

With regards to government bonds, buyers of US Treasury securities with a maturity of five years were also winners. These securities were traded in an unusually large volume shortly before the attacks. The Wall Street Journal reported at least in early October 2001 that the Secret Service had started an investigation into a suspiciously high volume of US government bond purchases before the attacks. The Wall Street Journal explained:

"*Five-year Treasury bills are the best investments in the event of a global crisis, in particular one like this which*



has hit the United States. The papers are treasured because of their safety, and because they are covered by the US government, and usually their prices rise if investors shun riskier investments, such as shares."

Adding to this phenomenon, the government issues these bonds that serve as a basis of money creation for funding a war such as the immediately declared "*war on terror*", engaging the Tomahawks from Raytheon. And here it may again be useful to have a quick look at the "*cui bono*" relationship:

The US Federal Reserve creates money to fund the war and lends it to the American government. The American government in turn must pay interest on the money they borrow from the Central Bank to fund the war. The greater the war appropriations, the greater the profits are for bankers.

A multi-layered combination, one could say.

I also talked about the topic of 911 insider trading with one of the world's leading practitioners at the interface between the international capital markets, the national security policy of the US as well as geopolitics, James G Rickards. He gave me some answers in a personal discussion, which I am allowed to repeat here with his expressed approval:

Question: Did suspicious trading activities of uncovered put options on futures markets occur shortly before 911?

James G Rickards: Well, the trading documents certainly look suspicious.

It is simply a fact that an unusually high volume of purchases of put-options for the two airlines occurred over the three trading days before the attacks. This is a mere fact, no speculation, no guessing around. This is clearly obvious from the documents of the trading sessions on the derivatives exchanges.

Question: Do you think that the intelligence agencies could have got a warning signal based on this information?

James G Rickards: Theoretically that is possible, if are you are looking and watching out for this. But there was far more significant information, which was ignored.

Question: Do you also think that some people with foreknowledge operated speculatively in the option markets?

James G Rickards: Based on the documentation of the trading session it seems that this has been the case, yes.
Let's sum up a bit at the end. We have, among other things:

- The "nice detective work" by Kevin Ryan related to Stratesec/Wirt Walker III.
- Some highly inconsistent information vis-a-vis Convar/illegal credit card transactions.
- Scientific papers supporting the allegations that there were indeed unusual trading activities in the option market before the terrorist attacks of 911, although the 911 Commission (*based on the investigation of the SEC and the FBI*) ruled that possibility out.

As it became clear that I would publish this article here at Asia Times Online, I contacted the US Federal Bureau of Investigation via its press spokesman Paul Bresson in order "*to give the FBI the opportunity to give a public statement with regards to three specific issues*". Those three specific issues were the ones I have just highlighted. Related to each of them I've asked Mr Bresson/the FBI: "*Could you comment on this for the public, please?*" Up to this moment, Mr Bresson/the FBI did not respond to my inquiry in any way whatsoever. Does this come as a surprise?

I've also got back in touch with "*ars publicandi*", the firm that does public relations for Convar in Germany. The response said: "*Unfortunately I have to inform you that the status has not changed, and that Convar considers the issue of 911 as dead in general*."

As you have read, the status in August of last year was slightly different.

At the end of this article, I should perhaps mention that this research ultimately led to negative consequences for

me. After I contacted the FBI, I was informed by the publisher of a German financial website, for which I conducted interviews for a professional fee (*and had already prepared more work*), that no further cooperation was possible. Now that I will come in one way or another into the focus of the FBI, any association with me would be undesirable.

Well, you know the rules.

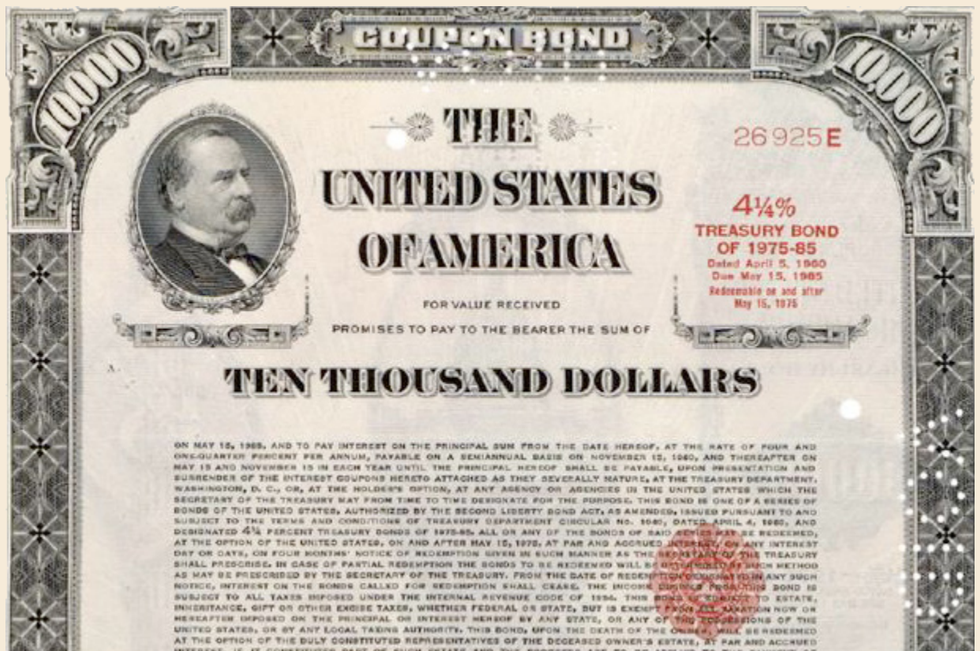
As far as the abnormal option trades around 911 are concerned,
I want to give Max Keiser the last word in order to point out the significance of the story.

Max Keiser:

Regardless of who did it, we can know that more than a few had advance warning –
the trading in the option market makes that clear.

References:

[1] Compare Michael C. Ruppert: "Crossing the Rubicon: The Decline of the American Empire at the End of the Age Of Oil", New Society Publishers, Gabriola Island, 2004, page 152.
[2] Ibid., page 153.
[3] Ibid., page 154 – 155.
[4] Ibid., page 170.
[5] Ibid., page 238 – 253: "9/11 Insider Trading, or 'You Didn't Really See That, Even Though We Saw It.'"
[6] Ibid., page 239.
[7] Compare Chris Blackhurst: "Mystery of terror 'insider dealers'", published at The Independent on October 4, 2001 under:
http://www.independent.co.uk/news/business/news/mystery-of-terror-insider-dealers-631325.html
[8] Compare "Profits of Death", published at From the Wilderness on December 6, 2001 under:
http://www.fromthewilderness.com/free/ww3/12_06_01_death_profits_pt1.html
[9] For the fact, that it was George Tenet who recruited Krongard, compare George Tenet: "At the Center of the Storm", Harper Collins, New York, 2007, page 19.
[10] Compare Marc Chesney, Remo Crameri and Loriano Mancini: "Detecting Informed Trading Activities in the Option Markets", University of Zurich, April 2010, online at:
http://www.bf.uzh.ch/publikationen/pdf/publ_2098.pdf
[11] Nafeez M. Ahmed: „Geheimsache 09/11. Hintergründe über den 11. September und die Logik amerikanischer Machtpolitik", Goldmann Verlag, Munich, 2004, page 182. (Translated back into English from German.)
[12] Compare Michael C. Ruppert: "Crossing the Rubicon", page 244 – 247.
[13] Wing-Keung Wong, Howard E. Thompson und Kweehong Teh: "Was there Abnormal Trading in the S&P 500 Index Options Prior to the September 11 Attacks?", published at Social Sciences Research Network, April 2010, under:
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1588523
[14] Compare "Bank of America among 38 stocks in SEC's attack probe", published at Bloomberg News on October 3, 2001, archived under:
http://911research.wtc7.net/cache/sept11/bloombberg_BAamong38.html
[15] Michael C. Ruppert: "Crossing the Rubicon", page 243.
[16] Ibid.
[17] "Suppressed Details of Criminal Insider Trading Lead Directly into the CIA's Highest Ranks", published at From the Wilderness on October 9, 2001 under:
http://www.fromthewilderness.com/free/ww3/10_09_01_krongard.html
[18] Compare "Early September 2001: Almost Irrefutable Proof of Insider Trading in Germany", published at History Commons under:
http://www.historycommons.org/entity.jsp?entity=ernst_welteke
[19] Allen M. Poteshman: "Unusual Option Market Activity and the Terrorist Attacks of September 11, 2001", published in The Journal of Business, University of Chicago Press, 2006, Vol. 79, Edition 4, page 1703-1726.
[20] Wing-Keung Wong, Howard E. Thompson und Kweehong Teh: "Was there Abnormal Trading in the S&P 500 Index Options Prior to the September 11 Attacks?", see endnote 13.
[21] Ibid. The authors refer to Erin E. Arvedlund: "Follow the money: terrorist conspirators could have profited more from fall of entire market than single stocks", published in Barron's on October 8, 2001.
[22] Wong, Thompson, Teh: "Was there Abnormal Trading in the S&P 500 Index Options Prior to the September 11 Attacks?"
[23] Ibid.
[24] Ibid.
[25] Marina Alcaraz: "11 septembre 2001: des volumes inhabituels sur les options peu avant l'attentat", published in Les Echos, page 34, September 10, 2001, online at:
http://archives.lesechos.fr/archives/2007/LesEchos/20001-166-ECH.htm
[26] Marc Chesney, Remo Crameri and Loriano Mancini: "Detecting Informed Trading Activities in the Option Markets", see endnote 10.
[27] Ibid.
[28] ibid.
[29] Ibid.
[30] Compare Marc Chesney, Remo Crameri and Loriano Mancini: "Detecting Informed Trading Activities in the Option Markets", published at the University of Zurich on September 7, 2011 under: http://www.bf.uzh.ch/publikationen/pdf/2098.pdf
[31] Vgl. Lars Schall: "Sapere Aude!", German Interview with Dr. Daniele Ganser, published at LarsSchall.com on August 18, 2011 under:
http://www.larsschall.com/2011/08/18/%E2%80%9Csapere-aude%E2%80%9C/
[32] Compare a copy of the letter by the SEC on MaxKeiser.com under:
http://maxkeiser.com/wp-content/uploads/2010/06/FOIAresponseGIF1.gif
[33] Compare related to this agreement Matt Taibbi: "Is the SEC Covering Up Wall Street Crimes?", published at Rolling Stone on August 17, 2011 under:
http://www.rollingstone.com/politics/news/is-the-sec-covering-up-wall-streetcrimes-20110817
[34] Mark H. Gaffney: "Black 9/11: A Walk on the Dark Side", published at Foreign Policy Journal on March 2, 2011 under:
http://www.foreignpolicyjournal.com/2011/03/02/black-911-a-walk-on-the-dark-side-2/2/
[35] Compare Peter Dale Scott: "Launching the U.S. Terror War: the CIA, 9/11, Afghanistan, and Central Asia", The Asia-Pacific Journal, Vol 10, Issue 12, No 3, March 19, 2012, online at: http://japanfocus.org/-Peter_Dale-Scott/3723
[35] Erik Kirschbaum: "German Firm Probes Last-Minute World Trade Center Transactions", published at Reuters on December 19, 2001, online at:
http://www.naderlibrary.com/911.germanfirmprobeslastminutewtctrans.htm
[36] Ibid.
[37] Ibid.
[38] Michael C. Ruppert: "Crossing the Rubicon", page 244.
[39] Ibid., page 423.
[40] Ibid., page 423 – 426.
[41] Commission Memorandum: "FBI Briefing on Trading", dated August 18, 2003, page 12, online at: http://media.nara.gov/9-11/MFR/t-0148-911MFR-00269.pdf



[42] Lars Schall: "9/11 Was A Fantastically Profitable Covert Operation", Interview with Catherine Austin Fitts, published at LarsSchall.com on September 3, 2011 under:
http://www.larsschall.com/2011/09/03/911-was-a-fantastically-profitable-covert-operation/
[43] Ibid. Compare further related to the "cui bono" topic Catherine Austin Fitts: "9-11 Profiteering: A Framework for Building the 'Cui Bono?'", published at GlobalResearch on March 22, 2004 under: http://www.globalresearch.ca/articles/FIT403A.html
[44] Lars Schall: "9/11 Was A Fantastically Profitable Covert Operation", see endnote 42.
[45] Compare "Bank of America among 38 stocks in SEC's attack probe", see endnote 14. "A Raytheon option that makes money if shares are more than $25 each had 232 options contracts traded on the day before the attacks, almost six times the total number of trades that had occurred before that day. A contract represents options on 100 shares. Raytheon shares soared almost 37 percent to $34.04 during the first week of post-attack U.S. trading."
[46] Compare Barry Grey: "Suspicious trading points to advance knowledge by big investors of September 11 attacks", published at World Socialist Web Site on October 5, 2001 under:
http://www.wsws.org/articles/2001/oct2001/bond-o05.shtml
[47] J. S. Kim: "Inside the Illusory Empire of the Banking Commodity Con Game", published at The Underground Investor on October 19, 2010 under:
http://www.theundergroundinvestor.com/2010/10/inside-the-illusory-empire-of-the-banking-commodity-con-game/

THE STEEL INVENTORY

The total weight of these buildings was incredible and this means they were, the box columns, I-beams and floors always under constant stress. A millisecond or so of heat from a very, very small nuclear device would create the type of collapse we saw and would account for every anomaly, not some, not most, all of them. Each and every one of them.

The total weight of each Tower is widely quoted as 500,000 tons (*tons taken to be short US tons unless otherwise stated*). This would include the seven basement levels, but not the underground Plaza complex or ancillary buildings outside each Tower's footprint of slightly under an acre. It was said that the attacks left 1.2 million tons of steel, concrete, and glass on the ground. This would also include 7WTC and structure damage to buildings such as St Nicholas Greek Orthodox Church. Some reports claim 1.5 million tons for "the WTC" or "The Towers"; presumably this would include the whole complex above and below ground. The total debris removed by July 2002 was said to be over 1.6 million tons, including north of Vesey Street where 7WTC had stood.

The air conditioning equipment alone weighed 49,000 tons, with 60,000 tons of cooling capacity. Much of this would not be included in the 500,000 tons per Tower, as it was contained under the central Plaza. The 4th basement level contained the 2.5 acre refrigeration plant, with intake and outflow pipes running to the Hudson river 1,500 feet away. But some 100,000 supply and return air-conditioning outlets, and 24,000 induction units, were installed within the Towers.

The total weight of steel within each Tower is generally quoted at 86,000 to 100,000 tons. NIST published an incomplete, though useful, inventory in an interim report on structural steel specifications (*appendix E, Table E-10, source Feld 1971*), showing the various steel contracts for the WTC construction. The total - excluding items such as grillages, floor trusses, and steel decking - came to 158,200 tons or 79,100 tons per Tower as below:

- 55,800 Exterior columns and spandrels, 9th to 107th floor
- 25,900 Rolled columns and beams above 9th floor, in cores;
- 6,800 Perimeter bifurcation columns (trees) 4th to 9th floor
- 13,600 Perimeter box cols. below the bifurcation cols. to 4th floor
- 13,000 Core box columns below the 9th floor
- 31,100 Core box columns above 9th floor and built-up beams
- 12,000 Support for slabs below grade

- 158,200 Total

(*The "141,170" total listed by NIST appears to be an error. And it seems reasonable to count all of Levinson's 12,000 tons of below-grade 14WF sections as being within the Towers' footprints, rather than partly used for the sub-Plaza area. The Attachment 1 annex lists the 12,000 tons and Plaza separately.*)

Calculation of the weight of steel decking is quite straightforward, although the corrugations lead to an error bound of a few hundred tons per Tower.

The core area 137’ x 87’ is 11,919 ft^2 or 1,107 m^2 out of 208’ x 208’ which is 43,264 ft^2 or 4,019 m^2, making it 27.5% of the total floor area. However, 50% of the core area was typically taken up by services such as elevator shafts and stairwells (*from NIST appendix E, fig. E-7*). The sky lobbies were on the 44th and 78th floors. If we assume 50% as the fraction of the core area lost to shafts over the middle stories, the upper floors above the floor 78 sky lobby gained core space by losing 11 or 12 express elevator shafts, and the lower floors up to about the 44th lost core space to a similar number of extra shafts. So when we come to consider the fire zone floors of 1WTC, which were all clearly in the upper section, they would have lost about 40% of core floor space.

(*One source quotes 13% as the proportion of the total area occupied by elevator shafts. This equates to 47% of the core area, and stairwells would add a little to this. If 56 elevator shafts take up 522 m^2, then 11 or 12 shafts account for some 107 m^2, which is about 10% of the core area*.)

Floors 9 to 106, excluding four floors housing heavy mechanical equipment (*41, 42, 75, and 76*) and the floors above (*43 and 77*), incorporated 4 inch thick lightweight concrete poured on 22-gauge, 1.5” fluted non-composite steel decking with composite floor trusses outside the 137’ x 87’ core area. Extension of the truss diagonals above the top chord provided a shear connection and composite behaviour with the concrete. Within the core, these regular floors featured 5” thick normal-weight concrete slabs on 1.5” fluted steel deck, supported by rolled steel structural shapes acting compositely with the slabs. The mechanical floors and floors 43 and 77 employed rolled steel structural shape framing throughout, typically wide flange “W-shapes” (*shaped like an ‘H’*). Normal-weight concrete was poured onto 1.5” fluted steel deck, acting compositely with the steel beams. On the four mechanical floors slab thickness was 5.75”; on floors 43 and 77 the concrete was 8” thick within the core and 7.75” thick outside.

Floors 107 to 110 were also used for mechanical services, although apparently were not double-height storeys. Details of the flooring was not provided by FEMA. NIST (*Appendix D*) has tables of dead and live loads which indicate a slab thickness (*normal-weight*) ranging from 5.5 to 8 inches.

22-gauge steel is 0.0299 inches thick. According to the drawing (FEMA Chapter 2, Fig. 2-9) which is not totally to scale, each flute has the steel plate diverting diagonally by going up 3/2” and across 1/2”, and then down 3/2” and across 1/2”, rather than simply continuing horizontally for 1”. Each diagonal is SQR[(1/2)^2 + (3/2)^2] = 1.581”. So the total additional length along the axis perpendicular to the double trusses is 2 * (1.581” - 1/2”) = 2.162” per flute. Assuming 17 flutes between each double truss, i.e. every 6’ 8”, there is an extra 17 * 2.162 per 80 length units or 45.9%.

Most diagrams and description of steel decking imply that the corrugations only add about 10% to 25% to the area or volume. The average floor had 4019 - 1107 / 2 = 3465 m^2 of decking. Taking the density to be 7860 kg/m^3 and allowing a compromise figure of 30% extra for the corrugations, a single floor contained 7860 * 1.3 * (*0.0299 / 39.37*) * 3465 / 907.2 = 29.64 tons of steel decking.

Details of the lower floors are rather sparse. If we allow for 102 floors (*from 9 to 110*), these collectively contained 3023 tons of decking, which raises the NIST incomplete total from 79,100 to 82,123 tons of steel in each building with further calculations bringing us closer to 86,000 tons per building.

these buildings were massive and energetic compounds but particularly a compound with a velocity in the 300mps range; very, very slow and also the specific compound in Dr. Jones’ possession, couldn’t possibly have caused the demolition of these towers alone and without a nuclear connection.

END NOTES • PARTING SHOTS

911 METEORS AND OTHER RARELY SEEN IMAGES


BRER - FOUR
Transportation
1

The bolts (left) are holding up well but where's the front end of this truck?

This steel is ripped by force,
not cut with energetic compounds.

this is not an apple. this is not an orange. this is a nuclear demolition.

Nine Eleven Pepsi

COLLAPSE SEQUENCE

Building 7, seen below, is a 47-story building that dropped into its own footprint in less than 10 seconds to a pile 40-60 feet tall. The building once approached 500 feet in height. On the following pages you'll find the collapse sequence for one of the Twin Towers.













This all happened to each building in less than ten seconds. With an energetic compound the time to demolish every ten floors is less than one second. With an ignition and rapid burn rate in the millisecond range this is possible but we'd see melted steel at all the box column ends and we'd see cracks and stress marks on all of the heavily bent box columns. The total heat generated would not have been enough, for a long enough period of time, to bend the box columns into the u-shapes seen. Most importantly, Dr. Jones' compound has a velocity estimated by Dr. Harrit as 300 meters per second while RDX, TNT and HMX are in the 8,500 to 9,000mps range. The thermite 'discovered' by Dr. Jones simply doesn't have the velocity to demolish the buildings as we saw them demolished.

We also wouldn't see anomalous increases in uranium, vanadium, zinc, sodium, potassium, thorium, tritium and other elements intimately related to a nuclear event.

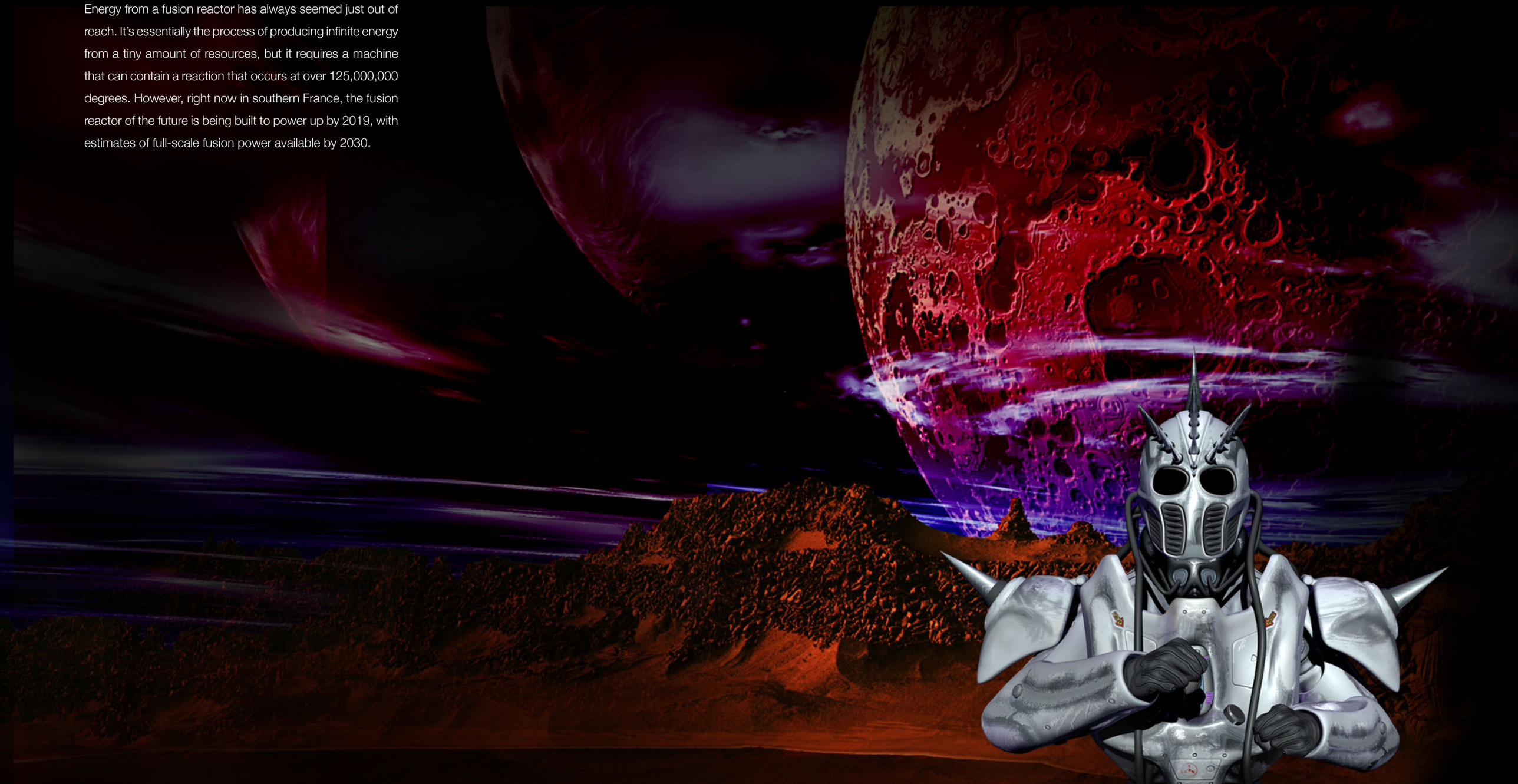
We don't see burns or melted metal or melted steel on the girders. In the first pictures of Ground Zero taken before any clean-up had begun while First Responders were still searching with their trusted now deceased dogs for still living human bodies; we see no evidence of explosives or incendiaries. We see melted, molten metal below ground.

We do see the results of as much as 10,000,000 degrees or more for just a millisecond or so. This would cause floor truss bolts an inch or two in diameter, or more, to be '*missing in action*' with no apparent explosive or nano-energetic compound signs on their flanges. The bolt holes are ripped open, the bolts sheared off. No melting or apparent explosive residue. But 10 million degrees for 1 or 2 milliseconds or so would have caused total failure with all the parts remaining pretty much intact. Except of course for those U-shaped structural steel box column girders. They were heated to millions of degrees for a millisecond or so and the weight they were supporting caused immediate and total building failure without a crack, a rip, a tear or a mark on the long or short bent radii. Only a nuclear demolition makes sense. An energetic compound simply can't heat up quickly enough, for a long enough period of time to cause a 2.5 inch structural steel box column to bend like a horseshoe without leaving forensic signs. The paid acceleration and deceleration of heat in a nuclear explosion, from 0 to 10 million degrees in milliseconds makes sense here for building failure. Just as fast as the heat was generated it dissipates. For illustrative purposes only and not using exact figures at all, if the nuclear explosive device were small enough the point from Ground Zero to 25 feet out might experience heat in excess of 10 million degrees. From 25 feet to 75 feet the temperatures might be in the 300,000 degree range. From 75 feet to 125 feet the temperatures could reduce to approximately 3,000 degrees and then outside the 125 foot mark and up to 175 feet the temperatures would reach just 300 degrees. All for just a millisecond. People vaporized. Others just steps further away felt the heat and witnessed the vaporizations.

Welded joints would fail. Concrete would return to it's primary constituents being calcined to micron-sized dust, cars would spontaneously burst into flames, people would vaporize if they were within certain zones or radii of the explosion. The concrete would turn to dust along with everything else. No computers, no desks, no chairs were found. But far more important is that no toilets or urinals were found. Porcelain and ceramics should have been found regardless of what type of building demolition this was. Conventional explosives, jet fuel, energetic compounds, energetic nano compounds and energetic explosive nano compounds would have all left toilets and urinals, or at least parts, pieces or chips of the porcelain and/or ceramics. None were found. What happened to 1000s of toilets, urinals, sinks and other fixtures that should have shown up, at least in parts and pieces? 911 was nuclear, that's what happened ...

Nuclear Nano-Tech Is Not Safe For Children And All Living Creatures

Energy from a fusion reactor has always seemed just out of reach. It's essentially the process of producing infinite energy from a tiny amount of resources, but it requires a machine that can contain a reaction that occurs at over 125,000,000 degrees. However, right now in southern France, the fusion reactor of the future is being built to power up by 2019, with estimates of full-scale fusion power available by 2030.



STOP
NUCLEAR
NANO
TECH

THE GREAT DIVIDE

The 911 truth movement is forever divided, disrupted and rendered useless by a system specifically designed to suppress the truth and propagate systemic frauds.

There are planers, no planers, hijackers, no hijackers, passengers, no passengers, thermite, nuclear and space beam weapons enthusiasts who believe their chosen dogma no less then an enthusiastic man of the cloth. Science is complicated. Beliefs are simple but generally lacking science.

(BNN - May 29, 2007 - Duluth, MN) - Cindy Sheehan, anti-war mom of a soldier killed in Iraq "f*or nothing*", today left the anti-war movement.

Once a proud and courageous symbol of the fight to end the Iraq war, Sheehan was the Left's symbol of courage, moral authority, and the antiwar movement's Joan of Arc. But no more. Cindy Sheehan has been shunned by her comrades on the Left. She came to realize that the anti-war left had been using her all along - and committed the mortal sin of saying so. Cindy Sheehan in her personal grief and torment was but a "useful idiot" to the Left, useful for the anti-war movement's political objectives.

"Yesterday she violated Rule One of nutroots politics as articulated by the Chairman himself: she undermined the Democratic Party. Twenty-four abusive hours later, on a day dedicated to honor people like her son, Mother Sheehan's decided it's time to pitch one last attention-getting fit and then take her absolute moral authority ball and go home," says Allahpundit

Many saw it coming.

"*When a mother looses a son, preeminent in the psychology of grief is the emotion of anger and rage. This is the phenomenon that we are currently experiencing with Cindy Sheehan, a woman whose son died in Iraq, a mother in crisis being manipulated by political forces with little regard concerning her emotional health.*" This according to Robert R. Butterworth, Ph.D. a psychologist that specializes in trauma. Dr. Butterworth feels that Ms. Sheehan is delaying the grieving process concerning her son and will be destitute when the media move on to the next story and she is forgotten and left alone. Butterworth feels that in is unconscionable for political forces, regardless of their positions to take advantage of mothers who are grieving for their sons both for and against the Iraq war.

Jim Fetzer, once the darling of the 9/11 Truth Movement, saw it coming too. From his redoubt in Duluth, MN, Fetzer told reporters, "*I feel Cindy's pain. I too was shunned, tossed aside by the 9/11 Truth Movement like so much raw pork.*" Fetzer has been mercilessly attacked by 9/11 Truthers for looking at alternative theories about the 9/11 attacks. Fetzer is currently working with co-conspirator Dr. Judy Wood on the likelihood that the World Trade Center towers were destroyed by Star Wars Beam Weapons.

Ever since 9/11 Truther and jingoist Jon Gold attacked Fetzer as "*a real porke*r", the attacks have increased. "*The reality is that this movement is tired of you. You do not speak anymore for this movement...,*" Jon Gold wrote to Dr. Fetzer.

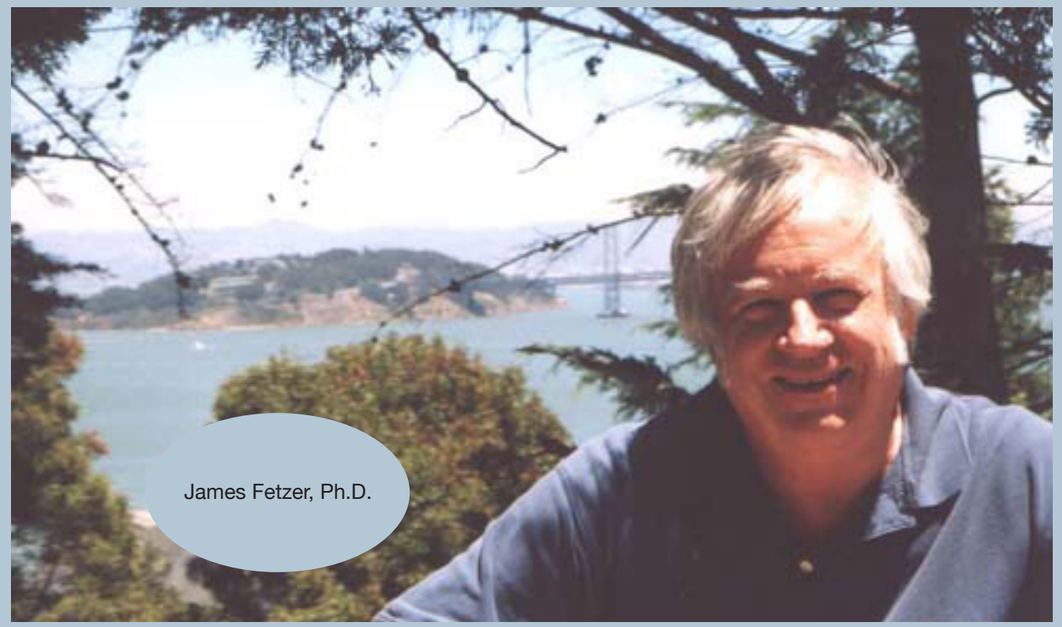
Fetzer says that "media whores Dylan Avery, Jason Bermas, and Korey Rowe are next to be discarded from the 9/11 Truth Movement like plucked chickens."

"*These kids are intoxicated with themselves, with celebrities and with video games. They are clueless about the real world and believe the official 911 Truth Movement story is the holy grail and their ticket to God-knows-where.*"

"*And they lip-sync on 'Loose Change' like Milli Vanilli*."

Personally I'm with Jim on most of these issues. While I don't believe Dr. Woods is using a logical scientific methodology that can also be proven one way or the other I do believe in investigating every aspect of the events surrounding 911 bar none.

While my focus has been specifically on the dust for the last several years I also spent several more years looking carefully and thoroughly at the global financial forensics. These are two complex, intricately detailed, knotty, thorny and convoluted areas of widely separate study with very intimate and unusual connections and I know of few people that have been willing to tackle either let alone both.



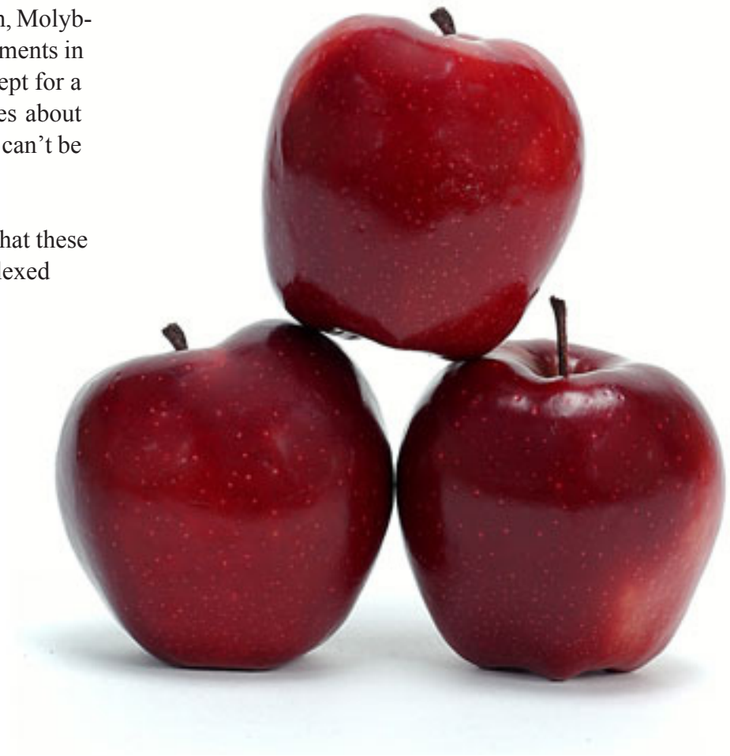
While I've spent my time now, about 10 years, on everything from planes to no planes, cell calls to no cell calls, dead hijackers to alive and living, breathing hijackers, thermite, thermate, super thermite, nanoenergetics, and every element from Antimony to Yttrium, I still find the dust analyses the best evidence in what is and always will be a crime of vast proportions and even greater consequences.

The dust, and the chemistry and physics associated with understanding what the various element levels mean, for example exploring the reasoning behind the anomalous Sodium and Potassium levels, far too high to be connected in any way to a building demolition, is something I find fascinating. The same is

true for the Tritium, Thorium and Uranium levels. They can't be explained away with theories because their levels across lower Manhattan are unexplainable by mainstream science by anything other than a nuclear event. Lithium, Lanthanum, Yttrium, Cerium, Molybdenum, Vanadium, Zinc and other elements in the dust can't be explained either except for a nuclear event and they speak volumes about what happened that day. They simply can't be ignored.

The unfortunate problem we have is that these issues are an aggregation, a multiplexed and elaborate scheme of sciences and technologies that the average person has little working understanding of and even less desire to perform the difficult and time consuming 'work' of reading chemistry and physics books for months and then years on end. People don't have that kind of time.

For those of you without the time there's this book and the numerous links within.



DUST

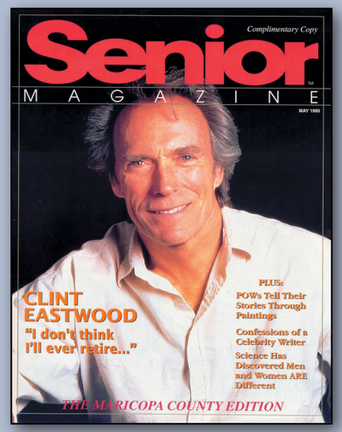
ZOOM

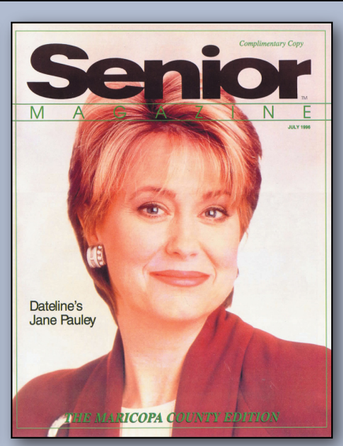

ZOOM

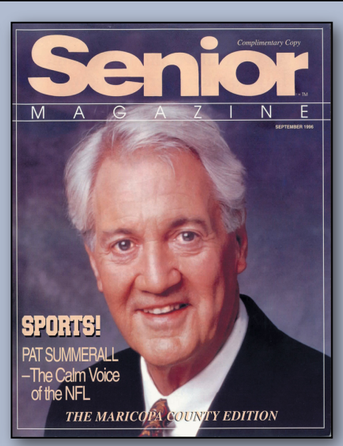
Meanwhile, the elite get a pass and vacation on the beaches of Tel Aviv (*below*), Dubai and Monaco

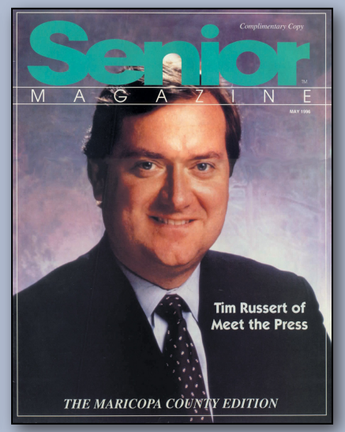
I WAS A SHEEPLE, ONCE

I am the former founder and publisher, retired, of an award winning magazine for senior citizens, Senior Magazine Arizona. This is me (*below left*) interviewing the late Senator Barry Goldwater in 1996, two years before his death. Issues of my magazine are below. This was the senators last public interview. He was exhausted after almost 3 hours with me because he did most of the talking, which was a great pleasure for me. I felt extraordinarily fortunate to be speaking with this 87 year-old statesman who participated in and was privy to much that happened in the history of our country. I had interviewed many others but none with this 87 year-old's constant, consistent and tremendously tenacious impact across our society and all social strata of our structure.









I published that interview in October of 1996 I believe it was. He walked in on crutches after two hip replacements of course, assisted by a nurse/aid, and there we sat alone with the exception of my photographer who snapped 200 pics while we discussed the senators youth.

We talked about growing up in Phoenix between 1919 and 1927 when he was between 10 and 18 years old and we talked about his love for and his history with Ham radio. He once shipped an iron lung, he and his Mom, via train and ship from Phoenix to South America and then on the backs of donkeys up a steep mountain trail through the jungle to a nunnery in a remote area of Nicaragua, I believe it was. Don't quote me on the particular country. He met the nuns on his Ham radio. They didn't know who he was. Just 'Barry' to them. And he wanted it that way. He was just Barry on the Ham radio...

He used to hold the solder, after walking along the canal on his way home from school, for the guys building the first radio station in Phoenix. They let him hold the solder. Senator Barry Goldwater at 14 years old. The interview was granted because I promised not to discuss politics. He wanted to discuss something of importance and convey that quality with eloquence. So we discussed life as it once was.

ABOUT ME
THE WHOLE TRUTH
NOTHING BUT THE TRUTH

I bought two new dress shirts and four pair of socks on the way home that evening even though I already had two or three with the labels still on them hanging in the closet and maybe 100 pairs of socks. My concerns at that time were with raising my daughter as a single parent, my business, clothes, my house, my car and money; just stuff. Earning money. As much as possible. I was the ultimate consumer of corporate goods. I was a sheeple; a master sheeple.

I have several arrests for very small amounts of marijuana behind me, I owe child support and was arrested more than 25 years ago as a manager in a telemarketing company for fraud. I'm no angel. I tell you this should my integrity be questioned so I want this out in the open and to establish a few facts.

911 is of the utmost importance to me personally and I simply want to know how the event, the Twin Tower demolition in particular, was managed. Those past events in my personal life, considering the references I use in this text herein, should be immaterial. They are to me. We all make mistakes. Those that use this type of information about me to discredit me only discredit themselves.

MEXICO
THE PATH HERE

In 2005 I retired and moved to a small beach community on the Sea Of Cortez; Puerto Penasco, Mexico, to sit and think. I lived there for almost 3 years on and off and traveled back and forth to the states frequently on day trips. One didn't need a passport then and where I went, Puerto Penasco, had only one lonely lane headed in. Then it was another 100km from the border through

a surreal moon-like desert and volcanic landscape which ended at an isolated little fishing community where the internet speed made ours look like molasses in spite of the fact that most of the roads are dirt. Some are deep sand. Needing to be careful where you drive is an understatement, unless you have 4 people in the back seat to push you out of the occasional dune. I drove a red 4-wheel-drive Dodge Ram 1500 (*above right*) and still buried myself to the chassis 3 or 4 times in some remote, desolate area. Yet life in Mexico was the best.

Penasco is Al Capone and Jim Thompson's old hangout. They built a casino, a hotel and drilled a well for fresh water in the 1920s in Penasco and flew wealthy Hollywood starlets, politicians and other elite down to gamble, drink, smoke pot and have fun in the sun in this sleepy little Mexican fishing village. I've always felt more at home in Puerto Penasco than anywhere else. Of course I had been going there on weekends for over 20 years. Jim and Al were eventually evicted from Mexico at gun point. I left voluntarily to come back to the states. I still don't know why I made such a foolish decision. Old age maybe? Google Jim Thompson, Al Capone and Puerto Penasco.

Life in Mexico was idyllic and the food was clean and cheap. The fish, well, it can't be described in words. And the internet rocked. The speed of sound, almost. And there were never people on the beaches if you lived there like I did and knew where to go. Life was unlike life here in every imaginable way I'm sorry to have to say that. I experienced freedom, real liberty, for the first time in my life.

I was an illegal alien in Mexico after 6 months and when I went to the Emergency Room one day they wouldn't charge me. I tried to pay in dollars and then pesos and they wouldn't hear of it. But they did treat me exceptionally well and the facilities were at least as clean and well equipped as here in the USA and 'Rocky Point' as it's normally called is a very small community of just 45,000 people.

I sat on deserted beaches most every day. I spent time with many friends there and relaxed, for once in my whole life, without a care in the world ...

Eventually I recognized that the world wasn't what I had thought it was for almost 50 years and that realization was heartbreaking. Everything, bar none, was a lie. That was also the beginning of a very long and arduous journey that encompassed a total of 8 years. I had decided to spend my full-time efforts investigating 911 and after 8 years and as many books I feel confident that this book solves the demolition of the Twin Towers.

.

911 happened in my lifetime and I was an adult and I happened to be home with the television on and saw everything broadcast for the next several hours, glued to the TV as any sheeple would be. I do remember the media broadcasts that day and their themes. The reports were inconsistent. Puzzling. Sitting on the beach for extended periods can end up being more then troublesome...

A DIFFERENT PERSPECTIVE

The forensic financials were my original focus leading to 4 books that '*followed the money*,' so to speak. I didn't want to parrot the views of others; I wanted to perform an independent investigation. This led to 4 books that solved the 'who' and the 'why' of 911. I then decided to consider all of the evidence within certain parameters without considering the final conclusions of anyone else but, rather, considering all of their conclusions while still developing my own personalized and autonomous convictions and sentiment regarding the details of the demolition of the Twin Towers. I made a personal oath not to use video to develop my assertions although there is one video link in this text. I think it's a relatively unimportant video and inconsequential overall and it's not necessary to watch it to understand this story nor does it define any of the assertions within this text.

I also decided to use only technical data from the best possible sources such as Lawrence Livermore National Laboratories, Sandia, Oak Ridge, the USGS, UC Delta Davis Group, Perdue University Physics Department and many other similar sources noted and cited herein.

That strategy led me on a multi-year, often grueling, always tedious and generally exciting quest. What I learned a very, very tiny bit about besides a new language (*physics*) is that physics and chemistry are as easy as changing a tire, which isn't so easy for a 50+ year-old guy with a bad back. Yet I'd rather do this than change a tire every day. The result has been a dozen books on 911. Ground-breaking books unlike any others written on this subject. My forensic financial investigation is a staggering synopsis of reality.

It's my sincere hope that this free eMagazine (*all 20+ books I've penned are free, as the truth should be*) will cause you to think and more importantly per-

haps it will cause you to stop believing what others say regarding 911, including me, and that you might begin investigating the technical details of this event on your own. All of the data is out there on the internet and the evidence is in the dust. This eMagazine would be 25,000 pages if I provided it all so there's much more for you to learn then just what's within the pages of this eMagazine.

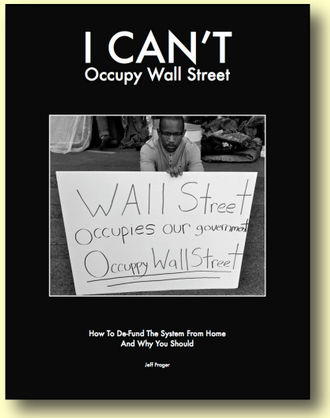
At top right - Al Capones' home, called "Stone House" today, sits on the beach in Puerto Penasco, unoccupied, unused, unseen. At bottom right - the beach at Desemboque showing some local fisherman headed out to catch some lunch.

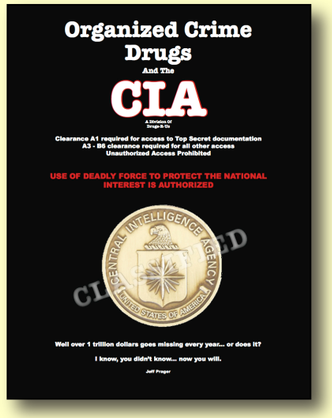
I believe every word I've written. I don't have any great expectations towards living to see an independent investigation. I believe the overall conclusions within this text are accurate. And yes, there are typos. This is a one-man operation and when my cat can proof read and correct typos, look out...

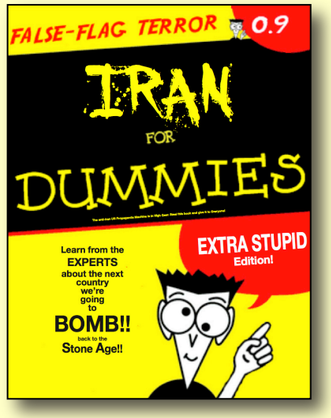
911 was a nuclear event

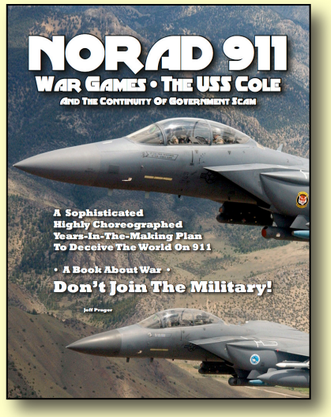
Me and my cat about a year ago.

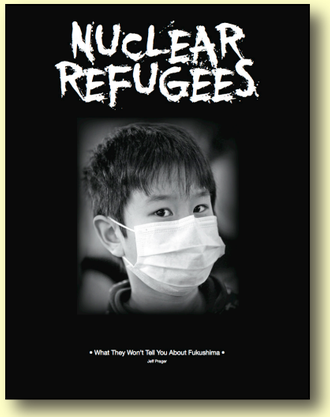
Peace

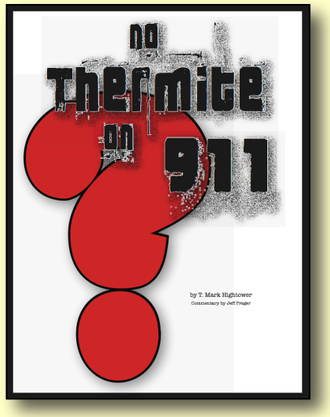


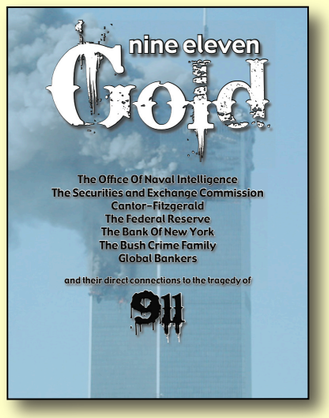


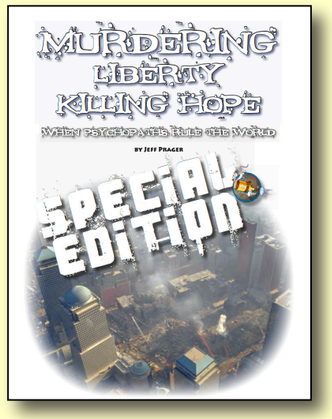


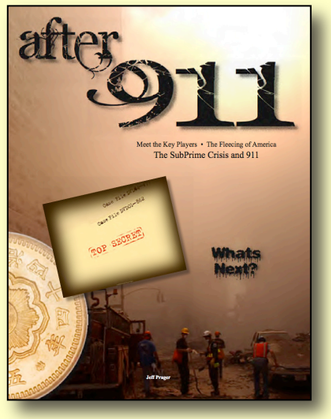


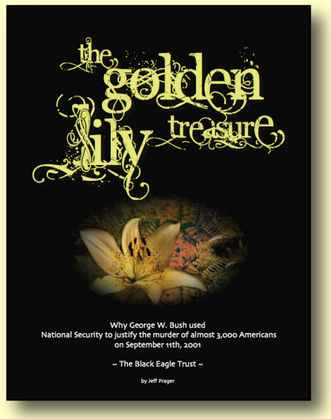


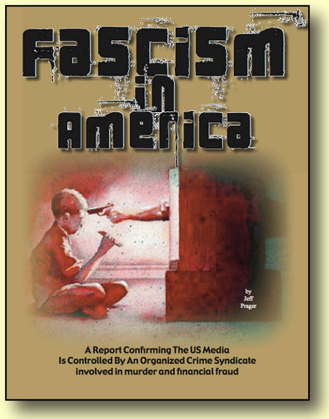


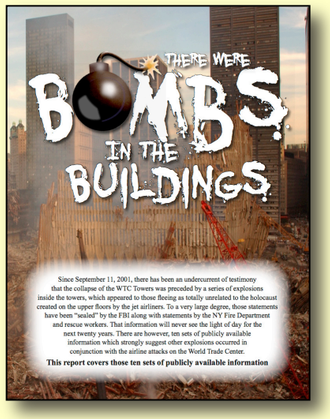












I Can't Occupy Wall Street
http://www.datafilehost.com/download-be2ee8d6.html

Organized Crime, Drugs And The CIA
http://www.datafilehost.com/download-0e0fbc77.html

Iran For Dummies
http://www.datafilehost.com/download-bdf1cc10.html

Norad 911
http://www.datafilehost.com/download-0f633e09.html

Nuclear Refugees
http://www.datafilehost.com/download-6a99dfc1.html

No Thermite On 911
http://www.datafilehost.com/download-1f2b950f.html

911 Gold
http://www.datafilehost.com/download-71072e4d.html

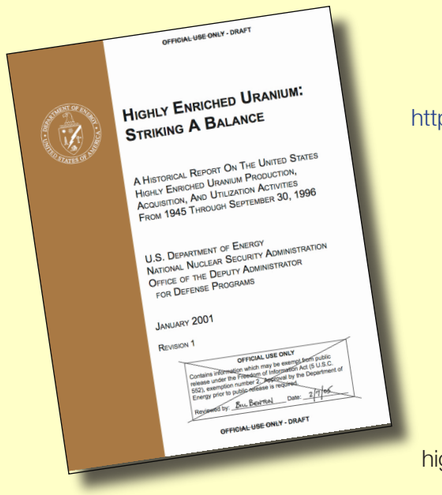
Murdering Liberty Killing Hope
http://www.datafilehost.com/download-0c99b14c.html

After 911
http://www.datafilehost.com/download-ab3fa150.html

The Golden Lily Treasure
http://dl.dropbox.com/u/16017306/Book%20III%20Complete.pdf

Fascism In America
http://dl.dropbox.com/u/16017306/Book%205.pdf

There Were Bombs In The Building
http://www.datafilehost.com/download-b498239d.html



United States Department Of Energy
Excess Uranium Inventory Management Plan
http://www.ne.doe.gov/pdfFiles/inventory_plan_unclassified.pdf

Drinking Water Uranium - Revised 2008
http://www.ianrpubs.unl.edu/live/g1569/build/g1569.pdf

Highly Enriched Uranium
An historical report on the United States
highly enriched uranium production, acquisition and utilization
activities from 1945 through September 30th, 1996.
http://www.fas.org/sgp/othergov/doe/heu/striking.pdf

THE STEEL VAPORIZES

In this sequence of images taken from a World Trade Center video the steel components of the Twin Towers can be seen disintegrating. They are turned to dust in less then a few seconds. Assuming the video is 30fps (*frames per second*), these 4 frames are less then a full second and the steel, the standing spire, disappears into a cloud of dust. This is only possible as the result of a nuclear shock wave directed within the Twin Towers. People that hold the opinion that some unknown scaler weapon was used are simply uninformed Youtube watchers. My opinion is that watching Youtube is as dangerous as watching Fox News. The one thing our government can be counted on to do is use available technology, often. The technology for scaler weapons lacks scientific credibility. This was and is very obviously a thermonuclear demolition.

this is a telephone switchboard in Hiroshima where women sat and answered and forwarded calls, once ...

We're Screwed...

So we're screwing you all the way to the bank, once you're in the bank, after you've left the bank, at home, at work and on vacation. We even screw you while you're sleeping! Obey or you might just wake up to another 911...

COULD YOU USE A LITTLE HELP? Between paying suppliers, managing payroll and trying to think about the future, saying you've got a lot on your plate is putting it lightly. A Bank of America small business expert can help you with a lot of the things you might not expect from a bank, like payroll services and credit card processing. So, you'll have a little more time to enjoy why you went to work for yourself in the first place. To find out more, stop by your neighborhood banking center, call 1.888.600.4000 or log on to www.bankofamerica.com/smallbusiness.

Bank Of America

Higher Standards For Us
No Standards At All For You

Bank of America, N.A. Member FDIC Equal Housing Lender
©2004 Bank of America Corporation

Five

Images

Of Atomic Bomb

Detonations That

All Look Exactly

The

Same

TURN OFF THE TELEVISION


"I FOUND A WOMAN IN THE RUBBLE,
BURNED, IN AN AIRPLANE SEAT,
HER HANDS BOUND..."
Quote From A New York City First Responder
THEN END