

THE OFFICIAL MAGAZINE OF THE APOCALYPSE

The WAR issue with Melinda Gebbie
John Wagner
Frazer Irving
Alan Grant
Boo Cook

EXCLUSIVE
ALAN
MOORE
INTERVIEW

"The English do the
apocalypse very well"

THE
END
IS
NIGH!

2

JOHN KIRKHAM



IT'S WAR!



PAUL CARTER

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Welcome to the official magazine for the chronicle of end times, the anthology of Armageddons, the depository of doom, the collection of catastrophe, the encyclopaedia of eschatology ... **THE END IS NIGH!**

Each issue **THE END IS NIGH** examines the latest predictions, the facts, the figures, the myths and the magic of the end of the world. From Biblical tales of the final battle at Armageddon, to modern fears of asteroid strike, lethal plague or nuclear holocaust, **THE END IS NIGH** is your guide through the Final Days ... Each issue carries its own theme and features news, comic strips, newspaper-style strips, spoof articles, advice, in-depth features and thought-provoking articles.

This time, it's the turn of man's favourite past-time - killing other men. It was alright when it was sticks, stones and the occasional sword, but the hi-tech weapons of the 20th and 21st Centuries are truly apocalyptic in every manner - from nuclear bombs to genetically-engineered plagues that could wipe out billions.

This issue, we're very privileged to have an **EXCLUSIVE** interview with the muse of Northampton, **ALAN MOORE**, who discusses the seam of apocalypse that runs through his work like letters in a stick of rock - and he's even got his own, very particular, prediction.

Plus there's the usual features, comic strips, funny articles, the latest apocalyptic news in Doomwatch and a fantastic free game - dare you play M.A.D. Risk?!

So please, sit back, relax and enjoy The End is Nigh ... before it's too late!

CONTACT

GOT AN IDEA FOR A FEATURE OR STRIP?
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DOOMWATCH

CLIMATE CHANGE GLOBAL WARMING CAUSED BY COW BURPS - CLAIM

THE world may not end with a bang or even a whimper - just a burp.

According to a researcher at the Climate Mission at the Caisse des Dépôts, a French state-owned bank, farm animals must also shoulder some of the blame for climate change. By itself, methane is to blame for a fifth of the man-made greenhouse effect of the past 200 years. The good news is that, when it comes to cow farting, we can all breathe a little easier. "Bovine flatulence plays a negligible role in global warming," said researcher, Benoit Leguet.

AFP, September 29, 2005

RELIGION MAN LOSES JOB AFTER FAILED PREDICTION

A MAN who said the end of the world was nigh has been fired from his job at a phone company after going public with it.

John Gilmore had run the East Tennessee operations for the phone, cable, and internet company. He'd predicted five big cities in the US would face economic collapse. He now says he has no hard feelings towards the company, and understands why it let him go.

"In the end I view it as a resignation. I feel God is calling me to do other things. I've said this before but a couple of months ago he told me I wasn't going to work anymore." John admits he got the dates wrong but he holds fast to his belief God is going to punish people for their sins, and it is coming soon.

WWT, Knoxville

DISASTERS RUSSIAN TODDLER PREDICTS "GLOBAL CATASTROPHE"

BORISKA, a toddler from the Volgograd region of Russia, is predicting a global catastrophe in 2009. The child started to display his unusual abilities when, at the age of two, he told his parents about the Universe. "He could name all the planets of the solar systems and even their satellites", says his mum. "At first I found it very frightening." When his claims about the universe were shown to be true, the boy became a local celebrity. Visitors have been flocking to see him, to be told stories of extraterrestrial civilisations. Boriska say there are two disasters heading our way, one in 2009 and one in 2013. Both will be connected with water. However he also claims that, in a previous life, he was a Martian being seven metres in height.

CLIPPINGS
SEND YOUR APOCALYPTIC NEWS TO
doomwatch@endisnigh.co.uk

STORMS AND QUAKES SPARK EOTW FEARS

RITA, KATRINA AND KASHMIR WERE "ACTS OF ANGRY GOD"

DISASTERS HUGE RISE IN USE OF APOCALYPTIC LANGUAGE

THE world's media seemed to go apocalypse-crazy over the devastation wrought by Hurricanes Katrina and Rita, it has been claimed.

In an analysis of global media outlets, The Global Language Monitor (GLM) found an abundance of Apocalyptic-type terminology in coverage of the disaster of Hurricane Katrina in the American Gulf States.

Using its Predictive Quantities Indicator algorithm, the organisation found a massive rise in ominous references to: disaster, Biblical, Global Warming, Hiroshima/Nuclear bomb, catastrophe, Holocaust, apocalypse, and End-of-the-World.

"These alarmist references are coming across the spectrum of print and electronic media, and the internet," said Paul JJ Payack, president of GLM. "The world appears stunned that the only remaining super power has apparently been humbled, on its own soil, by the forces of nature."

According to GLM's analysis, the most frequently used terms associated with Hurricane Katrina in the global media with

examples follow. The terms are listed in order of relative frequency.

Examples include: "...a town of 6,800 where corpses lie amid a scene of Biblical devastation" (The Times); "Struggling with what he calls Hurricane Katrina's nuclear destruction, Mississippi Gov. Haley Barbour shows the emotional strain of leading a state through a disaster of biblical proportions". (Associated Press); and "Call it apocalyptic. Whatever you want to call it, take your pick. There were bodies floating past my front door," said Robert Lewis, who was rescued as floodwaters invaded his home. (Reuters).

Perhaps then getting a taste for apocalyptic language, the GLM reported that in the third quarter of 2005 and with the terrible devastation of the Kashmir earthquake, "Acts of God" topped its Index of the Top Political Buzzwords, with Hurricane Katrina, Climate Change, H5N1 Bird Flu, and Global Warming in close pursuit.

In the aftermath, many linked Hurricane Katrina with the direct intervention of the hand of an angry or vengeful God. Condemning the Mardi Gras capital for its "hedonistic ways",

some hard-line Christian fundamentalists claimed it was an act of divine retribution.

"There's been a black spiritual cloud over New Orleans for years," the Rev. Franklin Graham, son of influential American preacher Billy Graham, said during an appearance this month at Liberty University, a Christian school in Lynchburg, Virginia.

Saying New Orleans is a city known for "Satan worship, orgies and widespread drinking and drug use", he spoke about how some believed God was using the hurricane to spark a religious revival there.

"Maybe God's going to cleanse us," Oliver Thomas, president of the New Orleans City Council, told reporters after the storm. But there was growing signs of a backlash against the over-use of such language.

Writing on Human Events Online, Jerry Bowyer hit out at what he called the "exaggeration" of the events by the media.

"The death toll, the harrowing stories about rape and murder, and the accounts of leadership failure in the federal government turned out to be much less than originally reported," he said.



PANIC AS 'BIRD FLU' EDGES CLOSER

MEDIA FRENZY OVER H5N1 AS INFECTED PARROT FOUND AT HEATHROW



DISEASE

BIRD FLU FEARS AS DISEASE REACHES EUROPE'S BORDERS

THE last six months has seen the media furore surrounding Influenza A strain H5N1 grow in intensity, reaching similar proportions to the SARS panic of 2003. At least 62 people have died of avian flu in Asia since 2003, whilst 150 million birds have been culled worldwide. In June, Jia Youling, head veterinary officer in China's ministry of agriculture, officially reported the deaths of more than 500 waterfowl in Qinghai Lake in north-west China. A number of "young people" were arrested after claiming that 121 people had died of avian flu in the region. The Chinese government claimed that the disease had come from migratory birds from India, despite the absence of H5N1 in that region. In June, China refused to accept the findings of a paper published in the journal *Nature* that the flu killing the birds in the province had come from southern China. The government also introduced strict rules prohibiting people from studying dead animals or avian flu, and refused permission for all reports of any form of animal disease outbreak, except for those that were officially sanctioned. By August, bird flu had reached the Russian province of Tula, whilst Kazakhstan recorded its first case of supposed human infection. On 19th October, the UK's Chief Medical Officer Sir Liam Donaldson said that at least 50,000

people would die in Britain in the event of an outbreak whilst announcing plans to purchase



PAUL CARTER

1 2 0 million doses of anti-viral vaccines (enough for two doses per person), though they could not be developed until such time as

the pandemic flu strain emerged (although generic H5 vaccines are under preparation). As part of the UK Pandemic Contingency Plan, the government had stockpiled 2.5 million courses of anti-viral drugs, primarily oseltamivir (Tamiflu), and ordered a further total of 14.6 million. By the 21st it was reported that a 7 year-old boy in Bangkok, had tested positive for bird flu, two days after his father had become the 13th person to die of the virus in Thailand. In the same week, China confirmed that it had culled 91,000 birds in Inner Mongolia. On 22nd October it was announced that a parrot that had died in quarantine, with later confirmation that it had tested positive for the H5N1 strain. The government were quick to point out that this did not affect the UK's disease-free status, though this was the first case of bird flu in Britain since 1992. Cases were also reported in both Croatia and Romania.

By the 25th the European Union had banned all imports of live birds (though not poultry), whilst Germany, Russia and Vietnam all reported fresh cases, and another two deaths were recorded in Indonesia. Whilst the rampant media speculation has died down in recent weeks, the World Bank announced in November that a global pandemic could cost as much as £458 billion. Meanwhile, another man died in Vietnam, whilst there were fresh flu outbreaks in China, and Kuwait also reported two cases the first such infections in the Gulf.

TOKYO SUBWAY ATTACK CULT LEADER "INSANE"



RELIGION

CULT LEADER "MENTALLY INCOMPETENT" - LAWYERS

LAWYERS acting for the leader of the cult responsible for the sarin gas attacks on the Tokyo subway have claimed he is "mentally incompetent".

Lawyers for Shoko Asahara, the guru of doomsday cult Aum Shinri Kyo who was sentenced to death for his role in the nerve gas attacks a decade ago said they have not been able to communicate with him.

They suggested his sentence be overturned because he is mentally incompetent.

Chief defence lawyer Akio Matsushita said a psychological evaluation conducted last summer indicated the cult founder is suffering

from "a brain disorder or pathological mental stress due to confinement".

He is currently being evaluated by both a court-appointed psychiatrist and one chosen by his defence team to see if he is fit to stand an appeals trial.

Asahara was convicted and sentenced to death in February for ordering the 1995 subway attack and a series of other crimes that left 27 people dead and thousands injured. Matsushita said meetings between lawyers and Asahara, who is confined to a wheelchair and incontinent, have suggested his client is seriously ill.

"We have met him many times, and he has been unable to respond in an intelligible manner," Matsushita told reporters. "He is deeply troubled."

During his eight-year trial, Asahara frequently dozed off, mumbled incoherently and made bizarre gestures. The court allowed them to order a psychological evaluation of Asahara, the third such assessment. Matsushita said the doctor found Asahara's condition was severe, but not incurable if he is given the proper medical treatment.

The defence has called for the court to suspend the appeals trial until Asahara's condition improves. A court-appointed doctor, however, who examined him recently, found him to be mentally competent.

If his appeal goes through, the case could continue for another several years.

Twelve other member of Asahara's cult have also been sentenced to death for the subway gassing and other crimes.



CULT GURU FACES JAIL



RELIGION

**APOCALYPTIC CULT LEADER "TOLD
CANCER WOMAN SHE'D BEEN CURED"**

A SPIRITUAL leader, who refers to himself as Prophet Elijah or Elias and ordered his followers to prepare for Armageddon, faces jail in the Netherlands.

A public prosecutor asked a court in Dordrecht to sentence H. van G., 69, to 12 months in jail, with six months suspended.

Van G., leader of the Efraim community in the Dutch town of Heinenoord faces a rarely used charge of coercion for allegedly stopping one of his followers, who died, getting treatment for breast cancer.

People who have broken away from the cult claim he used psychological pressure to persuade her she was healed by the power of faith. The prosecution has further claimed that Van G. coerced another member in paying over €300,000 to the group. The self-proclaimed prophet announced in 2001 that the end of the world was approaching. He suggested his followers would be taken into the hereafter as "brides of Jesus". Some sold their homes and took their children out of school to prepare for Armageddon. The cancer patient cancelled an operation, allegedly after the leader claimed he had healed her by the laying on of hands and prayer.

When the awaited ascension to heaven failed to materialise in 2001, the woman confronted the 'prophet'. Her faith in the Efraim community lapsed and she underwent the operation before dying in 2004.

ROCK STAR SAYS ANTI-CHRIST WILL BE LIKE "CAR SALESMAN"



CLIMATE CHANGE

**GLOBAL WARMING CAUSED
BY COW BURPS - CLAIM**

EVEN musicians have started jumping on the apocalypse bandwagon.

Alice Cooper says he is convinced the end is nigh - and then says the Anti-Christ will be like Ghandi, but crossed with a car salesman. The ageing rocker, whose father was a preacher, claims current disasters match those forecast in Revelations. "Everybody is aware of the end of time - the floods, the tsunami, the hurricanes. It's Revelations. It's all supposed to

happen," he said. "I know where it's going because, according to the Bible, it's like this for a while and then we'll see the Antichrist, who's going to be the smoothest car salesman you've ever seen in your life." "He's going to be like Gandhi. He's going to be the guy you never expected, because he's saving everybody."

And Jamiroquai frontman Jay Kay also prophesied The End, but says it's because humans are destroying planet Earth. "One day a wave will come that will destroy everything from Halifax (in England) to Tierra Del Fuego (in Argentina)," he said.

Contactmusic.com - July and October, 2005

POPE SPEAKS OF END OF THE WORLD



RELIGION

**'PENULTIMATE POPE' HAS STARTED
USING APOCALYPTIC LANGUAGE**

NOT content with being a sign of the apocalypse, the new Pope has now started talking about it too.

A leading English-language Vatican correspondent, John Allen of the National Catholic Reporter, has noted that Pope Benedict has started using "apocalyptic" language.

Allen quoted the Pope's homily at the recent opening mass of the synod of bishops was framed in "somewhat apocalyptic tones". He said the pope warned the "threat of judgment" hung over the church and the West.

However, apocalyptic talk is not uncommon from Popes - Canadian author Michael D O'Brien points out that in 1903 Pope Saint Pius X said he feared the world was "experiencing the foretaste of the evils that are to come at the end of time. And that the Son of

Perdition of whom the apostles speak has already arrived on the earth"

And in 1976 Benedict's predecessor, John Paul II, said we are facing "the final confrontation between the Church and the anti-Church, of the Gospel and the anti-Gospel".

Speculation was rife at the time of Benedict's coronation earlier this year that he is the 'penultimate pope' as named in the disputed prophecies of St Malachi (see The End is Nigh issue one). LifeSiteNews.com - October 14, 2005

BUSY SIX MONTHS FOR ASTEROID WATCHERS



ASTEROIDS

**LIST OF NEOs GROWS EVER
LONGER, NASA SAYS**

IT'S been a busy period for asteroids in the last six months: in June NASA's Jet Propulsion Laboratory added Comet Catalina 2005 JQ5 to its list of potentially threatening near-Earth impactors. Based on its 1 kilometre size, an impact would create a force equivalent to 6 billion tonnes of TNT, though the current likelihood of an actual collision with the Earth is set at 1 in 20 million. In September, the European Space Agency announced that it had selected two asteroids as part of its proposed Don Quixote mission to study how to alter an asteroid's course by crashing a spacecraft into it. The two asteroids selected by the Agency's Advanced Concepts Team were 2002 AT3 and 1989 ML. Only one of the proposed asteroids would be selected for the final mission, and the choice is currently scheduled to take place in 2007. The B612

Foundation, a non-profit US-based group studying ways to deflect Earth-bound asteroids, also announced plans for a similar mission in 2015. Also in September, a three year study of ways to deflect asteroids from a collision course with Earth was announced by the universities of Strathclyde and Glasgow and spacecraft manufacturer EADS Astrium. Methods of deflection to be contemplated included attempts to create a natural 'rocket' effect to propel off its course and giant space mirrors to heat a potentially threatening asteroid. On 1st November, NASA announced that they would not be mounting a mission to deflect the asteroid Apophis (2004 MN4). Thought to measure between 320 and 400 metres, the asteroid has a 1 in 5500 chance of colliding with Earth in 2036. NASA is awaiting the results of radar observations to be undertaken in 2013. If the asteroid was then judged to be a threat, NASA could then launch a mission to study the object in 2019. A second spacecraft could then be launched sometime between 2024 and 2028. However,

the B612 Foundation voiced concern that there was still no dedicated official agency solely charged with dealing with the threat of asteroid collision. Most recently, on the 9th November, NASA scientists Edward Lu and Stanley Love proposed a new form of defence from asteroids on a collision course with Earth: a 'gravity tractor'. Rather than simply impact an object or explosive device on the surface of the asteroid in order to deflect it from its path, the scientists suggested the body's own gravity could actually be used against it. A large spacecraft could be parked near to the asteroid and use the gravitational attraction between the two objects to tow it out of harm's way. A 20 tonne craft could successfully deflect an asteroid of about 200 metres across in the space of a year. Plans to land a craft on an asteroid were abandoned as unworkable since the surface of the object would prove to be little more than a pile of rubble and attaching a craft to it could well cause the object to actually spin faster rather than alter its course.



LYNDON WEBB

MIKE MOLCHER examines nuclear weapons - the most apocalyptic weapons ever devised

GONE IN

"We knew the world could not be the same. A few people laughed, a few people cried. Most people were silent. I remembered the line from the Hindu scripture, the Bhagavad Gita: 'I am become Death, the destroyers of worlds.' I suppose we all thought that, one way or another."

J. Robert Oppenheimer

SIXTY years ago this year, scientists and soldiers gathered on a windswept plane at the Alamogordo Bombing Range in the Jornada del Muerto Desert of New Mexico. Ten miles away, a 20-metre steel tower was barely visible in the early morning light.

Hoisted to its top, a dull two-tonne sphere - nicknamed 'Gadget' by its creators - didn't look like the Pandora's Box of legend, yet what it contained changed the world forever.

At 5.29am local time, 500 pounds of TNT were detonated, compressing the 15 pounds of plutonium at the heart of Gadget until the bonds holding its volatile atoms together broke. The chain reaction released an energy equivalent to around 19 kilotons of TNT.

It left a crater in the desert three metres deep and 330 metres wide. At the time of detonation, the surrounding mountains were lit brighter than in daytime and the heat was reported as being as hot as an oven.

Operation Trinity, the American pursuit of a bomb of unequalled power, had reached its objective. Days later, two atomic devices were detonated in the sky over the Japanese cities of Hiroshima and Nagasaki. Japan soon surrendered. Whether the closing move of World War Two, or the opening gambit of the Cold War, the explosions are the only time nuclear weapons have been used in open warfare, yet it ushered in an age of tension, fear and near-disaster that was to last for almost 50 years. 1949 saw the first Soviet atomic bomb test, 'White Lightning', and the world slowly froze into Cold War. In 1952 the US exploded the first hydrogen fusion, obliterating the pacific island it took place on. Nine months later the Soviets followed suite. In 1964 China tested its first bomb. Soon Britain, France, China and South Africa joined the nuclear club. Later, Israel, Pakistan, India, and North Korea would also become members.

Today, the possession and use of nuclear weapons remains the biggest single threat to humanity - the prospect of Armageddon not from celestial collision,

disease or environmental change ... but by our own hands.

Whether they remember anything else from science class or not, everyone knows that Albert Einstein devised the equation $E=mc^2$. This breathtakingly simple mathematical concept crucial in the development of the atomic bomb because it showed it was possible to release a massive amount of energy from within an atom. The simplest nuclear weapons are based on nuclear fission, where one mass of subcritical fissile material is either shot into another or it is compressed with a small explosion. This creates a 'critical mass' in which a chain reaction begins and grows exponentially, releasing tremendous amounts of energy. More advanced nuclear weapons use nuclear fusion, which produces more energy. In such weapons, the X-ray thermal radiation from a nuclear fission explosion is used to heat and compress a capsule of tritium, deuterium, or lithium, in which fusion occurs, releasing even more energy. These weapons, known as hydrogen bombs, can be many hundreds of times more powerful than fission weapons. The so-called 'Teller-Ulam design' is thought to be responsible for megaton range thermonuclear weapons.

The apocalyptic capability of even the smallest nuclear bomb cannot be underestimated. Of the 10,000 pound bomb that destroyed Hiroshima, just 114 pounds of its two-part core was made of highly enriched Uranium-235. Of that, the total mass of uranium that actually fissioned quickly enough to drive the nuclear explosion was barely one gram, yet it contained 20 million times the energy of a gram of dynamite. This tiny fraction of the bomb's total mass, about the weight of a coin, drove a chain reaction so powerful that it destroyed 48,000 buildings and killed as many as 75,000 people in Hiroshima in its first seven seconds. As many as 125,000 more died in the aftermath, and this from a blast that was measured in just kilotons. Whether in the blast area or in the aftermath, these weapons remain terrifyingly apocalyptic.



A FLASH

Additional reporting by ED BERRIDGE

Number of active nuclear weapons in the world today:

approx **22,000** (2002)

Highest number of nuclear weapons in the world:

65,000 (1985)

Number of warheads:

By nation, with date and name of first test

United States: 10,500 - 1945, *Trinity*

Russia (USSR): 18,000* - 1949, *RDS-1*

United Kingdom: 200 - 1952, *Hurricane*

France: 350 - 1960, *Gerboise Bleue*

People's Rep. of China: 400 - 1964, *596*

Israel: 200** - *none*

India: 60-90 - 1974, *Smiling Buddha*

Pakistan: 30-52 - 1998, *Chagai-I*

North Korea: 0-18** - *none*

* estimated 18,000 of these are awaiting dismantlement or in reserve

** suspected number

States with nuclear weapons:

United States, Britain, China, France, India, Israel, Pakistan, Russia, North Korea.

Other states to have sought or had nuclear programmes:

Australia, Argentina, Belarus*, Brazil, Canada, Egypt, Germany, Iraq, Italy, Japan, Kazakhstan*, Libya, Romania*, South Africa**, South Korea, Sweden, Taiwan, Ukraine*, and Yugoslavia.

* Former Soviet states

** Dismantled weapons in 1991

Range of missiles:

United States 8,100 miles

Britain 7,500 miles

Russia 6,800 miles

China 6,800 miles

France 3,300 miles

India between 1,500 to 2,000 miles.

Pakistan between 1,500 to 1,800 miles.

Israel 940 miles.

In the 1980s, the theory of Nuclear Winter was devised in which in a scenario similar to the asteroid hypothesis used to explain the extinction of the dinosaurs scientists said the explosion of many bombs would lift great clouds of dust and radioactive material high into Earth's atmosphere, blocking out sunlight. The reduced sunlight would lower the surface temperature of the planet and reduce photosynthesis by plants and bacteria, disrupting the food chain and causing mass extinction of life. A nuclear weapon's true power comes not in the initial moments of the blast itself, but in the days, weeks and months afterwards. So for the first time, there was little point in building that bunker to survive a nuclear war because who would want to try living in a world like that?

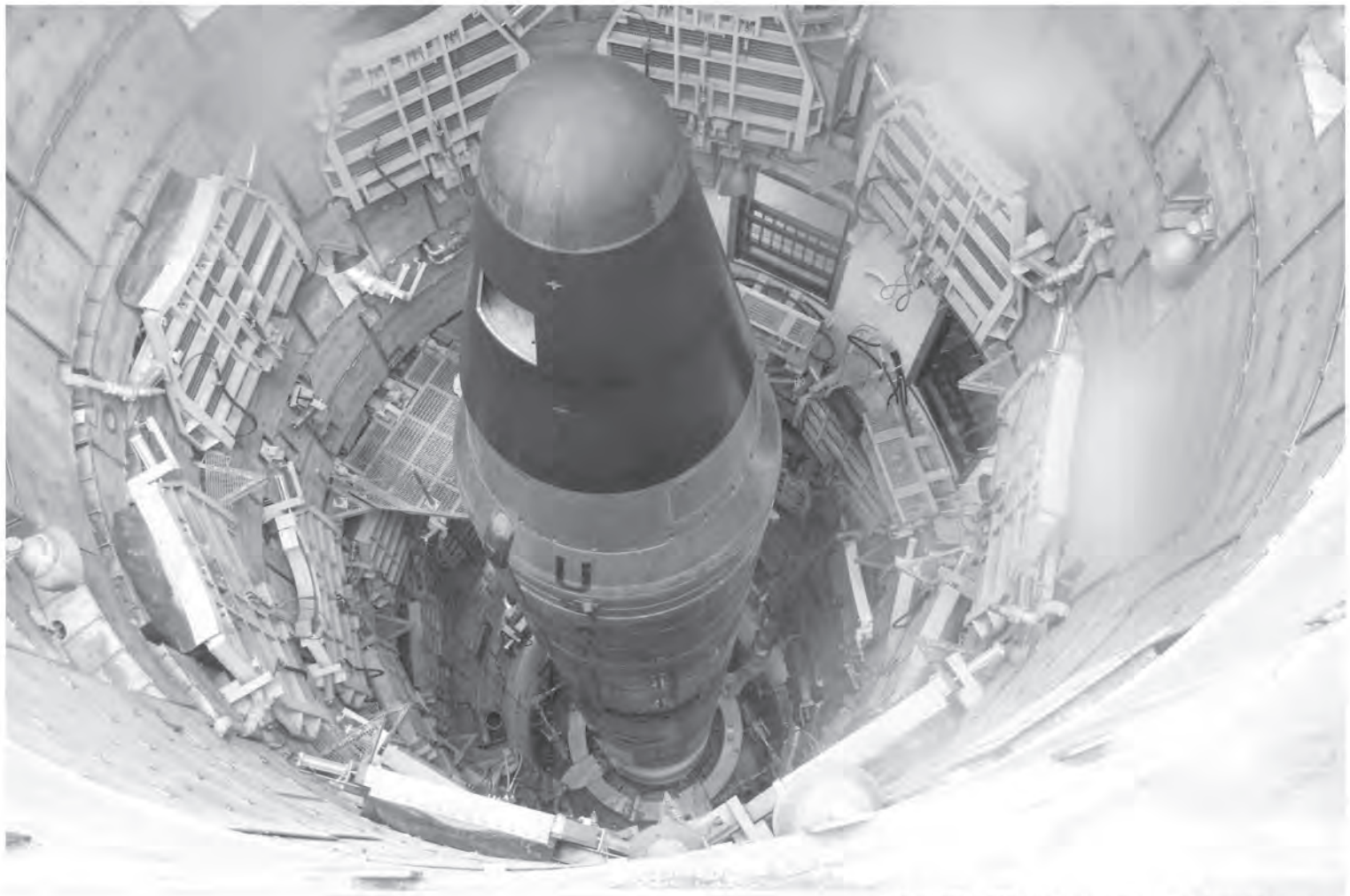
It seemed Einstein's disturbingly beautiful equation had been the key that open Pandora's Box, ushering in the atomic age of unimaginable terror.

For 60 years, mankind has lived with the capability to destroy itself many times over. At the height of the Cold War, the largest arms race to consume the world, the nuclear nations of the USA, the Soviet Union, Britain, France and China shared between them more than 65,000 nuclear warheads.

The variety of weapons developed during the period is astounding, from the biggest the devastating Tsar Bomba bomb tested by the Soviets in 1961, that had a potential yield of 100 megatons to the smallest the M-388 Davy Crockett sub-kiloton tactical nuclear 'rifle' developed by the US to stall a Soviet invasion of Europe. As measured by the symbolic Doomsday Clock devised to adorn the Bulletin of Atomic Scientists, the moment of destruction has edged forward before international diplomacy, power politics and, some would say, common sense have prevailed. The massive stockpiles of weapons enough to destroy us many times over have remained alert but unused because, essentially, nuclear weapons are their own deterrent - after all, who would start a war you're going to lose? Now, 50 years on, the end of the Cold War may have



JAMES KIRROUGH



ABOVE & BELOW: A Titan II nuclear missile at the Green Valley ICBM Museum near Tucson. **BOTTOM:** Carried by US bombers, the MK39 nuclear bomb was a parachute-drop megaton bomb last in service in 1966. *Photos by Tom Adams*

What's the damage?

The immediate effects of a Hiroshima-type 13-kiloton bomb

T-0 secs

Detonation. At ground zero, everything is instantly vaporized by temperatures of up to 300 million degrees Celsius. Massive radiation pulse kills every living thing in the open within a quarter mile

T+1 secs

Radiation severely burns exposed skin within half a mile. Permanent retinal burns for any observers of blast up to 20 miles away

T+2 secs

Buildings within a mile-wide circle destroyed or badly damaged by several hundred mile-an-hour blast wave

T+10 secs

Shock wave begins to exhaust itself, still battering houses a mile and a half away and blowing out windows three miles in every direction. Initial pulse of heat has ignited everything flammable within a mile

T+10 minutes

radioactive fallout begins to settle in the form of dust and debris. At least 20,000 dead from initial blast

T+1 day

another 20,000 die from their injuries

T+6 months

At least 150,000 dead from injuries or radiation sickness.

reduced the immediate need for such huge stockpiles, yet more than a decade since both the United States and Russia still maintain vast nuclear arsenals, despite successive treaties designed to reduce them.

The United States still has 550 ICBMs - long-range missiles that can reach Moscow in a half an hour. A single US nuclear submarine carries up to 192 warheads and could kill or maim about some 50 million people. The United States has 18 of these submarines.

All told, the explosive power of America's nuclear warheads is 100,000 times greater than the single Hiroshima bomb. Russia's arsenal is even bigger, though is increasingly obsolete. In the event of a full-scale nuclear war, it is estimated that 30,000 warheads would rain down from the skies, effectively ending any meaningful human life.



When the Soviet Union collapsed, many breathed a sigh of relief that the USSR and its ideological opponent, the USA, would no longer stare at each other across the world, ready to unleash nuclear destruction on each other and, unfortunately, on everyone else with it. A series of treaties and agreements throughout the 1990s reaffirmed that the age of Duck and Cover, of seven minute warnings and nuclear deterrents was over. Yet the nuclear issue continues to dominate the international stage.

Concerns that North Korea, Iran, Libya and (lately) Iraq had nuclear weapons programmes came on the heels of India and Pakistan becoming nuclear nations. Fears over terrorists preying on Russia's rotting nuclear infrastructure to create radiological 'dirty bombs' will not go away, while America pulls out of the 1972 Anti-Ballistic Missile Treaty, effectively stalls efforts to breath new lift into the Nuclear Non-proliferation Treaty and presses ahead with its expensive missile defence system

On November 7, the head of the International Atomic Energy Agency (IAEA), the UN's nuclear regulatory body, Mohamed ElBaradei, claimed the global community had "failed to respond adequately to changes in international security" following the end of the Cold War.

He has said in the past that if they wanted to, 40 countries could develop nuclear bombs a greater number than even at the height of the Cold War in the early 1980s.

It is not enough to continue the status quo, where the big boys have bombs but everyone else can't, he says.

Writing in the New York Times in 2004, he added: "We must abandon the unworkable notion that it is morally reprehensible for some countries to pursue weapons of mass destruction, yet morally acceptable for others to rely on them for security - and indeed to continue to refine their capacities and postulate plans for their use ... If the world does not change course, we risk self-destruction."

And therein lies the rub, after what happened to Iraq (and what some say will soon happen to Iran or Syria) countries have increasingly looked to nuclear weapons as the only sure fire way to protect themselves from a superpower only too willing to tell them what they can and can't do.

North Korea's Kim Il-Jong is not the last to claim that nukes protect his country from "Western aggressors" and it is the latest excuse for acquiring or accelerating a nuclear weapons programmes.

However, this desire to develop nuclear capability whether for civilian or military design have bred an equally chilling response, for there are moves afoot that could see the concept of the First Strike abandoned since the 1960s re-emerge.

Nuclear bombs are essentially a retaliatory weapon you bombus, we bomb you.

Yet the Cold War spawned a subculture of nuclear strategists, such as Henry Kissinger, who proposed various strategies for winning a nuclear war, including staging a massive first strike that pre-empts an effective response. This policy has reared its ugly head again recently as America attempts to prevent other nations developing the nuclear capability to threaten it.

A nuclear strike could be justified, the Bush administration reasons, in order to deny others the ability to develop nuclear weapons or other weapons of mass destruction - breaking down the historic firewall between conventional and nuclear armaments.

In 2003, the Washington Times claimed the classified National Security Presidential Directive 17, signed by President Bush in September 2002, set out a strategy for the US to possess and possibly use nuclear weapons to deny countries or terrorists theirs.

It says: "The United States will continue to make clear that it reserves the right to respond with overwhelming force including potentially nuclear weapons to the use of [weapons of mass destruction] against the United States, our forces abroad, and friends and allies."

And so, the US is set on a course that could see it become the first nation to use nuclear warheads as pro-active weapons.

Oppenheimer spoke of how the bomb made the prospect of nuclear war 'unendurable' and, time and time again during the Cold War, he was proven right as the world's superpowers stepped back from the brink; the prospect of Mutual Assured Destruction too horrific to consider.

Yet the knowledge acquired with the detonation of

Gadget could never be stuffed back into its Pandora's Box, it could never be forgotten. Only one country, South Africa, has ever managed to take up and then renounce the mantle of being a nuclear nation.

On January 10, 2005 North Korea declared that it was in the possession of nuclear weapons, though this has yet to be independently confirmed, and various countries have spent this year trying to persuade Iran to abandon its nuclear programme.

We now face a more dangerous world where the threat of a suicidal atomic tussle between superpowers may have faded, but it has been replaced by a more complicated and altogether more threatening situation.

The proliferation of nuclear weapons is increasing and Mohamed ElBaradei has already warned that unilateralism is eroding the legitimacy of the arms control. He called for powers that would make withdrawal from the International Treaty on the Non-Proliferation of Nuclear Weapons more difficult.

"As we are collectively menaced, so we must collectively act," he said.

Regardless of whether they are ever used or not, nuclear warheads remain the most apocalyptic weapon ever devised.

In the ringing aftermath of that very first explosion in 1945, the world had to come to terms with the fact that a band of scientists had taken the power of Armageddon out of God's hands and placed it into those of men.

Albert Einstein came to regret the implications of his most famous discovery. The final years of his life were spent attempting to reverse the tide of nuclear proliferation, but fifty years after his death it seems that his dream is as far away from being realised as it ever was.

"The release of atom power has changed everything except our way of thinking...the solution to this problem lies in the heart of mankind. If only I had known, I should have become a watchmaker."

Albert Einstein



ALAN BROWN

The Explosion ...

There are a number of damage effects created by a nuclear explosion: thermal, incendiary, eye injury, blast and radiation. In the area immediately of an explosion there will be 100% mortality and complete destruction from one of these effects.

Thermal Effects: Intense thermal radiation created by the fireball - made up of visible and infrared light - lasts between a tenth of a second and several seconds depending on the yield of the bomb, causing what are known as 'Flash burns'. At ground zero the thermal radiation is hot enough to cause exposed flesh to turn into steam. Further out, first degree flash burns cause immediate pain and skin reddening for minutes or hours, but does not destroy tissue. Second degree burns damage underlying tissue, though enough remains to regenerate. Third degree burns cause tissue death and preventing skin tissue regeneration. Severe burns can lead to shock within minutes.

Incendiary Effects: Thermal radiation is only of a short duration, and cannot create sufficiently large combustion. This is also affected by the following shock wave of the blast, which will blow out most flames caused by the thermal radiation. Thus most of the incendiary effects are created by the blast wave, since collapse structures are of increased risk from fire than upright ones. Pilot lights and leaking gas from heating appliances provide easy ignition points, with smouldering material caused by the thermal radiation another catalyst. Due to the general destruction of the blast wave, there are no natural breaks such as roads to halt the path of the fire. In certain cases firestorms can be created, which is an extremely intense fire that produces a column of hot air that rapidly rises over the fire area, creating powerful winds which both feed and fan the flames, absorbing other fires in its path. They reach temperatures of many hundreds of degrees, and can melt glass, as well as boil rivers and lakes, whilst carbon monoxide emissions reach a lethal level. A less intense form of fire is a conflagration, which develops and burns much more slowly, and can spread across considerable distances. The burning of cities and petroleum stocks could also inject large amounts of soot into the atmosphere, creating a potential 'Nuclear Winter'. The possible major effect of widespread occurrences of this effect would be a rapid reduction in global temperature by at least 10 degrees Celsius for several months, as sunlight is blocked out by a layer of soot in the atmosphere, comparable to a full scale ice age.

Eye Injury: The brightness of the fireball created by the explosion can injure the cornea and retina through surface heating. The most common injury is flash blindness, which bleaches the visual pigment of the retina, though vision is restored as the pigment is replaced within seconds or minutes. Retinal injury occurs only when looking directly at the detonation, causing burns in the area on which the fireball is focused, though these are relatively rare.

Blast Effects: The time lapse between the thermal effects of the explosion and the shock wave vary between a few seconds and a minute or so depending on the yield of the bomb. The blast wave travels faster than sounds, creating a jump in air pressure at its front and accelerating the wind behind it to high velocities. Blast effects can also magnify thermal injuries, ripping away affected skin. Humans are particularly resistant to overpressure, with pressures of more than 40 PSI needed to create fatalities, so the biggest risk is from potential projectiles created by collapsed structures. At 1 PSI overpressure glass in windows shatters, at 3 PSI residential structures collapse, whilst at 5 PSI city areas are completely destroyed. By 10 PSI reinforced concrete buildings are demolished and at 20 PSI fatalities reach almost 100%.

Radiation Effects: There are three types of radiation exposure: the shortest is from the radiation created by the fireball, which lasts for about one minute, and cause intense exposure for individuals near to the point of explosion. The second is from early fallout caused by ground bursts, which begin settling on the ground over a few hours, with most of the fallout having descended within a few days. The nearer the fallout to the explosion the more intense its effects as it is more densely deposited. The third is long term exposure to low levels of radiation, which is caused by prolonged residence in areas which have been contaminated by fallout, exposure to stratospheric delayed fallout, or radioisotopes that have been absorbed by the body. Radiation effects depend upon the dosage: consistent changes occur in blood cells above 50 REMS, with fluctuations in white blood cell count, drops in lymphocytes, platelet and red blood cell counts, and lymph glands begin to atrophy. Exposure of 80 REMS holds a 50% chance of causing depression in sperm production, and sterility in males at more than 100 REMS. Above 200 REMS significant mortality and illness occurs. At 450 REMS mortality reaches 50% and 90% at 600, whilst female sterility also becomes a possibility. Bone marrow is completely destroyed and initial symptoms take about 15-30 minutes to set in. These can last for up to four weeks, ending in death from infection and internal bleeding. Those who recover may take years. Above 1000 REMS diarrhoea and internal bleeding can be caused by rapid cell death in the gastrointestinal system, and can lead to death within hours. Symptoms include diarrhoea, anorexia, delirium and finally a coma before the subject dies. Above 5000 REMS metabolic disruption interferes with the nervous system, resulting in immediate disorientation and coma, taking up to 48 hours to die. There are also significant hazards from long term genetic effects, with radiation damage to germ cells of reproductive organs possibly causing mutations that are passed on to children.

The effects of nuclear weapons are determined by the altitude at which they are detonated, and most nuclear weapons are designed to explode above the ground itself. There are four categories of explosion:

High Altitude Burst: the weapon is detonated at an altitude of above 30 km, dissipating energy as heat in a large volume of air molecules, creating a fireball that is both larger and that expands more rapidly than at lower altitudes. Significant ionisation of the upper atmosphere and an intense electromagnetic pulse can be created, as intense currents and electromagnetic fields are generated by the ionised matter produced by the high temperatures and energetic radiation of the explosion, leading



to severe disruptions of communications and electronic equipment. Any shock wave that reaches the ground will be greatly reduced though it will increase the area over which the blast is felt. Large amounts of nitrogen oxides are caused by the rapid expansion and cooling of the nuclear fireball, which could also significantly deplete the ozone layer.

Air Burst: the weapon is detonated at an altitude below 30 km but of sufficient height that the resultant fireball does not connect with the earth's surface. This is the most likely usage in a military nuclear strike, producing maximum blast, thermal and radiation effects. The blast sends out a shock wave that expands until it reaches the ground and is reflected, creating a second shock wave. The second wave travels faster than the first, overtaking it to combine and form a single reinforced wave. Burns to exposed skin and eye injuries can be produced over many square kilometres, and radiation can pose an initial hazard, though there is no local fallout since the fission products are dispersed across the globe unless rapid weather processes, such as rain, serves to localise the fallout.

Surface Burst: the weapon is detonated on or slightly above the surface of the earth, the fireball connecting with the landmass. This creates complete destruction of all people and structures at ground zero, but limits the extent of the blast and aftereffects over a larger area. Fallout is a hazard over a much larger area, due to materials such as dust sucked up into the fireball, becoming deposited with radioactive isotopes. These then rapidly return to the ground over a period of between minutes and days, creating downwind contamination both locally and thousands of kilometres away.

Subsurface Burst: the weapon is detonated at a point beneath the surface of the earth. A shock wave is generated, whilst cratering can occur in the area of the explosion. If the explosion breaks the surface there will be initial blast, thermal and nuclear effects of a greatly reduced degree, although localised fallout will be extremely heavy.

This year marks 60 years since the first atomic bomb was dropped on the Japanese city of Hiroshima GARY WILKINSON take a personal look at how the city has rebuilt itself in the shadow of the bomb ...

Hiroshima

after the bomb

On August 6th 1945, the B29 bomber Enola Gay (named after the pilot's mother) took off from Tinian island in the Marianas. The crew had trained for six months for this one mission after three months of pre-selection by the FBI.

Later that day the plane's bombardier would press a button and kill 100 thousand people. Hiroshima was a flat open city that had hardly been touched by the war so far. Its 320 thousand citizens had grown used to the single high-altitude bombers that had started over flying their city a few months ago so they took little precautions that day. At 8:16 the Enola Gay reached its aiming point. The bomb airburst over the city. "My god, what have we done?" co-pilot Robert A Lewis wrote in his personal log of the mission. At least the explosion did not blow the plane apart like they had been warned it might do.

Four days later Japan surrendered. Of course dropping the bombs probably saved more lives than it cost; Japan was in no hurry to surrender and a conventional invasion of the home islands would have meant a million estimated casualties on both sides. But there have always been rumours that they had to be dropped, to justify the expense, for scientific testing, to frighten Stalin...

The modern Hiroshima is an intensely beautiful city. In a country that seems, via its none-existent planning laws, over population and ransacking of its natural resources to turn its whole environment into unending ugliness this is no small achievement. Make no mistake, there are pockets of exquisite beauty - temples, shrines, gardens and the odd example of superb modern architecture. However the majority of its cities is one poorly designed apartment complex crammed against another with only narrow roads between them linked with a thick spider web of overhead cables. Hiroshima is the exception. Built on a river delta, braded ribbons of blue water are crossed by a network of wide tree-lined boulevards.

Of course the place can only be like this, as unlike most cities - where new is built on top the old and the street plan continues down through the centuries - fifty years ago the place was obliterated.

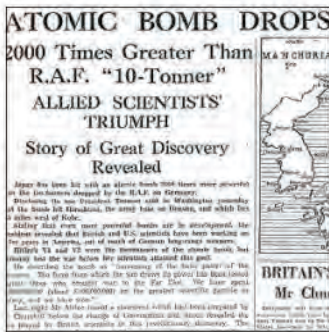
Directly where the bomb fell is now the Peace Park. Built on an island between two rivers its collection of memorials are dotted among rows of trees. Like every other notable historical place in Japan when I visited it swarmed with school children. They chatted loudly to each-other and milled around me in the museum. However

once I had moved from the context-setting part of the exhibition to the actual effects of the bomb they became much more subdued. And only someone with a heart of stone could not be effected by the artefacts and their stories - the stopped watches, the ragged clothes stained with black rain, the shadows that were people left on the steps of a bank, and a child's favoured tricycle once buried with the child himself. Probably the saddest story is the girl who suffered from leukaemia who tried to make a thousand origami cranes in the hope this symbol of good fortune would help her recover. She died before she could complete them though her classmates eventually did. She now has the monument for the children killed by the bomb dedicated to her and people leave cranes there to this day.

However the Peace Park is only one small part of a thriving modern city, one that has much friendly locals that a lot of Japan. One night I ended up in a tiny locals bar talking football - something I could not see happening in Tokyo. The people of Hiroshima must be somewhat bemused that most foreign visitors to the city are there because of one sad moment in its history.

The first night I was in Hiroshima as I walked from my hotel to the city centre I passed the Peace Park. As I approached the flood-lit A-Bomb Dome - the rusted remains of one of the few buildings to survive - there was the sound of drumming... then the country and western song 'Take Me Home, Country Roads' floated over from the baseball stadium over the road... It was one of the most surreal moments of my life and perfectly summed up the contradiction that is modern Japan.

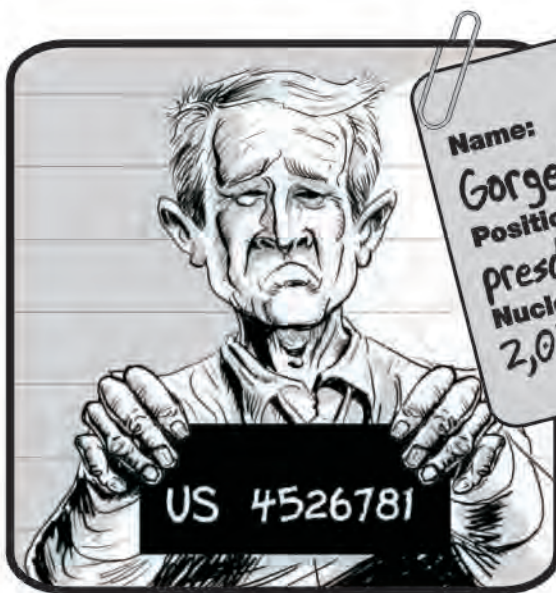
Below: the atomic dome, one of the few standing structures left after the bomb, is now a memorial site
Above right: the paper cranes memorial to children killed by the bomb. **Above left:** how British newspapers reacted to the news of the bombing



Who're the ones you've got to watch?
We assess those who have their finger
on the nuclear button ...

Their FINGERS are on the button

by Mike Molcher
Gary Wilkinson
Craig Heap & Ed Berridge



Name:
Gorge W Bush
Position:
President of US
Nuclear arsenal:
2,070 nooks

AS far as world leaders go, who would you rather had their finger on the nuclear button - a rational man who wants everyone to get along, or someone who has publicly stated his belief in Armageddon, has torn up several major nuclear treaties and plonked the two countries most determined to get nukes into the whole 'Axis of Evil' thing ...?

With his nuclear policy, Bush manages to make Ronald Reagan look like the greatest Enlightenment thinker since Voltaire; last year, the US Congress refused to fund ambitious proposals for new nuclear weapons. Undeterred by a plain "no", the Bush administration simply returned with proposals for some quaintly-

named "usable" nuclear weapons, including so-called "bunker busters" up to one megaton in strength. There's also a request on the desk to upgrade the US's nuclear stockpile. And don't forget that the US has already pulled out of the 1972 Anti-Ballistic Missile Treaty so it can have its anti-missile defence system, and scuppered talks over the Nuclear Non-proliferation Treaty.

Under the current Bush administration, military expenditure has increased by some \$100 billion to approximately \$400 billion annually, and nuclear weapons have assumed a far more central role in US security policy with the Nuclear Posture Review marking a major change in US nuclear strategy from the Cold War doctrine of deterrence, which could actually see American be the first country to initiate a 'first strike' against nations developing weapons of mass destruction.

The US' nuclear arsenal is once again on a hair-trigger - and guess who's got his finger on the button!

ARMAGEDDON RATING: HIGH

YOU'D think Dubya was the last person you'd want to see people emulating, but that hasn't stopped former KGB officer and Russian President from copying the new style of his country's former opponent.

Still with his finger on the world's biggest though antiquated nuclear arsenal, Putin appears to be positioning Russia as a centre of power in Asia. He has joined the fray over Iran and North Korea, maybe hoping his country will be seen as a 'non-West' negotiator these states can deal with. Russian nuclear collaboration with Iran has long been an irritant for the United States - it has offered to 'enrich' Iran's uranium, so as to avoid Iran having to face the UN Security Council over its nuclear programme.

He's also got his own little 'War on Terror' - successive terrorist attacks by Chechen separatists giving the excuse to bring in more hard-line policies.

Russian Minister for Defence Sergei Ivanov has suggested Russia should develop tactical nuclear weapons for 'first strike' scenarios,

similar to those being suggested in the US.

"Russia should not only strike blows against terrorists, but take other preventive measures not to let various threats appear before there is a need to take extreme actions to neutralize those threats," he said in November 2005.

Russia also plans to bump up its annual weapons and equipment budget by 150 per cent including buying another six intercontinental ballistic missiles (as if they haven't got enough already) and 12 booster rockets.

At the same time, the once mighty Soviet nuclear fleet lies rotting in harbour amid fears it could be targeted by terrorists keen to get their hands on radioactive material.



Name:
Vladimir Putin
Position:
Russian president
Nuclear arsenal:
8,400 varheads

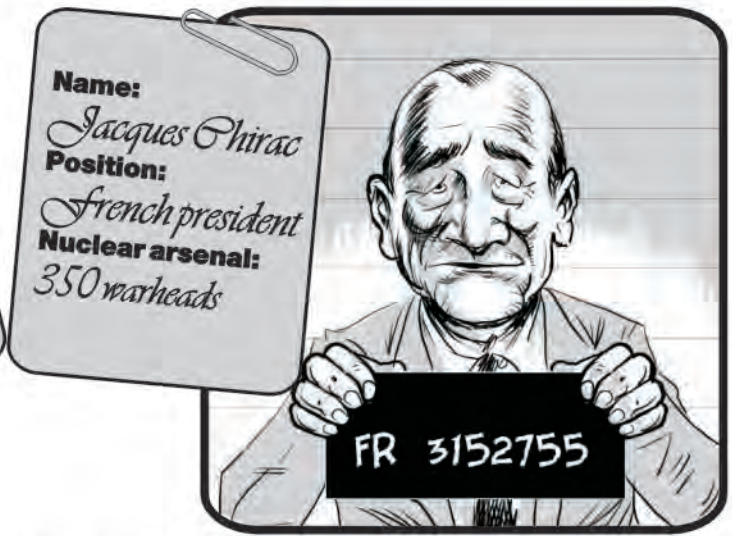
ARMAGEDDON RATING: RISKY

Illustrations by Johnny McMonagle



AFTER announcing his intention to leave office before the next election Blair has been busy trying to preserve his political 'legacy'. This includes pushing through plans to spend billions of pounds on a new generation of nuclear weapons to replace Britain's aging Trident fleet. "We're committed to retaining the UK's independent nuclear deterrent," Blair said in reply to a recent question in parliament on the issue. However given the recent rebellion by back bench labour MPs against plans to increase detention times for terrorist suspects there are now real doubts as to whether he would be able to force his nuclear desire through Parliament. Even if Blair does get his new toys they will not so independent as he would like - the current 'duel control' system only allows a launch with US agreement. As reported in *The Guardian* this effectively makes us a 'client state'. Seems Blair can only destroy the world if Bush lets him.

ARMAGEDDON RATING: LOW



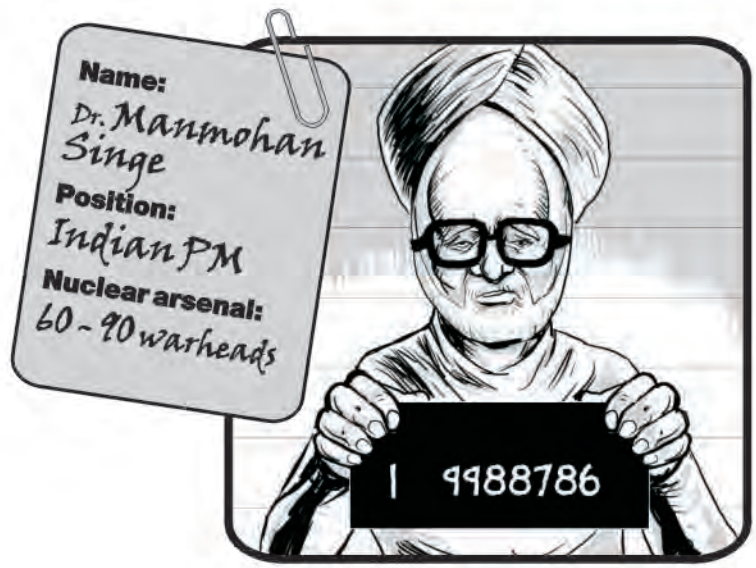
LIKE Blair is Chirac is doing his best to build a legacy before leaving office. He however seems to be leaving in a much worse state than our Tony with current major civil disturbance on top of France losing major votes on Europe and the Paris bid, both of which Chirac was heavily committed to. With regards to issues nuclear Chirac has a murky past. France has always maintained its independent nuclear deterrent. Back in the '70s he freelanced a deal with Iraq's Saddam Hussein to see Iraq a pair of reactors and train 600 Iraqi nuclear scientists and even sought to ship weapons-grade plutonium, to the country. Once President in 1995 he started nuclear testing again just before the comprehensive Test Ban Treaty came into effect. This produced major condemnation from around the world. Given the recent troubles, Chirac is probably too busy with other things to blow up the world.

ARMAGEDDON RATING: LOW



ALTHOUGH he gained power in a coup, Musharraf is seen by the West as a political moderate and a relatively safe pair of hands, supporting Bush's War on Terror. However Musharraf has come under fire in the west when a top Pakistani physicist was accused of supplying nuclear technology to North Korea by Dr Abdul Qadeer Khan, who developed Pakistan's first bomb. Musharraf has denied knowledge of or participation by Pakistan's government or army in this proliferation despite deep domestic criticism for singularly vilifying Khan, a national hero. Musharraf was the Chief of Army Staff when Pakistani made incursions into the Indian-held disputed territory of Kashmir in 1999. After suffering many reverses, the Pakistani Army was ordered to retreat. Some reports suggest that Musharraf retreated after huge pressure on the then Pakistani Prime Minister Nawaz from the American President, who feared the conflict could turn nuclear. However many now think that Musharraf was the one who pushed Sharif to withdraw the Pakistani troops after being caught in a losing scenario. In the middle of 2004, Musharraf began a series of talks with India to solve the Kashmir dispute but Pakistan has publicly stated that it reserves the right to 'exercise its nuclear option' in a large scale war with India and tensions remain.

ARMAGEDDON RATING: HIGH



ALTHOUGH India has a 'minimal deterrent' and 'no first nuclear strike' policy enshrined in its nuclear doctrine many feel that any future India / Pakistan conflict could turn nuclear. The US government is currently working with India to increase its nuclear power program. Previously the country had relied on input from Pakistan and China to its diminution in its prestige. A major announcement is rumoured to be planned for Bush's first visit to the country in 2006. It is not known whether this includes increasing India's nuclear deterrent. However both countries have denied this and Singh has gone on to say "There is nothing in this joint statement that amounts to limiting or inhibiting our strategic nuclear weapons programme over which we will retain unrestricted, complete and autonomous control." (Unlike us then.) Singh is seen by the West as a capable moderate politician and the best hope for keeping the subcontinent cool as far as nuclear tensions go.

ARMAGEDDON RATING: HIGH

ONE of the Non-Proliferation Treaty nuclear states, China currently is in possession of enough reprocessed Uranium to make 1200 nuclear weapons. China was the last country to perform an atmospheric nuclear test, conducted in 1980, and was one of 173 nations to agree to an open-ended commitment to reject nuclear weapons as long as the principal nuclear states of the US, UK, Russia, France and China would eventually phase out their own arsenals. Though relations with Taiwan have improved in the last decade, China still threatens to use armed force against the country if it officially declares itself as an independent country. Chinese general Zhu Chenghu warned in July 2005 that Beijing was still prepared to use nuclear weapons against the US if Washington intervened militarily during a conflict between itself and Taiwan.

Name:
Hu Jintao
Position:
Pres of China
Nuclear arsenal:
400 warheads

Name:
Kim Jong-il
Position:
N Korean ruler
Nuclear arsenal:
0-18 warheads

NORTH Korea is currently suspected as having enough reprocessed plutonium to produce as many as 10 nuclear bombs. It is known to have bought uranium enrichment technology from the smuggling network masterminded by Pakistani scientist Abdul Qadeer Khan. The regime has also started extracting plutonium from the reactor at Yongbyon, and has officially declared that it has nuclear weapons. Despite a lessening in tensions between North Korea and its Southern neighbour in recent years, the resumption of its nuclear weapons programme has placed it in direct opposition to the UN and especially the US, who brand North Korea as a 'rogue state'.

ARMAGEDDON RATING: RISKY

ARMAGEDDON RATING: RISKY

ISRAEL is currently believed to have enough reprocessed plutonium to construct 140 nuclear weapons. Though a nuclear intention has long been suspected, but no specific weapons programme has ever been detected. In 1979 Israel and South Africa were believed to have jointly tested a nuclear bomb, whilst in 1986 a technician at Israel's nuclear installation near Dimona called Mordechai Vanunu claimed that Israel had stockpiled 200 nuclear warheads, in contravention of international treaties. This secretive weapons programme has undoubtedly raised tensions in the Middle East, and was certainly one of the reasons behind the attempted acquisition of similar weapons in Iraq, Libya and Iran.

Name:
ARIEL SHARON
Position:
ISRAELI PRES
Nuclear arsenal:
300-400

ARMAGEDDON RATING: RISKY



Name:
Osama Bin Laden
Position:
terrorist leader
Nuclear arsenal:
None?

Name:
Colombian drug lords
Position:
Nasty men
Nuclear arsenal:
?

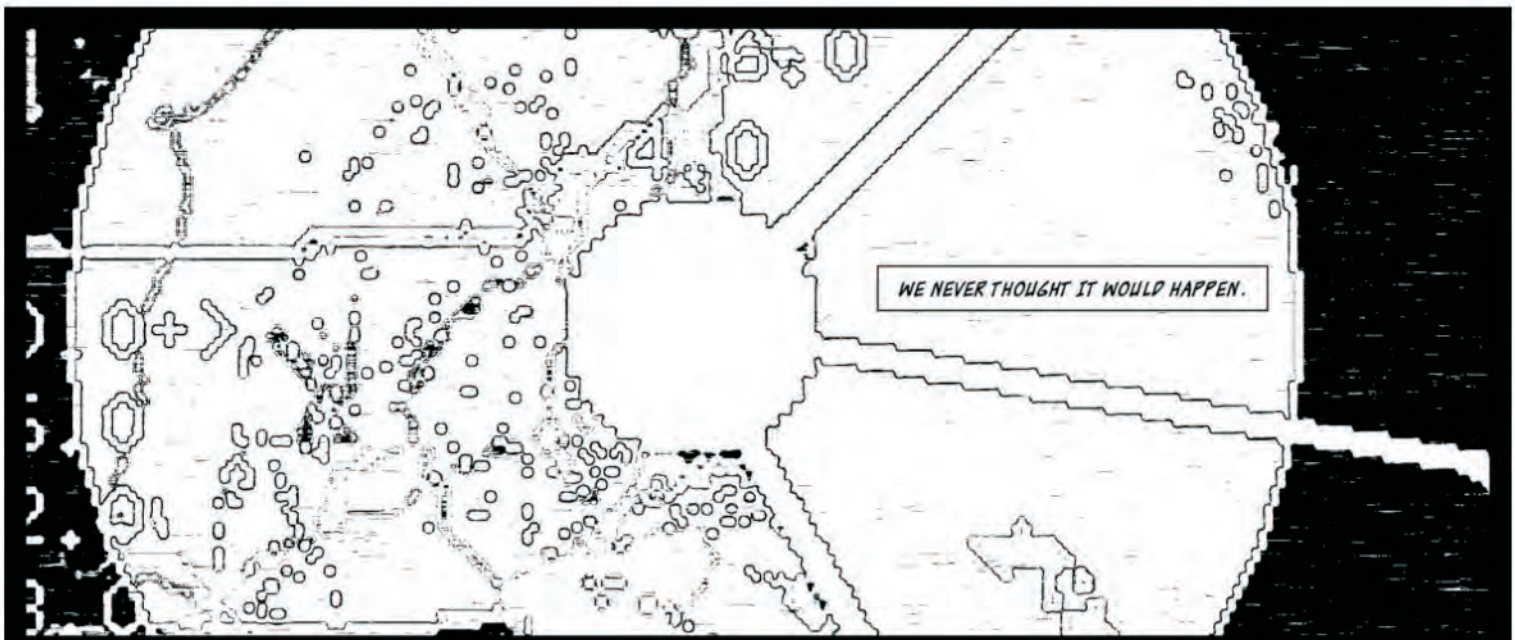


NOTHING has been heard from Bin Laden in nearly a year and some assume the Al Qaeda leader is dead or injured to the point of incapacity, perhaps in the recent Pakistani earthquake. There have been rumours that Al Qaeda have tried to obtain some sort of 'suitcase bomb' in Russia a few years ago and were only stopped by Israel's intelligence service Mossad, but the Russian government has said this would be impossible as such devices were never built. Notes regarding nuclear weapons were found in an Al Qaeda safe-house in Kabul in 2001. These were later claimed to be a spoof or disinformation. Claims that Bin Laden had tried to secure nuclear material from Nigeria were proven false even before Donald Rumsfeld used them as justification for the Iraq War. He may have tried to obtain uranium from Sudan in the early 90s, though most commentators feel that Al Qaeda are, thankfully, a long way from deploying a full scale nuclear weapon (enormous resources are required) and even a so-called 'dirty bomb' would not be as devastating as previously thought. However, Bin Laden would almost certainly use a nuclear weapon if he could, cleansing the infidels in the West with Holy nuclear fire.

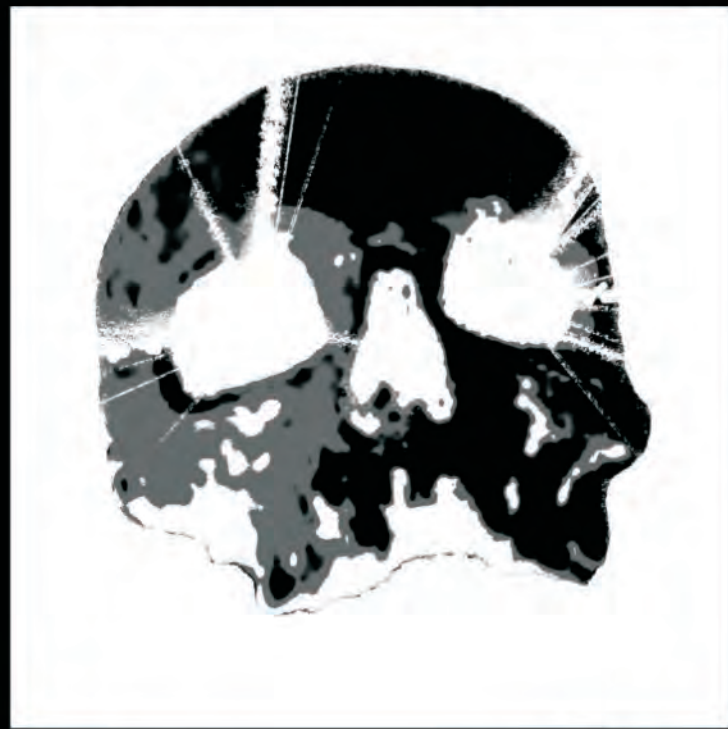
EVIDENCE that Colombian drug cartels have been trying to get their hands on Russian submarines has been documented from as early as 1990, up to 2000 when a half-constructed submarine was found in Bogota with construction manuals written in Russian. In the early '90s, at a strip joint near Miami airport, a deal fell through between key Russian Mafia figures met with Cali Cartel representatives, the largest and most powerful South American drug cartel, to exchange cocaine for - amongst other military hardware - a Tango-class diesel submarine, complete with crew. Columbia is a nation left broken and bleeding as the popular right-wing paramilitary AUC battles the insurgent Communist FARC Movement. The Cartels then sponsor them in return for protection. The cartels clearly have no problem getting hold of Russian hardware, so securing a tactical nuclear weapon - one of the so-called Russian 'suitcase bombs' or even a nuclear submarine - is theoretically no problem. So anyone from Carlos Castro, the AUC's leader, Manuel Marulanda, the FARC's long-time general secretariat, or Columbia's leading drug baron Diego Montoya-Sanchez could have their finger on the button of a suitcase sized nuke, and we all know how excellent the Colombian's are at smuggling small packages into tightly secured places.

ARMAGEDDON RATING: HIGH

ARMAGEDDON RATING: HIGH



WE NEVER THOUGHT IT WOULD HAPPEN.



*NOT TO US,
THE GENERATION
THAT GREW UP
UNDER THE SHADOW
OF THE BOMB.*

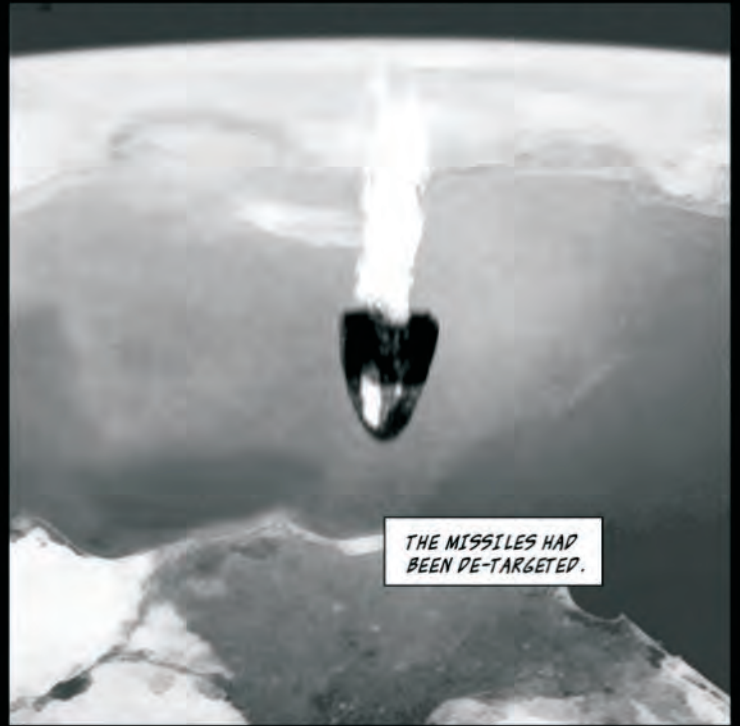


*THE TERROR HAD PASSED,
THE THREAT HAD RECEDED.*

NO COLD WAR.



NO NUCLEAR SHOWDOWNS.

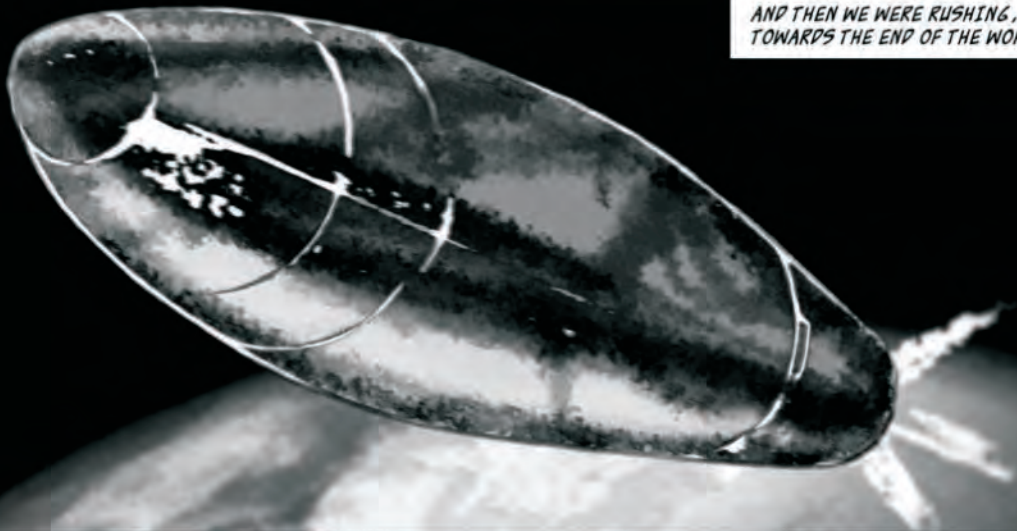


THE MISSILES HAD BEEN DE-TARGETED.

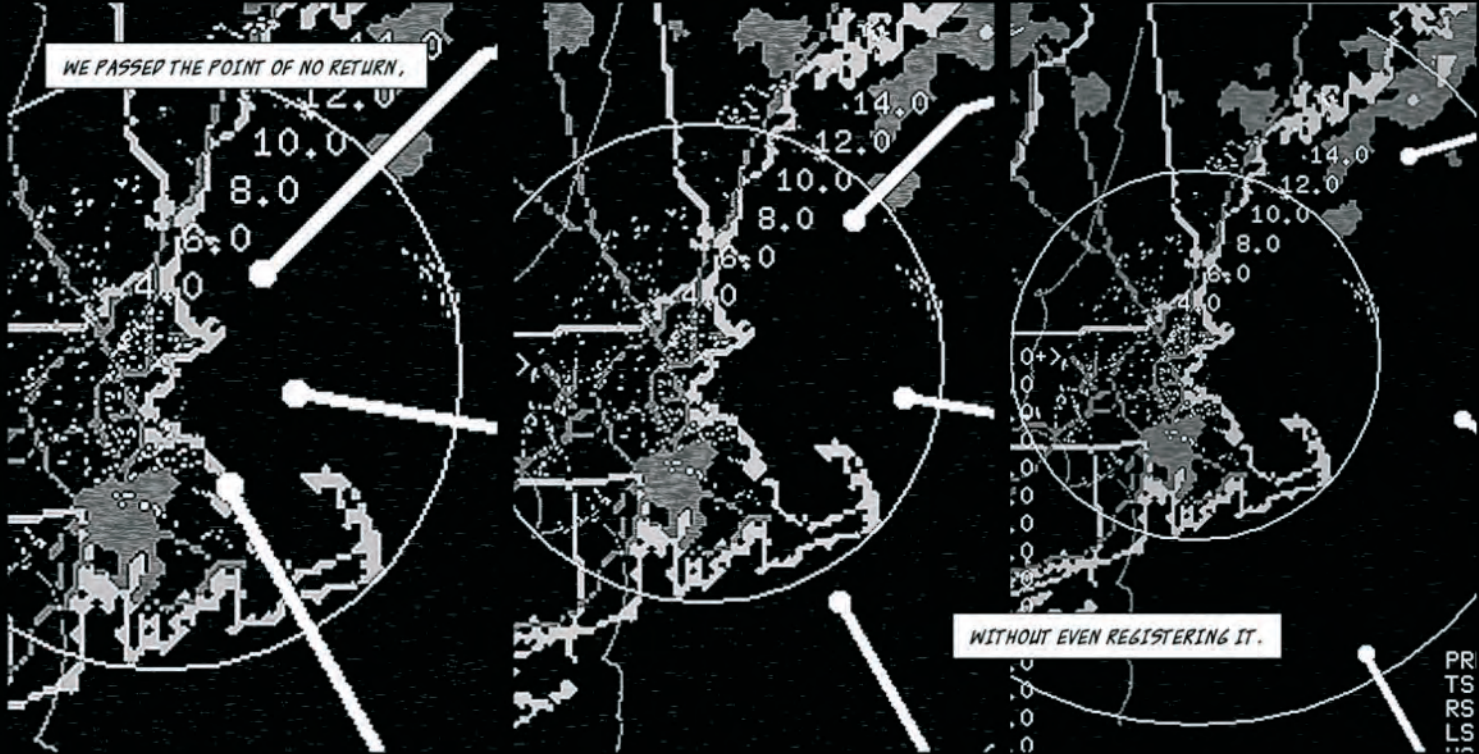
AN ENTIRE GENERATION HAD GROWN UP NOT KNOWING WHAT IT WAS LIKE EXCEPTING ARMAGEDDON EVERY DAY.



AND THEN WE WERE RUSHING, IRREVERSIBLY,
TOWARDS THE END OF THE WORLD AGAIN.



WE PASSED THE POINT OF NO RETURN,



WITHOUT EVEN REGISTERING IT.

PR
TS
RS
LS

AND SO, OVER THE COURSE
OF A FEW SHORT HOURS,



LIFE AS WE KNEW
IT WOULD END.

ALL AT THE PUSH
OF A BUTTON.



WHERE COULD IT ALL GO WRONG?



"The world is a dangerous place, and growing ever more so. With enough reprocessed plutonium existing to build more than 100,000 nuclear bombs and fossil fuels rapidly depleting, international political tensions are higher than even during the Cold War. But what will be the spark that lights the fire of war? What conflict will spill over so readily into nuclear war? Here we present the most likely places where we can expect to see these tensions escalate into the wars of tomorrow:

ALASKAN OILFIELDS

ORIGINALLY bought from Russia in 1867 for \$7.2m (\$86.7m today), **ALASKA** sits upon on America's largest, and relatively untapped, reservoir of oil with approximately 12 billion barrels. In 1982, a US TV miniseries called *World War III* starring Rock Hudson was aired which told of a Soviet invasion of Alaska in order to seize US oilfields, which then escalates into a nuclear exchange. Rock may not be around to save us this time as, with demand for oil soaring and no sign of a workable alternative fuel, the fate of Alaska may already have been sealed. President George Bush has already secured a large expansion of oil exploration into previously environmentally protected areas, part of plans to reduce reliance on unstable Middle Eastern oilfields. But how long before lack of oil elsewhere means other nations begin to look towards Alaska with envious eyes?

CUBA

EVEN at the age of 79, Fidel Castro still shows no signs of giving up his grip on this Caribbean nation of **CUBA** and enduring thorn in America's side. Castro has indicated that his brother, 71-year-old Raúl Castro, would assume authority should he become ill. However, it is well known Raúl's position is through the patronage of his elder brother rather than merit. As Armed Forces minister, Raúl controls much of the military, prompting speculation that he could launch a power grab after his brother's death. But his survival in government is widely attributed to his brother's

protection, and it is widely believed Cuba's generals would not waste the chance to get rid of him as a potential obstacle and seize power for themselves instead. There are also some who cite Raúl as being more hardline than his brother - a worrying notion in the light of constant Cuba/US agitation, the prospect of nuclear proliferation in Cuba's Latin American neighbours and a new leader keen to step out of his brother's shadow. Could Cuba once again hold the fate of the world in its hands, as it once did back in 1962?

SOUTH AMERICA

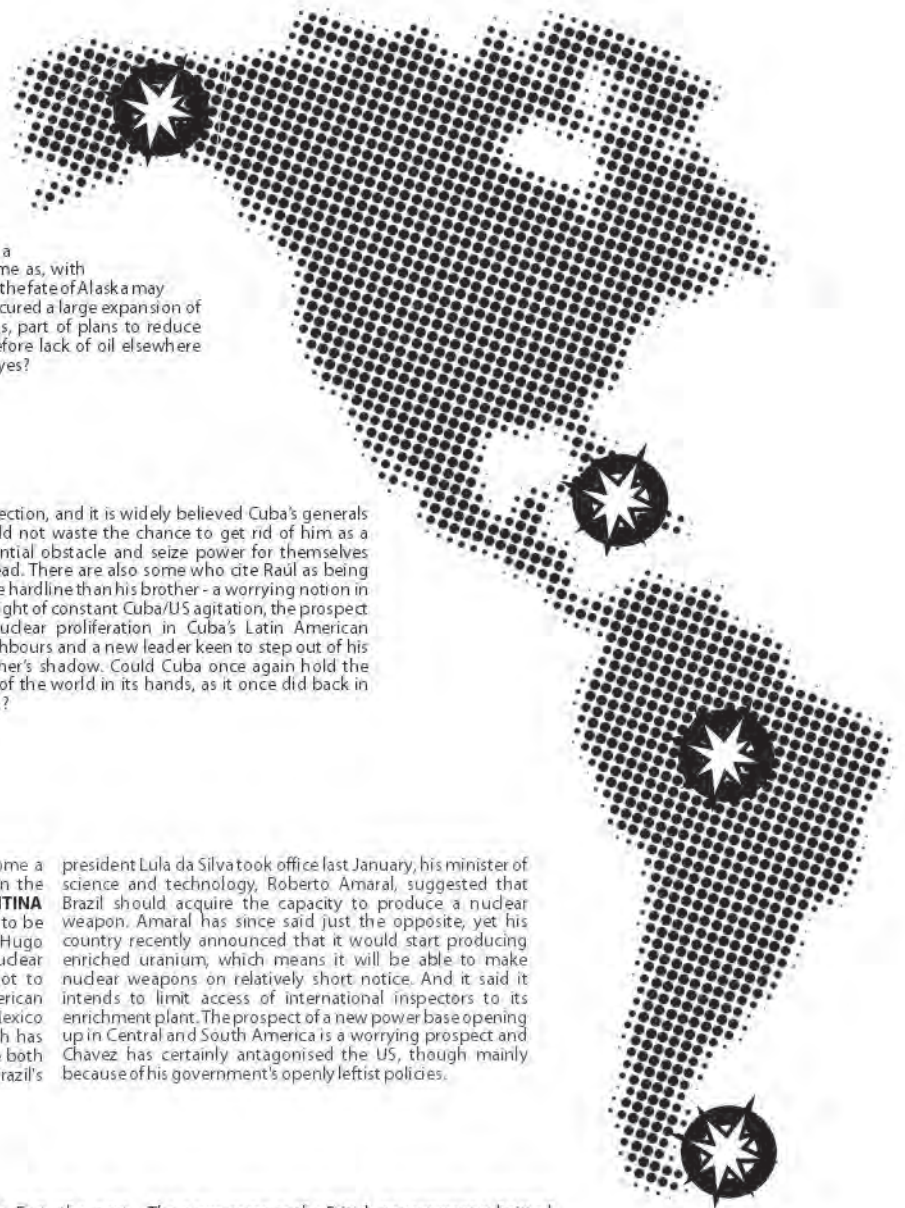
SOUTH and Central America could be about to become a nest of nuclear nations - right under the nose (and in the backyard) of the US. Countries from **MEXICO** to **ARGENTINA** and including **VENEZUELA** and **BRAZIL**, are believed to be aspiring nuclear nations. In May, Venezuelan President Hugo Chavez said his country will launch a national nuclear development programme "for peaceful purposes, not to make bombs", in co-operation with other Latin American countries, Europe and Iran. He also suggested that Mexico plans on starting a nuclear programme. Brazil (which has massive natural stocks of uranium) and Argentina have both had nuclear programmes in the past. However, when Brazil's

president Lula da Silva took office last January, his minister of science and technology, Roberto Amaral, suggested that Brazil should acquire the capacity to produce a nuclear weapon. Amaral has since said just the opposite, yet his country recently announced that it would start producing enriched uranium, which means it will be able to make nuclear weapons on relatively short notice. And it said it intends to limit access of international inspectors to its enrichment plant. The prospect of a new power base opening up in Central and South America is a worrying prospect and Chavez has certainly antagonised the US, though mainly because of his government's openly leftist policies.

FALKLAND ISLANDS

WHILE all eyes are on the Middle East, the next nuclear flash point may actually be **THE FALKLAND ISLANDS** off the coast of Argentina. Argentina, which some say is aspiring to be a nuclear nation, is showing impatience over Falkland Islands, which it calls *Is las Malvinas* and still claims as its own. In May this year, the Sunday Express claimed the government had become so concerned that Argentina might attempt to launch a surprise invasion that it increased its presence to 5,000 troops, also sending the missile and torpedo frigate RN Portland, a claim later denied by the Ministry of Defence.

The news came as the British government admitted that its ships carried 'nuclear depth charges' to the Falkland Islands during the 1982 war with Argentina - but only because there wasn't time to unload them before setting off. Bizarrely, Cuba recently called for talks over the sovereignty of the Falklands. In October, Ms. Ileana Nunez, the Cuban Alternate Permanent Representative reasserted "Cuba's unequivocal support for the legitimate right of Argentina in the dispute over sovereignty of the Falkland Islands" at the General Assembly's 4th Commission on Special Policies and Decolonisation, though she stressed that



POINTS

KOREA

THE last remaining 'true' Communist dictatorship, **NORTH KOREA** has in recent years become a major headache for the West. While its anti-US and anti-Japan sentiments remain the same, what is different is its determination to secure nuclear weapons has, it seems, born fruit.

After the the Korean War (1950-3), North Korea became a hermit state. Years of oppression and isolation have resulted in a starving population bred to believe their leader is a god.

North Korea has been attempting to obtain nuclear weapons since the late 1970s, gaining much of its expertise from Pakistan. It claims its weapons program is no more than a deterrent against the US (a document leaked in 2001 didn't help - it said the US was willing to use nuclear weapons against North Korea). It withdrew from the Nuclear Non-

Proliferation Treaty in 2003, refusing to allow inspectors access to nuclear sites and tearing up the 1992 accord to keep the Korean peninsula free of nuclear weapons.

Branded by President Bush in a post 9/11 speech as part of the 'Axis of Evil', in April 2004 it said it was at the 'brink of nuclear war' with the US. In February, it confirmed it had developed nuclear weapons for self-defence - there is no evidence of a successful nuclear test explosion but it is estimated the country could have up to eight nuclear bombs. However, in July North Korea offered to abandon its nuclear weapons in return for a new peace agreement and help building a civilian nuclear programme. Hopes of new talks were dashed when the rhetoric started again and there have been numerous spats in recent months.

KASHMIR

Split in two since the Indo-Pakistani War of 1947, this valley that separates India and Pakistan has nearly sparked nuclear conflict on several occasions. Both countries continue to claim the entire region of KASHMIR, the highest battle ground in the world, for themselves. The long-standing dispute took on a greater degree of seriousness when both Pakistan and India developed nuclear weapons in the late 1990s.

In 1999, fears that one such confrontation could turn into a nuclear war lead to then-

US President Bill Clinton pressuring Pakistan into retreat. In early 2002, India reacted to an attempted terrorist attack on the Indian Parliament with war threats, massive deployment and international fears of war. However, the situation calmed down after an agreement in 2003 to maintain their first ceasefire in nearly 15 years. Restarting a bus service between the Indian- and Pakistani-administered Kashmir helped defuse tensions and the recent major earthquake in the area has focused minds on humanitarian co-operation.

TAIWAN

SEPARATED by the Taiwan Straits, China has long claimed **TAIWAN** as its own, even stating that "Taiwan is an inalienable part of China". The source of sabre-rattling between the US and China for years, the status of this 'tiger economy' in the South China Sea sparked intermittent clashes throughout the 1950s and 60s, including the First Taiwan Strait crisis and Second Taiwan Strait crisis. China's position is still that Taiwan is a renegade province that must be united with the mainland by force if necessary, saying that there will be war if Taiwan separates itself from China in any way or refuses reunification negotiations indefinitely. In 1979, the US passed the Taiwan Relations Act, generally interpreted as allowing US defence of Taiwan in the event of an attack by China, although the current US administration has said it would not aid Taiwan if it were to declare unilateral independence. The most recent scare in 1996 saw China conduct military exercises near Taiwan, when it launched several missiles over the island in response to the possible re-election of a pro-independence president. It is a diplomatic nightmare and a tight-rope for the US, which prefers a path of ambiguity - maintaining the status quo where Taiwan is neither independent, nor part of China. The possibility of war in the Taiwan Straits remains low in the short-term but what would happen should any of the various sides make a sudden move is unknown.

THE MIDDLE EAST

Although one of the most unstable regions in the world, **THE CAUCASUS** are also of great

strategic significance to the world powers. The Russian army entered **CHECHNYA** on December 10, 1994, left in 1996 and returned in 1999. Claiming independence after the Soviet Union's break-up, it has seen a decade of war between Russia and the separatists. Fighting continues, although primarily in the form of terrorist attacks, most notably the Moscow theatre hostage crisis and the Beslan School Siege. President Vladimir Putin said his country's actions there was part the 'War on Terrorism'. But the stakes could be getting a little higher, on October 19 a letter claiming that Chechen rebels possess nuclear weapons was published in a Chechen newspaper. The letter from an individual named only as "Zakhar" claimed that disgraced billionaire Boris Berezovsky, now living in Britain, was the source of the weaponry. The letter is the latest salvo in an ongoing debate between Berezovsky and the Chechen rebels over the ownership and sale of alleged nuclear weapons, with both sides sounding increasingly desperate. And don't forget the 1,093 mile **BAKU-TBILISI-CEYHAN** pipeline, which opened on May 25, pumping oil from the Caspian Sea to the Mediterranean coast. There are concerns over its security in a region beset with conflict.

2 The very existence of **ISRAEL** is an anathema to many in the Middle East. Created in 1946 as a homeland for the Jews, it remains mired in conflict. Known to have nuclear weapons, but won't confirm it, with an estimated arsenal of 100 warheads. Its capital, Jerusalem, is a holy site for no less than three major world religions, its very existence is despised by many of its neighbours and it is subject to almost daily attacks by suicide bombers. Israel recently said it had no plans to attack Iran, despite Iran's supreme leader, Ayatollah Ali Khamenei, recently declaring that Israel should be 'wiped from the map'.

3 Where do we start with **IRAQ**? The American-led war in 2003 followed a disarmament crisis in 2002. The invasion was justified by claims which included that then-leader Saddam Hussein had failed to account for what the West claimed were covert nuclear, biological and chemical programmes (the fabled "weapons of mass destruction"). Two years after the invasion, no evidence of these weapons has so far been found but Iraq continues to put world peace at threat. Some claim it acts as a recruiting poster for fundamentalist terrorists, some of whom are supposedly seeking nuclear weapons.



4 **IRAN** has had a nuclear programme for decades, but maintains it is for the generation of power, as any other use is a violation of the Nuclear Non-Proliferation Treaty, of which it is a signatory. In 2002, it was revealed Iran had two secret nuclear sites, a uranium enrichment facility in Natanz and a heavy water facility in Arak. The present crisis began in 2003, when the US claimed Tehran is seeking to build nuclear arms and develop nuclear missiles. However, no direct evidence of a covert nuclear weapons programme has ever been produced. In November 2004, Iran's chief nuclear negotiator announced a voluntary, temporary suspension of its uranium enrichment programme. But less than a year later, in August it resumed uranium conversion. The US and Europe continue to pressure Iran, as many fear such an anti-West state going nuclear.

5 With the House of Saud notably weakening, plus speculation they've have been lying for years about their oil supplies, revolution in **SAUDI ARABIA** has never been so close. In that event, due to the country's pivotal Middle East role, the US might have no choice but to invade. Considering that American bases on sacred Saudi soil (it contains not only Mecca but also numerous other sacred Islamic sites) is one of the major events that inspired Wahabbists like Bin Laden to extend their activities beyond their own countries, a full-scale American invasion of Saudi Arabia could well provoke an all-out war between East and West.

A SHORT HISTORY OF THE NUCLEAR 'NEAR MISSES'



BERLIN AIRLIFT 1948

In a dispute over the status of Germany, the Soviets blockaded Berlin - including the western portion occupied by the Allies - all land access was cut off as the Soviets attempted to force West Berlin in submission. For weeks, the Americans airlifted in food and supplies to keep the Allied sectors alive. The West eventually threatened war with East Germany and the Soviets, and a war plan was drawn up calling for nuclear attacks on 24 Russian cities. The stand-off ended with the saving of West Berlin and West Germany and an end to the blockade.

CRISIS OVER VIETNAM 1954

The United States and France actually almost went to war with North Vietnam, China and possibly the Soviets.

About 3,000 French troops were surrounded at Dien Bien Phu - withdrawing would result in a unified communist Vietnam and enhance Communist movements in Indonesia, Philippines, India and elsewhere. China pledged to protect North Vietnam, and the Soviets were providing technical assistance to North Vietnam, resulting in the possibility of Soviet intervention. The USA drafted Operation Vulture which called for a nuclear assault on Vietnam. The Americans offered to intervene with tactical nuclear weapons, as well as attack the Soviets and China should it become clear they were going to intervene. The threats stopped the Chinese intervening, but the French withdrew ... to be replaced by the ill-fated American forces.

BOMBER ACCIDENTS 1957, 1961 & 1966

In 1957, a US B47 bomber crashed on a practise landing at an RAF base near Cambridge and smashed into a storage building containing three nuclear weapons. Burning fuel threatened the bombs' trigger mechanism. Luckily fire fighters prevented disaster. In 1961 two twenty five-megaton bombs were released over North Carolina when a B52 broke apart in mid-air. One parachuted to safety but the other plummeted into waterlogged farmland. When it was recovered it was found that five of its six safety devices had failed... In 1966 a B52 hit a fuelling tanker 30 thousand feet above the Mediterranean coast. There was an explosion and four H-bombs fell near a Spanish village. Two ruptured, spreading radioactive material over the countryside, and one remained whole but the last was lost at sea leading to a frantic search. The US government removed nearly two thousand tonnes of radioactive soil to an American nuclear waste dump. There have also been several examples of nuclear submarines crashing into ships over the years.

And these are just the ones we know about...

EARLY WARNING FAILURE 24 NOVEMBER, 1961

During the night, all communication links between SAC HQ and NORAD went dead. This cut SAC HQ off from the three Ballistic Missile Early Warning sites (BMEWS) at Thule (Greenland), Clear (Alaska), and Fylingdales (England). For General Power at SAC HQ, there were two possible explanations: either enemy action, or the coincidental failure of all the communication systems which had redundant and ostensibly independent routes including commercial telephone circuits. All SAC bases in U.S.A. were therefore alerted and B-52 nuclear bomber crews started their engines, with instructions not to take off without further orders. Radio communication was established with an orbiting B-52 on airborne alert which was near Thule. It contacted the BMEWS station by radio and could report that no attack had taken place. The reason for the "coincidental" failure was that the redundant routes for telephone and telegraph between NORAD and SAC HQ all ran through one relay station in Colorado. At that relay station a motor had overheated and caused interruption of all the lines.

COLD WAR TIMELINE





DULUTH INTRUDER OCTOBER 26, 1962

OF THE COLD WAR

CLOSE

WE COME?

At around midnight, a guard at Duluth Sector Direction Centre saw a figure climbing the security fence. He shot at it, and activated the "sabotage alarm". This automatically set off sabotage alarms at all bases in the area. At Volk Field, Wisconsin, the alarm was wrongly wired, and the Klaxon sounded which ordered nuclear-armed F-106A interceptors to take off. The pilots knew there would be no practice alert drills while DEFCON 3 was in force, and they believed World War III had started.

Immediate communication with Duluth showed there was an error. By this time aircraft were starting down the runway. A car raced from the command centre and successfully signalled the aircraft to stop.

The original intruder was a bear.



CUBAN MISSILE CRISIS OCTOBER, 1962

For thirteen days in October 1962, the Cold War suddenly turned Arctic as the world became poised on the brink of nuclear war with the Cuban Missile Crisis.

After years of brinkmanship between the US and the USSR, in early 1962 an American U-2 spy plane photographed a series of launch sites for medium-range ballistic missiles being constructed on the island of Cuba, just off the coast of the southern United States. The US administration of John F. Kennedy concluded that the Soviet Union, then led by Nikita Khrushchev, was planning to station Russian nuclear missiles on the island, which was under the control of Communist Fidel Castro. Such missiles would have a range of 2,400 miles and could have easily reached many major American cities on the Eastern Seaboard if a nuclear war began.

On October 22, Kennedy announced the discoveries in a televised address, and declared that a naval quarantine would be put around Cuba to turn back any Soviet nuclear shipments, and warned that the military was prepared "for any eventualities".

The leaders of the two superpowers stood nose to nose, seemingly poised over the beginning of a third world war. Khrushchev's decision to site the missiles in Cuba came partly because the US had stationed similar weapons in Britain, Italy, and Turkey, and a year before had sponsored the failed Bay of Pigs Invasion. On October 26, an offer was sent from Khrushchev to Kennedy offering to withdraw all missiles if Kennedy would commit to a policy of no future invasions of Cuba: *"You and I should not now pull on the ends of the rope in which you have tied a knot of war, because the harder you and I pull, the tighter the knot will become. And a time may come when this knot is tied so tight that the person who tied it is no longer capable of untying it, and then the knot will have to be cut. What that would mean I need not explain to you, because you yourself understand perfectly what dreaded forces our two countries possess."*

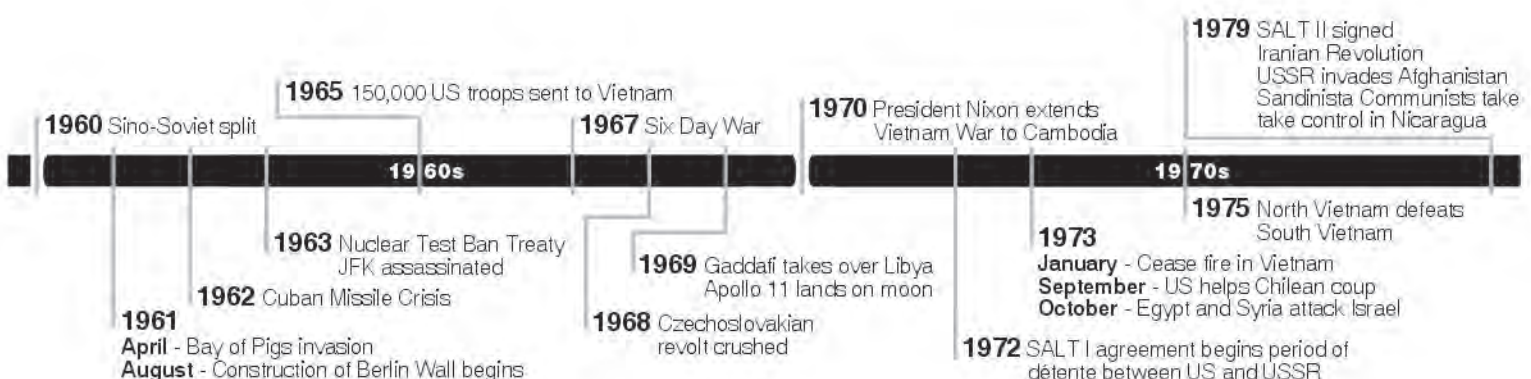
Nikita Khrushchev urged Kennedy to not to cut the "knot of war" created by nuclear deterrence.

A day later, however, the Russians put forward another offer, this time demanding that the US remove its missiles from Turkey before any

missiles would be withdrawn from Cuba. On the same day, a U-2 plane was shot down over Cuba, another was almost intercepted over Russia, and Soviet merchant ships were nearing the quarantine zone. Kennedy responded by accepting the first deal publicly, and sending his brother Robert to the Soviet embassy to accept the second deal in private.

On October 28, the Soviet ships stopped at the quarantine line and, after some hesitation, turned back towards the Soviet Union. Khrushchev announced that he had ordered the removal of all missiles in Cuba.

The crisis was later seen as the closest the US and the USSR ever came to nuclear war and had been narrowly averted by last-minute compromise. Fears of communication difficulties led to the installment of the first hotline, a direct link between the superpowers which would allow them to talk more easily.





PENKOVSKY FALSE WARNING NOVEMBER 2, 1962

Col. Oleg Penkovsky was working in Russia as a double agent for the CIA and had been given a code with which to warn the CIA if he was convinced that a Soviet attack on the United States was imminent - he was to call twice, one minute apart, and only blow into the receiver. Further information was then to be left at a "dead drop" in Moscow. The prearranged code message was received by the CIA on November 2, 1962. It was not known at CIA that Penkovsky had been arrested on October 22. Penkovsky knew he was going to be executed. It is not known whether he had told KGB the meaning of the code signal or only how it could be given, nor is it known exactly why or with what authorization KGB staff used it. Another CIA agent who went to check the dead drop was arrested.



COMPUTER EXERCISE TAPE NOVEMBER 9, 1979

At 8.50am, duty officers at four command centres - NORAD HQ, SAC Command Post, the Pentagon National Military Command Center, and the Alternate National Military Command Centre - all saw on their displays a pattern showing a large number of Soviet missiles in a full-scale attack on USA. During the next six minutes, emergency preparations for retaliation were made. A number of Air Force planes were launched. The president had not been informed, perhaps because he could not be found and no attempt was made to use the hot line either to ascertain the Soviet intentions or to tell the Russians the reason for the US actions.

NORAD was able to contact PAVE PAWS early warning radar and learn that no missiles had been reported. Also, the sensors on satellites were functioning that day and had detected no missiles. In only six minutes the threat assessment conference was terminated.

The reason for the false alarm was an exercise tape running on the computer system. US Senator Charles Percy happened to be in NORAD HQ at the time and is reported to have said there was absolute panic. The General Accounting Office conducted an investigation, and an off-site testing facility was constructed so that test tapes did not in future have to be run on a system that could possibly be in military operation.



NORWEGIAN WEATHER MISSILE JANUARY, 1995

On 25 January, 1995, the Russian early warning radars detected an unexpected missile launch near Spitzbergen. With an estimated flight time to Moscow of just five minutes, the Russian President, Defence Minister and Chief of Staff were informed. The Russian nuclear machine swung into alert ... but within the five minutes it was discovered it was nothing more than a missile carrying instruments for scientific measurements.

On 16 January, Norway had notified 35 countries - including Russia - that the launch was planned. Information had apparently reached the Russian Defence Ministry, but failed to reach the on-duty personnel of the early warning system.

STANISLAV PETROV: the man who saved the world

Lieutenant Colonel Stanislav Petrov was the officer on duty at the Serpukhov-15 bunker near Moscow on September 26, 1983, a time when the Cold War was at a peak. (Just three and a half weeks prior, the Soviets had shot down Korean Air Flight 7, killing all 269 people on board the Boeing 747.) It was Lt. Col. Petrov's responsibility to observe the satellite early warning network and notify his superiors of any impending nuclear missile attack against the USSR. In the event of such an attack, the Soviet Union's strategy was to launch an immediate all-out nuclear counter-attack against the United States, as the doctrine of Mutual Assured Destruction required.

Just past midnight, the bunker's computers indicated that an American missile was heading toward the Soviet Union. Lt. Col. Petrov reasoned that a computer error had occurred, since the United States was not likely to launch just one missile if it were attacking the Soviet Union - it would launch many simultaneously. Also, the satellite system's reliability had in the past been questioned, so he dismissed the warning as a false alarm, concluding that no missile had actually been launched by the United States.

A short time later the computers indicated that a second missile had been launched, followed by a third, a fourth and a fifth. Petrov still felt that the computer system was wrong, but there was no other source of information with which to confirm his suspicions. The Soviet Union's land radar was not capable of detecting missiles beyond the horizon, so by the time land radar could positively identify the threat, it would be too late.

Petrov's dilemma was this: if he was disregarding a real attack, then the Soviet Union would be devastated by nuclear bombs without any warning or chance to retaliate, and he would have failed at his duty. On the other hand, if he were to report a non-existent attack, his superiors might launch an equally catastrophic assault against their enemies. In either case, millions of innocents would die.

Understanding that if he were wrong, nuclear missiles would soon be raining down on the Soviet Union, Petrov decided to trust his intuition and declare the system's indications a false alarm. After a

short while, it was apparent that his instincts were right. There were no approaching missiles. The crisis put him under immense pressure and nervousness, yet Petrov's judgement had been sound. A full-scale nuclear war had been averted.

Stanislav Petrov was not originally scheduled to be on duty that night. Had he not been there, it is possible a different commanding officer could have made the opposite decision.

Despite having prevented potential nuclear disaster, by refusing to acknowledge the computer system's warnings Lt. Col. Petrov had disobeyed his orders and defied military protocol. He later underwent intense questioning by his superiors about his actions during the nerve-racking ordeal, the result of which was that they no longer considered him a reliable military officer.

The Soviet military did not punish Petrov for his actions, but did not reward or honor him either. His actions had revealed imperfections in the Soviet military system which showed his superiors in a bad light. He was given a reprimand, officially for the improper filing of paperwork, and his once-promising military career came to an end. He was reassigned to a less sensitive post and ultimately retired from the military.

Petrov went on to live his life in Russia as a pensioner, spending his retirement in poverty in the town of Fryazino. He has said he does not regard himself as a hero for what he did that day, but nevertheless, on May 21, 2004, the San Francisco-based Association of World Citizens gave Colonel Petrov its World Citizen Award along with a trophy and \$1,000 United States dollars in recognition of the part he played in averting a catastrophe.

Less than two months after the event of September 1983, ABC-TV in the USA broadcast a controversial movie titled *The Day After*. This fictional drama was about a nuclear war between the United States and the Soviet Union and what effect it would have on families living in a typical American city. The events surrounding Petrov were unknown at this time to the American public. Most people (incorrectly) felt the Cuban Missile Crisis, twenty years prior, was the most recent event in which nuclear war would have been possible.

1981 US begins aiding anti-Soviet Afghan fighters and anti-Sandinista Contras

1982 Israel invades Lebanon

1983 US troops invade Grenada

1980s

1986

April - US planes bomb Libya

October - US and USSR agree to remove all intermediate nuclear missiles from Europe

1985 Mikhail Gorbachev becomes leader of USSR
Iran-Contra Affair begins

1988 Soviets begin leaving Afghanistan

1987 US and USSR agree to remove medium and short range nuclear missiles

1989

June - China crushes Tiananmen Square protests
Poland becomes independent

September - Hungary becomes independent

November - Berlin Wall falls

December - Communist governments fall in Czechoslovakia, Bulgaria, and Romania. Soviet empire ends.

1990

February - Sandinista government in Nicaragua falls

March - Lithuania becomes independent

May - Boris Yeltsin becomes president of Russia

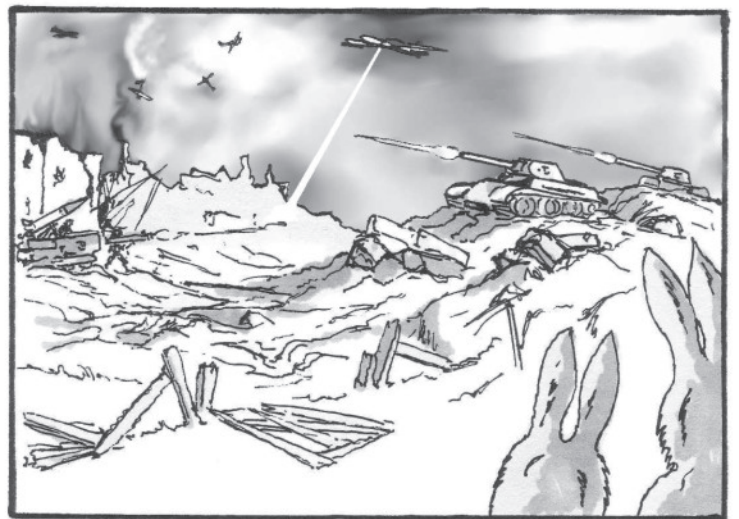
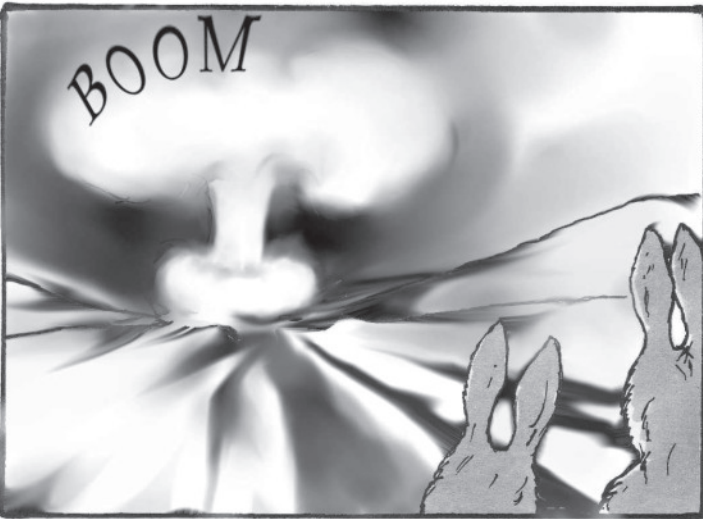
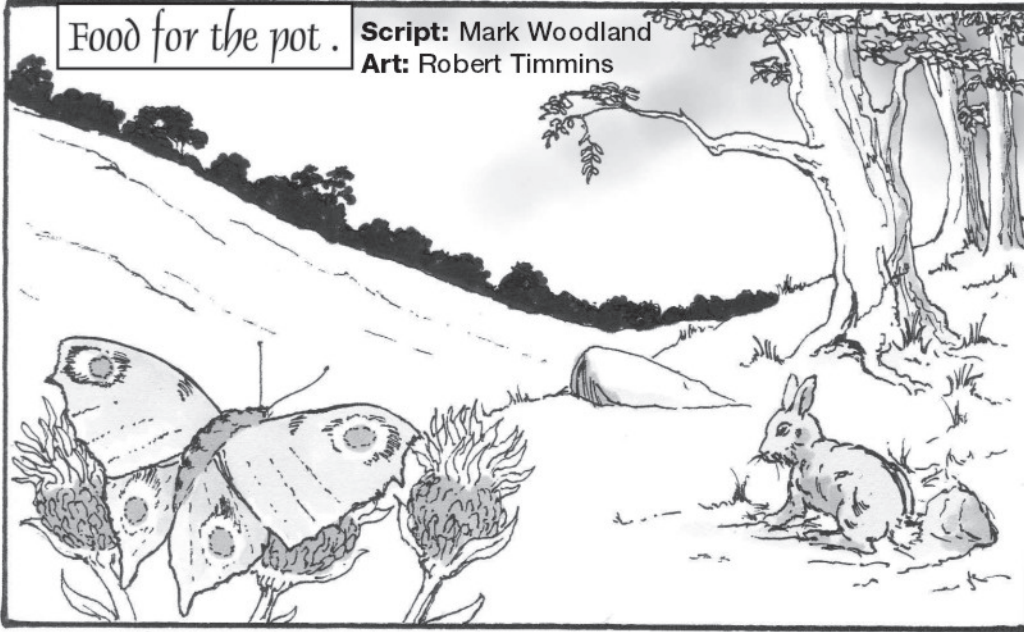
October - Germany reunited

1991

Soviet Republics declare independence and the Soviet Union officially ceases to exist on December 31. **The Cold War is over.**

Food for the pot.

Script: Mark Woodland
Art: Robert Timmins



Feeding Time!

The end.

In words and pictures, an innocent booklet once said that by taking simple steps you and your family could survive a nuclear war. Or could you? **EDWARD BERRIDGE** investigates ...

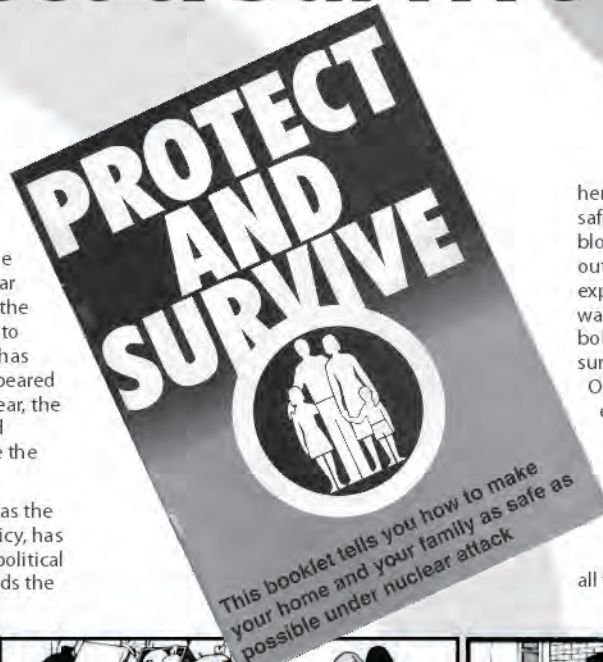


The Leaflets That Lied The Protect & Survive Campaign



Britain, 1980. Following the Soviet invasion of Afghanistan, the Cold War is running to paranoid heights not previously scaled since the Cuban Missile Crisis of the 1960s. Controversial American nuclear missile bases are established on British soil, with the USSR bringing SS20 missiles into Eastern Europe to be trained on the UK in retaliation. Never before has the concept of Mutually Assured Destruction appeared more likely. Into this climate of rapidly growing fear, the UK government decided to release a booklet and accompanying series of films to properly prepare the public for just such a possibility.

Protect & Survive, published by the Home Office as the public face of the government's civil defence policy, has perhaps become the ultimate metaphor for the political establishment's 'head in the sand' attitude towards the



here the booklet contradicts itself, stating that "Even the safest room is not safe enough". Readers are advised to block up windows and other openings and "make the outside walls thicker". For the inner refuge, readers are expected to construct a rough lean-to against a secure wall made from sloping doors or strong boards, bolstered by sandbags, or failing that use a large table surrounded with books and clothing.

One is then instructed to gather a raft of items deemed essential for survival (see below), including two pints of water per person per day; a total of three and half gallons each. It then suggests that you should stock twice as much water as you are likely to need, whilst offering the handy tip that, "you cannot remove radiation from water by boiling it". How the citizenry were expected to afford and prepare all these goods once the warning of possible nuclear war



consequences and effects that a full-scale nuclear conflict could visit upon the British Isles. Though the booklet was made available to the public in 1980 under the aegis of opening civil defence up to public scrutiny, it had actually been in existence as far back as 1976, originally published for local authorities, the police and other crucial emergency services. The booklet remained on the Restricted list until a series of articles on civil defence, which revealed its existence, were published in The Times in January 1980. Following intense interest raised, Protect & Survive was made generally available in May 1980 through libraries and other publicly accessible institutions. The booklet marked a public shift in UK civil defence policy, which had been on the wane since the abolition of the Civil Defence Corps in 1968. There was little enthusiasm for spending on civil defence in government circles, and Protect & Survive shifted the emphasis from a centrally organised governmental response to place financial and individual responsibility on the public in the wake of a nuclear attack.

The booklet itself proved to be a somewhat disconcertingly vague and at the same time misleading document, offering little besides overly simplistic and contradictory advice. The 1980 foreword helpfully informs the reader that "No part of the United Kingdom can be considered safe from both the direct effects of the weapons and the resultant fall-out". The concentration of military, government, communication and civilian targets, coupled with the density of the population in the UK made it both an easy target and one that was likely to suffer widespread destruction. This was a fact reported in Medical Effects of Nuclear War,

published by the British Medical Association in 1983, which noted that Britain had the greatest number of targets on the smallest landmass of any location on the planet. This begged the question, "How could such an all consuming conflagration be survived?" The answer proffered by Protect & Survive is simple: "Stay at Home". A vast amount of pre-planning was expected of

had been announced is not addressed at all, and would have been of particular import since the government reduced the expected warning period from three weeks to seven days in 1980. It seemed there was no conception amongst the authors that there might be a sudden run on the necessary essentials in the build up to war, and the booklet singularly fails to address the hard realities of the situation in which its readers might find themselves.

Stock your shelter ... the Protect and Survive way

- | | |
|--------------------------|---------------------|
| You will need ... | toiletries |
| drinking water | plastic bags |
| food | first aid kit |
| portable radio | a box of dry sand |
| tin opener | paper and pencil |
| cutlery and crockery | rubber gloves |
| warm clothing | dustpan and brush |
| sleeping bags | toys and magazines |
| portable stove | clock (mechanical) |
| saucepans | calendar |
| torch, candles & matches | strong disinfectant |
| table and chairs | two dustbins |

the citizenry: "The first priority is to provide shelter within your home against radioactive fall-out" the booklet tells us, suggesting that you select one particular room that is most structurally sound within your dwelling, the 'Fall-out Room', building an 'Inner Refuge' within it for you and your family, having pre-equipped it with everything you would need for survival. Yet even

Following the attack the booklet suggests that "you may have time before a fall-out warning to do minor jobs to keep out the weather"; adding that "If there is time, help neighbours in need"; once again devolving responsibility for the welfare of the populace from the government to the individual. Usefully, the booklet points out that there may be no fallout warning at all. The booklet concludes the main body of the text by telling the reader that if they hear the all clear "there is no longer an immediate danger from air attack and fall-out and you may resume normal activities". The possible effects upon people expected to continue about their 'normal' day-to-day business after they had presumed they were all going to die a few moments before is unfortunately not mentioned. Yet this seemed almost indicative of government policy and its apparently wilfully blinkered and contradictory advice as to the realities of nuclear war. The science employed by the government during this period has often been the subject of criticism; the Home Office figures were frequently at odds with the work of Glasstone and Dolan's widely regarded work on the effects of nuclear weapons, with one instance where the department had predicted no burns casualties tay in

following a nuclear strike. Once again, the bad science on display in *Protect & Survive* appears to be indicative of political manipulation. The population is to be made almost totally reliant upon their radios for contact with the outside world, despite the fact that they would be unable to work. The booklet tells you that the radio will inform about services and facilities, providing instructions on how to deal with the injured and the dead. It also states that you will need to stay in your Fallout Room "for fourteen days after an attack, almost without leaving at all". The reader is constantly reminded that they should not leave the 'safe' confines of the protected room, and are reminded that "The longer you stay in your refuge the better. Listen to your radio. DO NOT GO OUTSIDE until the radio tells you it is safe to do so".

This blissfully ignorant advice might almost be read as purposefully malign behaviour on behalf of the government. During Home Office simulations of a nuclear strike on the UK, it had been discovered that the number of predicted survivors outweighed the available supplies of food. It was government policy not to begin the feeding of survivors until at least fourteen days had passed - the same exact amount of time that they were telling people not to leave their houses for. Government policy regarded the survival of the nation and the survival of its population to be entirely distinct from one another, and governmental survival was seen as the key priority. Through the concerted disinformation provided by *Protect & Survive*, the government was effectively abandoning a significant percentage of their own population to die from either starvation or injury.

Following its release in May 1980, *Protect & Survive* became a symbol of all that was seen as wrong and misguided with the government's civil defence policy, derided and mocked with equal measure by the general population and the media alike. Anti-nuclear groups, such as CND, drew rapid and widespread support from the public, whilst the government came in for sharp criticism for adopting the 'Stay at Home' policy whilst central government figures would be rushed to secure underground facilities such as that located at Box Hill near Bath. These stories were hotly denied by the government at the time, resulting in the release of n of the effects of a nuclear explosion with the books elderly

further booklets, such as *Civil Defence - Why We Need It*, which also similarly failed to sway public opinion. *Protect & Survive* was also heavily criticised in the media; in television programmes, films and music, and perhaps most memorably in Raymond Briggs' *When the Wind Blows*, which contrasted the fairly accurate depiction of the effects of a nuclear explosion with the books elderly protagonists and their romantic memories of civil defence in the Second World War. The government's policy of its own survival above and beyond that of the populace was also neatly satirised by the political television programme *Yes Minister*, which contained the following all too-believable slice of dialogue: "Government doesn't just stop because the whole county's been destroyed. I mean annihilation's bad enough without anarchy to make things even worse".

In the face of such overwhelming derision, the government slowly phased out the campaign. The Home Office announced that a new £1 00,000 film and accompanying printed materials on civil defence would be made publicly available as a replacement for *Protect & Survive* by June 1986. However no further film or booklets ever materialised, at least in part due to the lessening of tension in the Cold War and Soviet decline during the mid-to late eighties. In 1989 the threat of Mutually Assured

Destruction ended with the collapse of the USSR, and *Protect & Survive* was now both publicly and officially of no further relevance, and the public information films were eventually disposed of by the Home Office in June 1996.

However, in 2004 the government announced the distribution of an 'emergency management brochure', *Planning for Emergencies*, which was eerily similar in both tone and presentation to the earlier booklet (see right sidebar), and so generalised as to fail to even mention the fact that it had clearly been prepared for use in the event of a terrorist attack. It seems that practically no lessons have been learnt from the debacle of the *Protect & Survive* campaign: governments may change, but it would appear that an ineffective civil defence policy is eternal.

Preparing for Emergencies

What you didn't need to know ...

IN JULY 2004 the UK government announced plans to release an "emergency planning brochure" for distribution to every home and to be made available in public institutions. **Planning for Emergencies** was finally released with accusations that the government had played down the booklet's obvious intention to prepare the public for some kind of terrorist incident following the heightened threat alert in the UK. Much like *Protect & Survive* before it, the publication was accused of both misrepresenting the immediate threat and providing what even the booklet itself admitted was obvious "common sense advice".



The main tenet of *Planning for Emergencies* - "GO IN, STAY IN, TUNE IN" - was developed by the **National Steering Committee on Warning and Informing the Public** as being "the best general advice to give people caught up in most emergencies", although it seemed suspiciously like that offered by *Protect & Survive*'s advice to "Stay at Home". In fact much of the booklet reads almost like a more generalised update of the earlier pamphlet, even including a similar list of items that readers should have pre-prepared in their homes in case of some non-specific emergency. Suggesting to the public there might be a credible threat to the UK, yet utterly failing to give any kind of positive information as to what it might be or the effects that it could produce, *Planning for Emergencies* proved to be just as frustratingly counter-productive as its more infamous predecessor:

"A lot of this information is based on common sense advice and may seem obvious or familiar to you"
Or in other words, your money for the government's old rope.

"Move away from the immediate source of danger"
And there I was assuming that standing around gawping dumbly in the event of a chemical, biological or radiological incident was the safest course of action. Well, is my face red (presumably as a result of anthrax contamination)?
[Also see "If people are seriously injured call 999 immediately" for more insightfully informative emergency advice]

"A lot of this work has to remain secret so potential terrorists don't get useful information"
Or the public, apparently.

EDWARD BERRIDGE writer



Writer of the infamous *Pony School* and one of the many co-editors of *FutureQuake*, Lance Corporal **EDWARD J BERRIDGE** (VC and Bar) died in the War for the likes of you. Flowers, cards and erotic pictograms to www.futurequake.co.uk

True Lies: so how useful is the *Protect & Survive* advice?

"Stay at Home"

Despite emergency plans in the USA and USSR recommending evacuation of cities, UK government policy was against the construction of mass shelters, instead relying on people to stay in their individual domiciles, despite the fact that structures above ground, particularly in cities, were at greatest risk in the event of a full-scale nuclear war.

"Your local authority will best be able to help you"

Since 1974, local authorities were expected to have highly detailed and well-prepared plans of action. Those were in place but little work was done to actually find people to enact them. The London FCDA alone projected it needed 50,000 volunteers to staff emergency feeding centres, yet even by the late '80s, there were no more than 25,000 official volunteers in the entire country.

"Make alternative arrangements now with your landlord for alternative shelter accommodation"

It would be difficult if everyone living in a block of flats tried to move or house-share at the same time. It should also be already glaringly obvious that caravans offer "very little protection against fall-out".

"Remove net curtains or thin materials from windows. Coat windows inside with diluted emulsion paint of a light colour so that they will reflect away much of the heat flash"

A far worse threat is the blast wave, which creates a massive amount of flying debris as it destroys buildings in its way. Fires would then spread easily, as happened in Hiroshima and Nagasaki.

"If there is no building nearby and you cannot reach one within a couple of minutes, use any kind of cover, or lie flat (in a ditch) and cover the exposed skin of the head and hands"

A 20 megaton bomb could cause fatal third degree burns 40km away, beyond even the significant effects of the blast. Anyone caught out in the open would be in extreme danger from both intense thermal radiation and radioactive fallout.

"If you are out of doors, take the nearest and best available cover as quickly as possible, wiping all the dust you can from your skin and clothing at the entrance to the building in which you shelter"

You can be contaminated by both external exposure from penetrating radiation and internal exposure from ingesting radioactive material. In the first seven hours after an explosion radiation intensity would be at its height and brushing dust from your clothing, particularly if you accidentally ingest any of it, would be of little or no help.

"Listen to your radio"

In the event of an aerial burst, the most likely form of attack, x-rays would ionise the upper atmosphere. This ionised air would disrupt radio traffic that normally bounces off the ionosphere. A radio could be protected from this effect by wrapping it in some form of Faraday cage (such as aluminium); though the radio itself would still not function as radio waves would be unable to reach it, despite the reminder to "keep the aerial plugged in".



Scattered throughout Britain are relics of its Cold War past - and now bunkers are becoming tourist attractions.

WILL DAVIES investigates...

GOING UNDER

Adventures in a nuclear bunker

ALL VISITORS MUST SHOW PASSES BEFORE ENTERING THIS GATE.

BY ORDER



**Brentwood
Kelvedon Hatch A 128
Industrial Estates
Secret Nuclear Bunker**

This page, Above centre: the 1.5 tonne blast doors that guard the entrance to the no-longer quite so secret bunker (above) near Brentwood, Essex.

This and opposite page: the equipment left behind in the bunker, from old radiation detectors (opposite, left) to an abandoned switchboard that would have once connected Kelvedon Hatch to the country in the event of a nuclear attack and (far right) a bungalow is the only visible sign of the bunker.

During the cold war the British government busied itself building numerous underground facilities in order to protect itself in the event of nuclear war. One of these was built near the town of Kelvedon Hatch in Essex, just twenty miles from London and in the event of a nuclear assault this would be where the Prime Minister and six hundred staff would hole up. Construction began in 1952 under intense such secrecy that neither the locals or the workers knew precisely what was going on despite the scale of the project, which called for forty thousand tons of concrete.

The facility began life as an RAF ROTOR station and was later converted into a Regional Government Headquarters. In the event of nuclear attack the facility would have been the centre of government for the surrounding area if not the whole country if the PM was present.

The biggest and deepest cold war bunker open to the public in southeast England, the bunker was designed to protect up to 600 military and civilian personnel, possibly even the Prime Minister, in the event of a nuclear war.

The entrance to the bunker is disguised as a bungalow of sorts, to encourage people to dismiss the possibility of what lay below. Inside this oddly fortress like building lies a one hundred and twenty foot tunnel leading down to the bottom level of the facility seventy five feet underground. This passage formed the first line of defence against intruders and nuclear strike alike - long and narrow with no cover for the former and two massive blast doors for the latter.

Beyond the tunnel is the bunker itself, three levels interconnected by one stair case. On the first is essentially the business end. The telecoms area is here and home to all manner of radio and specialist government equipment



government bunkers and any survivors outside. Tucked away in one corner is a small BBC radio studio for public broadcasts, from which updates and moral support would be transmitted out to the UK. Considering the importance of the BBC as an institution respected by the public its no surprise they were given this facility.

Beyond the communications area lies the plotting room. In its previous incarnation the plotting room would have been used for organising RAF resources over Europe and the British Isles but its prime use from the early sixties was to locate nuclear blasts and the spread of radiation. The prime tool in this work was the AWDREY (Atomic Weapon Detection, Recognition and Estimation of Yield). Data from AWDREY was translated onto large maps detailing the entire country. If all had gone to plan, we would have had a pretty clear picture of what was going on, undoubtedly providing knowledge that would have helped save many lives in the aftermath.

Also on the lowest level is the room most key to the survival of the bunker inhabitants, the plant room. This huge collection of machinery

KELVEDON HATCH: facts and figures

- Main walls 10 feet thick
- Designed for up to 600 military and civilian personnel
- Enough power and supplies to last for 3 months
- In 1950s became RAF ROTOR Station, then a Regional Government Headquarters and then, in 1960s, a civil defence centre
- Decommissioned in 1992

ABOVE GROUND

The only above-ground presence of the bunker is a bungalow, built in 1952 by the Air Ministry, which stands guard at the top of a 120m long tunnel leading into the main bunker - both heavily reinforced to protect from the blast and radiation of a nuclear bomb

LOWER LEVELS

The Second Level is the government level, acting as Regional Government HQ and including a small surgery, several washrooms, dormitories and a large canteen.

GROUND FLOOR

80 feet below ground lies the heart of the bunker. The first level contains the main communication, military, and plant equipment and are protected by massive 1.5 tonne blast doors. This level also contains a fully operational BBC Studio, nuclear strike plotting room and air recycling centre.

GROUND



All pictures © Brentwood Nuclear Bunker

3D MAP: RON ROGERS

took in air from the outside and made it suitable for human use. The system was designed to filter out radioactive particles and any other harmful substances in the air they envisaged the enemy using. Also here is sewage treatment which dealt with all the waste from the bunker. The sewage machinery also formed the second way out of the facility, in case the tunnel collapsed, up a vent to the surface but in all likelihood if the tunnel was destroyed so would be this vent. Otherwise the inhabitants had guns and suicide pills to amuse themselves with. It was not until that long ago that the government actively maintained these machines, just in case they wanted to come back and use them one day.

One floor up is the administrative section from which scientists, politicians and military figures would direct the running of the country. The Prime minister had an office while most cabinet ministers and other individuals of merit had a desk. It would be here that all the decisions were made over the clatter of dozens of type writers and secretarial staff. Here was also common services, the stores if you like, where the staple items needed for running the bunker were kept. Items such as pencils.

Glamorous and exciting indeed.

The top level provides areas in which the occupants may live, and also die. The sick bay is herewith operating and undertaking duties alike. Back then they could do little about radiation sickness so the sick bay was mostly for treating conventional wounds and packing up those who had appointments with the almighty. Past this is the dorms, male and female separate with those in charge getting their own sparse rooms come offices. Adjacent is the kitchen, if you don't know what goes on in there I think you need some help.

The Brentwood Bunker was certainly a drab and dreary place. I couldn't stand the thought of three months in there, especially with the terrifying chance of being buried alive by a missile strike. The cold war was such a happy time.

VISITOR CENTRE FACTFILE



Access to the bunker is from the A128 Chipping Ongar to Brentwood road at Kelvedon Hatch. An hour-long tour is self guided by personal handsets, included in admission price. There is a canteen on site serving light refreshments every day, including soup. For admissions times and prices, go to www.japar.demon.co.uk

1950s RELIC MEETS 21ST CENTURY

IN THE 1950s and '60s, the Corsham Tunnels - known as 'The Mine' - provided a potential sanctuary for thousands of officials beneath the countryside. Now, the 21st Century has finally caught up with the huge nuclear bunker as the Ministry of Defence is considering private sector initiatives bids that might give it a new lease of life. The vast complex of mine workings beneath the Defence Communication Services Agency's headquarters in Wiltshire could house a community the size of a medium-sized town. Under Operation Turnstile, the government would have decamped to the 240-acre network of rooms, corridors and roadways as war loomed. Turnstile foresaw 4,000 people living and working beneath the Cotswolds for up to 90 days, while above ground the civilian population weathered the fallout and destruction as best it could. But the bunker now stands as a testament to how times have changed. After the Berlin Crisis and the Cuban Missile Crisis, Corsham was gradually sidelined. Nevertheless, the facility was kept ticking over until the end of the 1980s. After that the 100-strong staff was reduced to a skeleton crew of just four.

WILL DAVIES writer



WILL DAVIES: the only living human to be successfully grafted to his coat.

PAUL CARTER



50 things to do in 7 minutes


by Cavan Scott

A GUIDE TO USING YOUR FINAL, PRECIOUS MOMENTS

IT'S not exactly a position you'd want to be in - you're innocently idling away an afternoon in front of Woman's Hour when SHOCK! HORROR! a feature on the abuse of Peruvian House Cats is interrupted with the news that the bombs are in the air! You have just seven minutes before you, your radio, and your Peruvian House Cat are wiped out in a nuclear firestorm! Luckily, you'll only be doing this the once but it's worth being prepared - how ARE you going to spend those seven minutes? Comforting loved ones? Doing something shocking? Praying, even? Well, worry not because here's our top 50 list of things that might be a good idea if you've not got much time on your hands ...

1. Put your head between your legs. This will protect you in no-way whatsoever but will give you a last chance to perform oral sex on yourself.
2. Explain to your partner / mother / vicar who's just popped round randomly why you were trying to perform oral sex on yourself.
3. If all else fails ask your partner or the vicar if they would like to perform oral sex on you. You could ask your mother, but only if you live in a small west-country village where everyone looks the same and has webbed-toes.
4. Give up on trying to master Sudoku. No-one cares anyway...
5. Phone your boss up and tell him/her exactly what you think of his/her parentage...
6. Open your front door stark naked screaming 'look at my knob! No-one will but it'll feel great.
7. Play your favourite piece of music until your ears bleed and your neighbour starts banging on the wall with his walking stick...
8. Go next door and snap your neighbour's walking stick. That'll learn him.
9. Make yourself the biggest bacon sandwich in the world with extra lard. Wash it down with a milkshake made of pure meat.
10. Cover yourself with a blanket. It won't protect you but you could pretend to be a ghost to distract and entertain the family.
11. Stockpile tinned food, including that semolina you bought while pissed three years ago.
12. Panic that you can't find the tin-opener. Have a hammer and a chisel standing by as a failsafe.
13. Throw away the can of Spam. No-one will want that. Besides, their teeth will be falling out soon.
14. Kick a police-man to see what happens.
15. Finally pluck up the courage to see if the girl in the greengrocers fancies a quickie. *Note - if the greengrocers is more than seven minutes away it's probably not worth the hassle.*
16. If you are a Star Wars nerd, rip open those mint-in-box Storm Trooper action figures you've been hoarding since 1977 and actually play with them, remembering for the first time in your life that they are toys.
17. Loot the Oxfam shop.
18. Open every bottle or can of alcohol you have and make the kind of cocktails that make your cerebral cortex run out of your ears.
19. Devoutly pray to the Lord thy God for deliverance.
20. Spend the resulting six and a half minutes trying to remember any other deities you may have missed, and pray to them too - can't hurt to keep yourself covered.
21. Cover all bases, sell your soul to Satan. Make sure you read the small print though. He's a bugger.
22. Phone the most expensive sex-line on your mobile and indulge yourself for five minutes. As if the bill's going to worry you...
23. Go to Marks and Spencer's food-hall, randomly ramming your trolley into the ankles of old grannies. Let's see how they like it!
24. Run to the park and shove a kid off the swings to see how high you can get.
25. Quickly book into a hotel, run upstairs and throw the TV out of the window.
26. Go into Games Workshop and shout 'Why have you wasted your life' at all the greasy, spotty orcbotchers.
27. Drive along British country roads like a bat out of hell just to see how many speed cameras you can get to flash at you.
28. Go to the local Big Issue seller and buy every copy he has from him.
29. Switch off your television set and do something less boring instead.
30. Go into McDonalds and ask them if they really are loving it.
31. Admit to your dad that it was you who pranged his Rover in '97 and that the stain on the leather upholstery was the result of your fumbings with Helen Barratt. Confession is good for the soul.
32. While you're at it phone Helen Barratt and tell her you only went out with her for a bet.
33. Phone your best mate and remind him that he still owes you your winnings for the Helen Barratt bet but as it's the end of the world he can keep it.
34. Rugby tackle a traffic warden.
35. Barricade your door with any furniture you can move.
36. Remove it all again when you remember that you've left the cat outside.
37. Spend the next few precious minutes trying to persuade the cat to come in.
38. Curse the day you decided to buy a cat.
39. Phone the bank, building society or insurance company and if you somehow manage to get them to answer immediately put them on hold.
40. Before you scuttle down to the bomb shelter buy every grot mag that Mr Patel has on his top shelf. Yes, even 'Over Sixty and Gagging For It' - it's going to be a long wait!
41. Make a sandwich board that says 'The end is nigh' on the front and 'told you so' on the back.
42. Walk into a police station and admit to being Jack the Ripper.
43. Break into your football team's ground and run three laps of honour.
44. Finally admit to yourself that the chances of Girls Aloud moving in next door and sun-bathing nude are highly unlikely.
45. Dress up in women's clothes just to find out if you like it.
46. Call your friend who's been waiting to watch 'The Village' for ages and tell him the twist-ending.
47. See if you can beat your keepy-uppy record.
48. Finally fix the dripping tap. Can you imagine how annoying that'll be drip-drip-dripping away while you sit out a nuclear winter?
49. Hug a tramp.
50. Try and remember what you did with that helpful 'what-to-do-in-an-emergency' booklet. Give up and recall your encounter with Helen Barratt instead. At least you'll go out with a smile ...

CAVAN SCOTT writer



CAVAN SCOTT has written for Doctor Who, Judge Dredd and Muffin the Mule. It takes all sorts.

WORLD.

BY PETER NAGLE



FAILED GUESS #1: Place ya bets, please ...

1537 (et al) Either because he was hedging his bets or he just couldn't make his mind up, the French astrologer Pierre Turrel announced four different possible dates for the end of the world, using four different calculation methods. The dates he chose were 1537, 1544, 1801 and 1814. Suffice to say, this 'scattergun' approach to prediction failed to get it right ... or even to catch an.

THE SWITCH

by Myron Lauzon

art by Lyndon Webb

I've been sitting here for days now, staring at the console in front of me. The array of lights, colours and sounds would probably mesmerize anyone else. To me it's become just another portion of my less-than-joyful existence. My days have begun to smear into one another, like paint on an artist's palette where the choice is only grey.

The day I signed up for the Army was the proudest day in my life. I had been raised to feel it was my honour and my duty to serve my country in the military. My father and his father before him were decorated war heroes. Grandad had stormed Normandy and still has the teeth of ten Krauts to prove it. He has some other trophies that most likely would not be appreciated by the modern world. Reminders of the price paid to end Hitler's regime.

My father did his time in The 'Nam. He didn't much like to talk about what he lived through there. Most of his platoon buddies were either dead or nuts. When he returned from the jungle, he was treated as an outcast in the eyes of a populace who deemed him a killer. He and my mother had been married just before his tour began, and when he came back, she saw nothing of the man who had proudly shipped off just two years earlier.

Dad had become sullen, withdrawn, and prone to fits of rage followed by bouts of severe depression. The mood swings seemed to amplify when he found out that my mother was pregnant with me. His temper flared with unmerciful force, and he had begun to drink more heavily. In fact, he was passed out in some bar, face down in a dark corner, while mom was having me.

Obviously, life in my house was not June and Ward Cleaver, but truly dysfunctional. As a child, I would spend my days with my head buried in books, attempting to blot out the



horror of my father screaming at my mother, amidst the din of shattered glass from objects being thrown. I learned to not speak unless spoken to, after a dislocated jaw from my father's right hand set me straight. I focussed on my studies, because they gave me respite from my own personal hell.

My mother finally hit her breaking point and attempted to leave my father. Unfortunately for her, he came home early from the pub that day and she "accidentally" fell down the stairwell and broke her neck. I was then left to feel the full brunt of my father - alone at the age of ten. I was responsible for everything my mother had handled in the household and more. If dinner wasn't ready on time, I was beaten till my flesh split and then beaten some more. Just to be sure I got the point, I often got salt in the cuts added to my ass-kicking.

At the age of sixteen, I had grown to my full height of 6' 3". I had grown strong from all the physical labour that I was obligated to do in-house, as well as from slinging hay bales at a local farm for \$3 an hour. My skin was deeply tanned from all the time spent under the glaring sun in the fields. My dark hair now hung to my shoulders, a "fuckin' hippie" according to Dad. I was pretty much a loner with few acquaintances and fewer friends. I did have girls interested in me, but only because I was the boy they weren't supposed to be with.

Only one of them drew my attention... Colleen McDermid.

Colleen was a sweet Irish girl from a good Christian home. Her fiery red hair and her jade green eyes were the perfect complement to one another. She was aloof with me at first, and I think that's why I liked her. She stimulated me intellectually and physically. When I was with her, I felt I could finally be the person I always wanted to be. As we spent more time together, our bond strengthened. I didn't mention Colleen in front of my father, mainly because I wanted to keep my two very different lives separate from one another. It was almost like my own Narnia or Oz where I could escape the bullshit of life. Till the night my father found a letter that she had written me.

I will not even begin to repeat the spew of filth that he vomited first at me, then my long-dead mother, and finally, at Colleen, whom he didn't even know. I sat in silence waiting for him to pause. And when he did... *I levelled him*. My old man may have been quite the specimen in his prime, but years of alcohol abuse and physical deterioration had left him far less than a match for me. My first punch left him with a broken nose. My next dislocated his jaw, ironically. I grabbed him by the collar and raised his broken face to within inches of mine. The seething anger had left him, and in its place was a bruised, bloodied remnant of the human being that used to be my father. My own boiling hatred turned to pity. I threw him down, and strode from his house, never to return.

In the next two weeks, my world changed very rapidly. The haven that had been school was now at an end as I graduated with honours. I had already mapped out the next four years of my life by enlisting in the Army. My thought was that I would do my time, learn some useful skills and maybe get to go to college on the GI Bill. I had not forgotten Colleen, either. She and I were quickly wed right before I shipped off to begin my stint. She would work to save money for us to buy a house, while I stockpiled a decent salary and pension for our future together. Little did I know she was carrying my son as well.

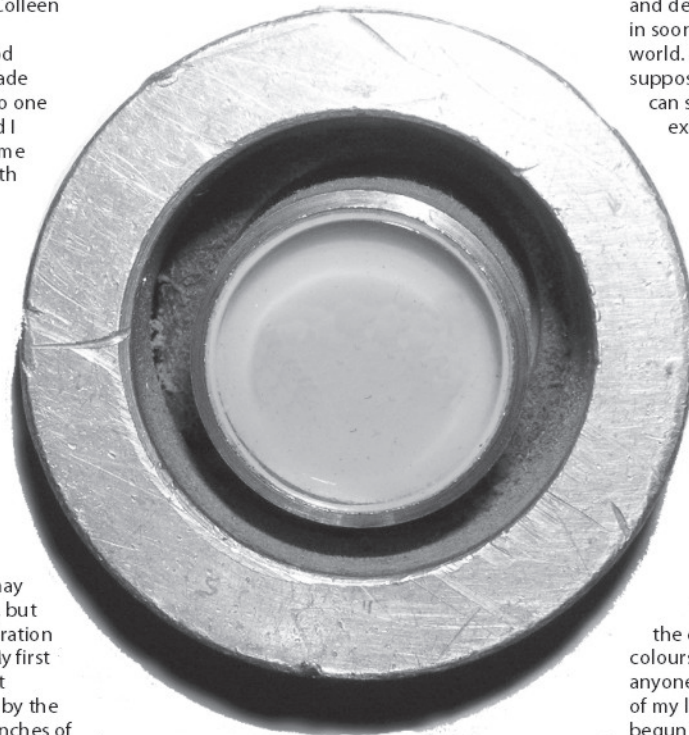
Then Desert Storm happened. It was the early nineties and George W's daddy was going in to give Saddam a trouncing in Kuwait. We just charged in there and rolled them over without much difficulty. However, stupid people made stupid decisions and people got killed. The stuff you never heard about, that the media never got wind of... on purpose. I saw the only people I had ever called friends get mutilated because some asshole forgot to sweep a

mine-field properly and we were given the go-ahead. I will never forget bringing up the rear of my platoon one minute, and being covered in their splattered entrails the next. It's almost like I can yet feel the warmth of their blood trailing on my skin. I still get nauseated just thinking about it.

Soon after, I got an early Honourable Discharge after two years of service. As a stipulation of our release, those of us left were sworn to never share any of what we had been a party to, upon penalty of court marshal and death. I couldn't wait to go home to Colleen and my two year-old son, whom I had never met. I wanted to begin my life again, even though I felt as if I were leaving a part of me there beneath the desert sands forever. I needed some semblance of normalcy.

When I returned home, no one was there to meet me at the airport. I wasn't too taken aback by it, my return had been under hushed circumstances. I took a cab to the little flat where Colleen had started to establish our family. It looked quaint from the outside. I was impressed. She had managed to scrape enough money together to buy a small car, too, it seemed. It was there in the yard as were my son's toys, scattered about. I felt comforted... I was home.

I turned the knob and was surprised to find it



yielded to me. Col was always a bit of a hypochondriac about things like leaving the door unlocked. I let myself in and glanced about the living room. It was cozy and furnished in classic decor. Nice. I wandered through to the kitchen and found a door to what seemed to be a bedroom. I gently nudged the door open, thinking I would catch Colleen in an afternoon nap and surprise her. As the door fully opened... my whole world shattered like so much stained glass in front of a firing squad.

In the bed was Colleen. Also in the bed was someone else. A kid we graduated with, I think. I don't even remember his name. Needless to say, they weren't napping. Rage filled mind. My vision swam red. My hands were clenched so tightly I that I felt warm and wet blood begin to trickle down my palms. The fear in Colleen's eyes was only matched by the terror in her lover's. In that moment, I might have slain them both. But something held me back. It wasn't the voice of reason, it wasn't an angel on my shoulder. Hell, it wasn't even her begging and pleading with me. It was the fact that I wanted both to remember the moment for the rest of their lives; to be looking over their shoulders at every turn. I wanted revenge. I walked out of that house... our house... without looking back, just as I had from my

father's a few years before. Tragic how life came full circle like that, as the bullshit just kept flying into my face.

I returned to the one solace that I had... the Army. I re-enlisted and signed up for computer tech training. I was driven by my thirst for knowledge and soaked up all they taught me and more. I sat up into the wee hours of the morning each night, reading trade manuals. My mania increased, as did the respect I garnered from my COs. I began to rise above my class very quickly. Often, my teachers would come to me seeking answers to their questions.

After I finished my education, I was tapped by a brigadier general by the name of Caufield who offered me a position with NORAD (Nuclear Ops Research And Development), a top-secret installation nestled somewhere in the Colorado Rockies. I jumped at it. NORAD was the covert way we stayed WAY ahead in an arms race that officially ended with the Cold War. Inside NORAD were the best nuclear physicists to ever have walked the planet and the best research equipment and tech that money could buy. Just like the old miners during the 1800's, I had found gold in them thar hills!

I easily fit into the dutch of cloistered egg-heads and began to build the fixtures that they imagined and designed. The mountain we were huddled up in soon became the largest nuclear turret in the world. Hundreds of Multi-Ballistic missiles lay inside, supposedly to be a deterrent, not as a reality. How can something be used as a deterrent, when its existence is hidden from the general populace?

I created and installed the ignition switches in the control room that manipulated the entire facility. I set it up so that three separate key cards, from three separate people must be swiped simultaneously to override the failsafe, activating the Doomsday device to end all others. I was applauded for my ingenuity and for the speed of my implementation. Hmm... if only Colleen could see me now. Or maybe my son, whom I had never seen, might actually be proud of the old man he didn't know. Or maybe my own father might not have hated me quite as much if he'd seen me not only follow in his foot-steps, but also excel at the family business.

No... fuck that... fuck them all.

I've been sitting here for days now, staring at the console in front of me. The array of lights, colours and sounds would probably mesmerize anyone else. To me it's become just another portion of my less-than joyful existence. My days have begun to smear into one another, like paint on an artist's palette, where the choice of colours is only grey.

Suddenly the strands of colour kaleidoscope in my periphery. Dizziness cascades over me like a tsunami. Searing pain courses between my eyes. I hear voices, but I can't tell what they're saying. I feel blood begin to seep from my nose. I can taste its coppery warmth in the back of my throat. I'm a soldier, goddammit! It's not supposed to happen this way! I paid my dues. Did my time. This is my reward? To die in an empty room amid the ghosts of my past?

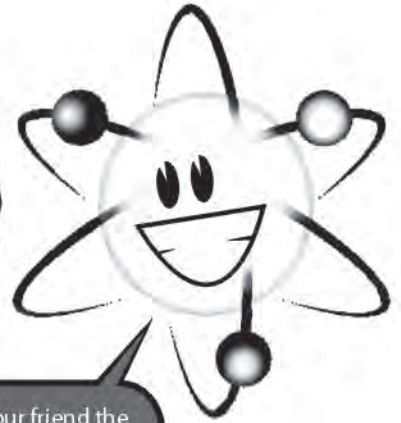
My anger begins to supercede the seizure of sorts that I'm having. Rage surges fresh in me once more. Now is my time. No one can take that from me. There's only one way to let them all feel the pain that I endured. Let them relish, for an instant, the sweetness of anguish. Let them burn. All of them. The world doesn't need any of us anymore. We've out-stayed our welcome. It's time to move on.

Oh... that whole three key-card swiper thing... all bull-shit smoke and mirrors. I pull two wires from beneath the console deck. Red meets green. A spark. And Armageddon begins... without even throwing "the switch".

I laugh to myself as I hear the rockets fire off and the dark of my own end consumes me...



MAKE YOUR FAMILY A NUCLEAR FAMILY WITH URI AND THE J BOMB!



by **DAVID ELIOT**
art by **JAMIE CAMPBELL**

Hi there boys and girls! I'm **Uri**, your friend the Uranium Atom; I'm a cheerful friendly fella bursting with energy and brimming with Nuclear Goodness. As we all know Nuclear Goodness lets us play computer games, keeps us warm and glowing at night all tucked up in our beds and has a taste that can't be beat!

But did you know there are some bad people out there who want to use the awesome and planet changing power of Nuclear Goodness to do bad things to ordinary folk like you and me? It's scary! Especially as, unless they have beards and pyjamas, it's hard to tell who these bad people are.

So it's important to be extra safe, right? You have to make sure that no one you know can ever threaten your family and friends by smothering them all with Nuclear Goodness in one big blast of justice! If you're the only one left, then everything's safe! That's extra safe all right! It's what we call Bush Safe! And you can be Bush Safe by making a better version of your very own 'H' Bomb, The 'J' Bomb! It's just sooooo easy, I'll show you how!!

- INGREDIENTS:**
- One roll of Sticky back plastic.
 - One tub of Glue
 - One large bucket
 - One small bucket
 - Marker pens
 - A large strip of corrugated cardboard
 - Paint
 - A hosepipe
 - As much garbage as you can carry
 - An A4 piece of coloured card
 - Glitter
 - Petrol
 - Five to eight Plutonium rods.
 - One match.

STEP ONE



FIRST things first. The most important ingredient of your lil' ol' 'J' Bomb is, yes, you've guessed it, **Nuclear Goodness!!** Have a look in your local telephone directory and find out where the nearest Atomic Power Station is and go along with a few friends for a surprise visit!! Those **SCIENTISTS** will be plenty glad to see you - especially if you bring with you lots of new fresh money! Then they'll be only too willing to be your bestest friend!

On your tour you'll see what are called **PLUTONIUM RODS**, there's bound to be some just lying haphazard all over the place. They look like huge Popsicles - but be careful if you lick them, they're mighty hot!

Before you leave, get one of your new scientist friends to pop out the back with a couple of rods - they won't mind you 'liberating' them! Make sure you have a big rucksack though, and if you've brought sandwiches for your trip the Plutonium might even toast em up real good!!

And remember boys and girls, 'liberating' isn't stealing, it's taking with out consent for the good of everyone!! So that's ok!



STEP TWO

Once you've got that Plutonium home take it out of your bag and put it the oven for a while to keep it warm. Remember to ask a grown up first, those ovens can get really hot!

Next you'll need your large bucket, which is going to be the base of your 'J' Bomb. Take the **smaller bucket** and the **hosepipe** and find your Dad's car, put one end of the **hosepipe** in the **petrol tank** and the other in the **small bucket** and suck real hard on the bucket end. Soon enough **petrol** will come out and fill the bucket. If you get any in your mouth or spill any in the ground, don't worry! Drink up! Petrol is the **blood of the Earth** and there's always plenty more where that came from!! (If you have some left save it for next week and make a petrol cake)

STEP THREE

Take the blood of the Earth and pour it into the large bucket. This is going to be the base of your 'J' bomb. Make sure it's safely wedged in the ground in a heavily populated urban area. Take the **corrugated cardboard** and bend it around at the top and fasten with the **sticky back plastic**, this is going to be your **nose cone** of the J bomb. Why not decorate it in your own style, using the **glitter** and the **paint** and the **glue** and the **coloured card**?! Make it as snazzy as you like. We sure want all those folks to see a real nice model just before the unforgiving light flash burns out their eyes forever!! Ha haa!!

Making little wings out of the coloured card is sometimes a good idea. But do get a grown up to help you if you're using scissors. Once all the decorations are dry you can name your 'J' bomb with a slogan using the **MARKER PENS**. Maybe 'Evil Basher!' or 'Big Bang Bertie' or even 'I am become the destroyer of worlds.. The Horror... The Horror, The Unending Horror...! You decide!!

STEP FOUR

We're nearly there now! Take the **Plutonium rods** out of the oven (use mittens!) and put them in the **bucket of petrol**. Tie them up to keep them nice and straight and get ready to put your nose cone on real fast. Have a couple of strips of **sticky back plastic** ready. Go to all the bins in your area and get as much **garbage** as you can, the filthier the better, roll the cans down the street and make it into a fun game!

See who can get the garbage can onto your parent's lawn first. Or taunt the bums in your area by teasing them with scraps; those plucky fellas will just love it!! Remember, they're only homeless because they don't want jobs or nice houses and love drugs more than their own skin, so don't feel bad if they all cry and beg you to stop. They're **loonies!!**

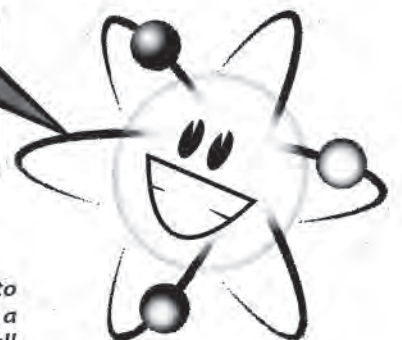


STEP FIVE

Pile the garbage into the bucket filled with petrol and set light to it. As the bucket gets hotter quickly attach your **nose cone** with the **sticky back plastic** and run for your life. There's gonna be a real big noise when those rods get to just the right hotness!!

To protect yourself from the blast of justice put a **big coat** on and hide behind your hands. It's the biggest game of Atomic peek-a-boo the world has ever seen. **BOOOM!!!**

Well there you go boys and girls!
You friends and family are all safe
thanks to the Blast Of Justice and
Bush safe Nuclear Goodness!!



Next week... Uri teaches you when it is okay to pretend that Next-Door's Dad threatened you with a gun just so your family can liberate his garden!!



Bobby could see demons ...



STRAIGHT TO HELL

STORY BY RICHMOND CLEMENTS WITH ART BY BRYAN COYLE

... If you or I looked at them, they would look just like ordinary people, but not to him. He could see them for what they really were. That, however, was not the worst thing about it.

No, the worst thing was that they were everywhere. There were millions of them, they infested the world.

It had only been recently, only in the past few years that Bobby had realised he had this... power. Gift or curse he could not decide which. He could remember when it has begun. He had been sitting in the living room with his father. Bobby had been listening to the radio, his father had been reading his newspaper.

Even now, today, as he sat, rocking back and forth in the cold and wet, feeling scared, it seemed like only yesterday.

A story had come on the radio news. A story of death. Of many, many deaths, of melting eyes, of skin bubbling and sloughing off. He had looked across the room to his father. The old man had slowly lowered his newspaper, the pages crumpling on his lap as he did so.

'They were children, just children,' his father said quietly. Bobby blinked, straining for something to say. All he could think of was, 'Who could do such a thing?'

His father had lifted his unlit pipe, clamped it between yellowed teeth, and sucked on it absently while considering his answer to the question.

'I don't know son. I just don't know.'

'They must be devils,' Bobby spat, 'Demons from the pits of hell.'

Looking at him levelly his father had said, 'I think you may be right, son.'

That was when everything had clicked. From that moment on, Bobby had been able to see them for what they were.

That was then. Now Bobby looked around at his companions, as they crouched together in the grey half light of the pre-dawn. Most of them - he did not know their names. Sometimes one of them would look up. They would smile weakly at each other, the smile never reaching their eyes. Then the dawn broke early. There was a loud and distance roar and a cracking sound. Bobby knew instantly what it was, and clamped his eyes

tight. Some of his companions were not so lucky. They turned to look, as the new sun birthed. Its life was short, but it was long enough to do its damage. The men who looked all died, their cries drowned out the sound of their eyes popping as the fluids there instantly boiled.

Bobby had found out quickly to keep silent about his gift. Most people would look at him, smile tightly and nod, before making their excuses to go. Occasionally he would meet a like mind. No, that was not exactly true; there were a lot of people who could see like he could. They shared his gift, and his goal.

Together they would rid the world of the evil, of the demons. They had gathered together, then. All of them young, so young. They would be trained and sent out to do battle with the Evil.

Bobby did not really have time to reflect on how completely inadequate his training had been.

Around him, his fellow warriors were screaming. Bobby stood, knee deep in a cold pink liquid.

He looked down as he felt something nudge against his thigh. It was the twisted remains of a stranger. His arms and legs were gone, as was his bottom jaw. Blank eyes stared unblinkingly at the grey sky. A purple and grey length of guts floated behind the dead stranger like a tail. Then he began to notice more. There were arms, legs and heads, bobbing up and down in the foamy pink liquid.

This is supposed to be water, Bobby said to himself, *but water isn't pink.*

He was on land now.

People were still screaming. He could smell blood and shit, fire and sizzling flesh. Parts of people lay scattered around. Someone was screaming at him, his face was only inches from Bobby's. With all the background noise Bobby couldn't hear what the other man was saying. Then, suddenly it didn't matter, as the man's tear

streaked face burst outwards. Bobby felt the first heat he could remember for what seemed like days. He licked his lips, tasting the coppery heat in his mouth, and spat out a lump of flesh as he stepped over the dead body of the screamer.

He was puzzled. He couldn't see any demons. He could hear them as they bellowed their mephitic breath across the advancing warriors. Bobby dived for the ground as a tongue of fire flicked in his direction. He felt hell brush past him; then, stumbling to his feet again, he began to run.

There was a whistle, long and drawn out, getting louder and louder. Bobby ran on. Thunder crashed with the loudest sound in the whole world. Bobby felt his head spin as he was launched upwards, he was screaming as his body traced an arc through the air. He landed hard on top of a lump of red meat that probably had once been another human. The scream ended with a grunt as the wind burst from his lungs on impact.

Bobby had landed on his back. He lay for a while, getting his breath back. It came hard, he had been winded worse than he had thought, he coughed at every inhalation, as he sucked in oily, hellish smoke that smelled of rotten eggs. Eventually he managed to roll over and pushed himself up. As he took a step forward, he found himself on his face again, his mouth full of red sand.

Again he rolled over, this time on to his back and he looked down at his legs. Of course, they were gone. Bloody crimson strings of meat lay across the ground like the tentacles of an octopus, at its centre a jagged-ended white stick of bone.

Actually, he didn't feel all that bad. And it did seem to be getting quieter. He wondered if they were winning. They had to, didn't they?

Good had to be more powerful than Evil.

He stared into the sky, he watched as the great cloud tumbled in on itself shaping into a grey brown mushroom. He felt something settle gently on his face. Rain?

Not rain. Ash. Falling like snow on a summer morning.

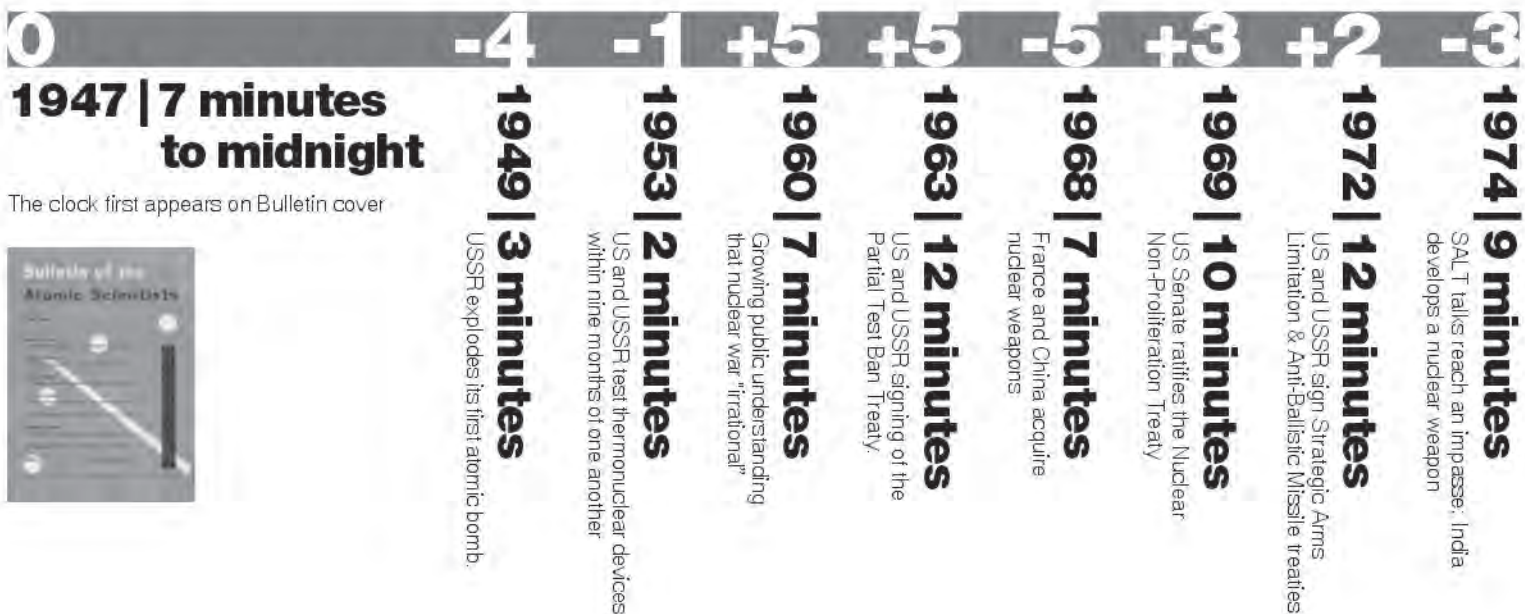


Marking

The history of the Doomsday Clock

On August 6, 1945 the United States detonated the first atomic weapon ever used in warfare. On August 9, 1945 it exploded the last.

The destruction of Hiroshima and Nagasaki demonstrated the destructive capability of human ingenuity. It was a horrifying glimpse of a future for humanity... a very short one.



... But on August 10, 1945 there were no atomic weapons. The track towards them still lay in the imagination as sciencefiction writers explored the idea of a nuclear holocaust and a post-nuclear world, with varying degrees of seriousness, while military planners in the US and the USSR explored fighting and winning an atomic war. Debate, though, was not confined to the pages of Amazing Science Fiction or classified papers in the Pentagon or the Kremlin. One group of scientists believed the threat of atomic warfare to be serious indeed, superseding the interests of nationality or ideology.

The Bulletin of Atomic Scientists (BOAS) was founded in 1945 by scientists who had worked on the Manhattan Project. They declared, with a curious mix of optimism and apocalyptic foreboding, that "[t]he American people must work unceasingly for the establishment of international control of atomic weapons, as a first step toward permanent peace." This goal was to be pursued by a stimulation of public awareness and debate. In this end, the BOAS devised a piece of propaganda so utterly simplistic it could hardly help but be effective: the Doomsday Clock.

The first clock was produced in 1947, when artist Martyl Langsdorf, the wife of a Manhattan Project physicist, was asked by magazine cofounder Hyman Goldsmith to design a cover for the June issue. After discarding several ideas, Martyl hit upon the clock. The plan was to repeat the image every month on a different background colour. To visualize what it would look like, she drew her first sketch--of the upper left quadrant of a clock face, with the minute hand approaching midnight--on the back cover of a bound volume of Beethoven sonatas.

The image of the clock-face was chosen to symbolise urgency. It also invokes the apocalyptic connotations of midnight, military-speak in 'countdown to zero hour'

and the timing mechanism of a bomb, asking the reader to recall the tension-filled climax of popular thriller serials. The Bulletin's atomic clock started to tick down in 1947 when the hands were set at seven minutes to midnight - a choice more about good design than scientific accuracy but a symbolic measurement designed to prompt action from the readers. The minute hand began to move in 1949, dramatising the magazine's perception of world events.

In 1947 there was just one nuclear power. The dream of international control over this arsenal was a practical dream, with a new-born United Nations and the horrors of total war to pull and push politicians down this path. But by 1947 the Cold War had begun and in a climate of competing, hostile power blocs it appeared inevitable that there would soon be a duopoly of atomic power. Now, at the end of 2005 the Cold War is over. The majority of nations are signatories to the Nuclear Non-Proliferation Treaty (NPT). But the Doomsday Clock still stands at seven minutes to midnight. There are now (probably) nine nuclear-armed nations. There are others apparently queuing to join this elite club of power-broking nations. Many more have the technological credentials required to enrol but, at present, lack the intent. The NPT, which committed all signatories to the progressive elimination of nuclear weapons, is infringed on all sides. A War on Terror and the collapse of the USSR has shattered states and may have scattered both their nuclear technology and expertise. We are, so says the BOAS, just a tea-break from doomsday. Has the clock stopped?

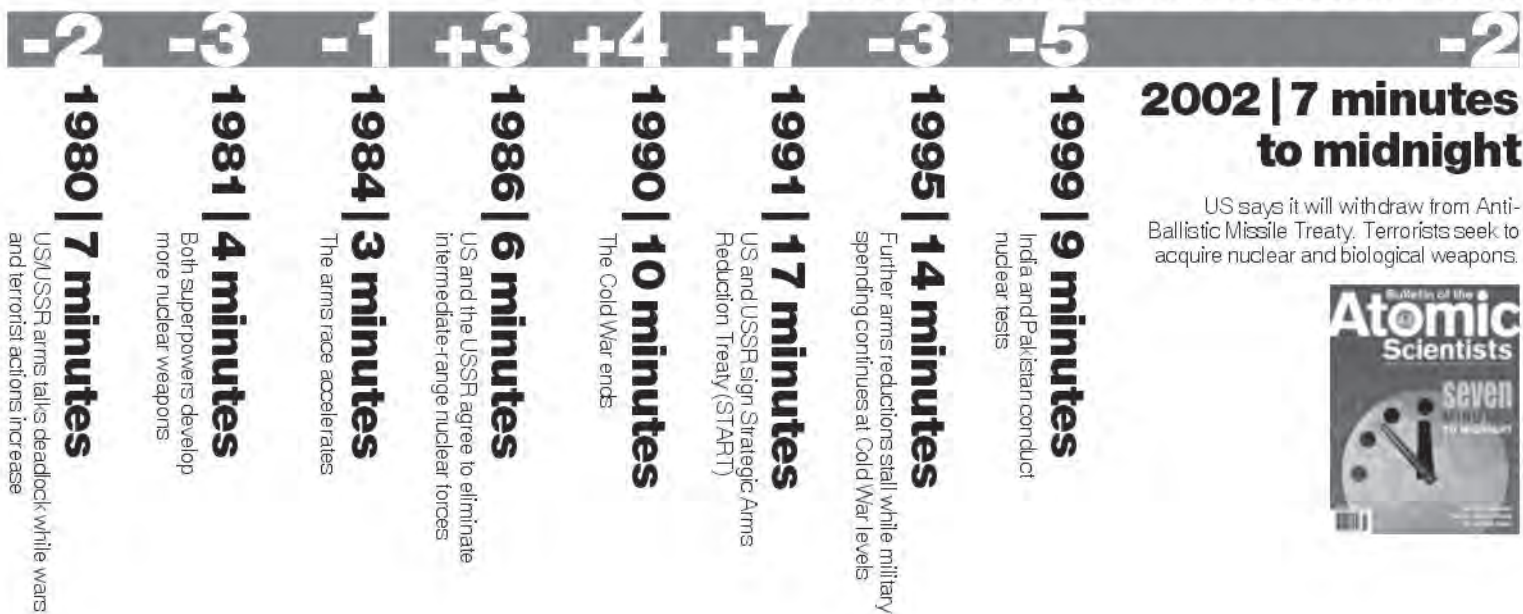
For nearly sixty years the BOAS has informed the world of the current time to doomsday, bolder stating our proximity to destruction. In 1949 the BOAS set the clock at three minutes, in 1953 at two. An arms race with the USSR was underway, pushing forward both the quantity of atomic weapons and the 'quality'; it was the



Time by Andrew Bartlett

Countdown to Armageddon

How the Doomsday Clock has ticked back and forth



development of hydrogen bombs that had pushed the clock forwards to two minutes to midnight.


But the hands of this clock can also turn back. Paradoxically, the most dramatic episode of nuclear tension was a herald for the longest wait till Doomsday during the Cold War. The Cuban Missile Crisis of 1963, during which people all over the world expected their existence to end in a sudden flash of light, forced the political elite of both superpowers to acknowledge the necessity of arms control, leading to the signing of the Partial Test Ban Treaty. The clock ticked back to twelve minutes to midnight. Human wisdom could cause the hands of the Doomsday Clock to spin anti-clockwise. The human race would not again have such a luxurious lie-in before the alarm of the apocalypse until the end of the Cold War, though the thaw of 1991 allowed the BOAS to cautiously press the snooze button.


In 1991 the clock was set at seventeen minutes to midnight and humanity seemed to have found the road away from the apocalypse. But we must have taken a wrong turn as the clock again began to tick slowly, undramatically, but seemingly inexorably back towards Doomsday. The period since the end of the Cold War has seen some of the most dangerous proliferation of nuclear technology since 1945. The Soviet Union has disintegrated, and with this its dispersed nuclear arsenal and expertise has been made vulnerable to exploitation. Some of this exploitation will come from states, bound by the rationality of national action, however cruel and repressive their governments may seem.

9/11 however, has brought the existence of other actors with the intent and capability of causing mass destruction to the attention of the global public. Stateless actors may be capable of acquiring the technology and the expertise to

launch a nuclear attack. This would not, despite the horror, be Armageddon. But experience tells us that while a terrorist group may be a stateless actor – it may even cease to exist as a consequence of perpetrating its outrage – this does not always draw a wise response from state actors, bound into the norms and rationalities of state to state interactions. The threat we face over the next few decades, so long as states remain sane, or at least no more lunatic than MAD, comes from the age old terrorist tactic succeeding, but this time writ large; by committing outrages governments are encouraged into satisfyingly violent but counter-productive responses, leading to further destabilisation and more intense polarisation. Despite suggestions that we are helpless hostages to maniacs, the success of terrorist tactics is dependent on us.

Carl Sagan, eminent rationalist, proponent of the 'nuclear winter' hypothesis, and member of the BOAS speculated on the dangers of self-destruction. Given the assumption that there at least must have been extra-terrestrial civilisations, he wondered why they have not contacted our fledgling global society. The answer to this, he suggested, was that technically advanced civilisations tended to destroy themselves. On August 9th 1945 the United States exploded the last atomic weapon used in warfare. But human ingenuity, he argued, will always place Doomsday on our doorstep. Only the constant application of the other human virtues will keep us from tripping over it. ☢

ANDREW BARTLETT writer 



ANDREW BARTLETT lives in an ivory tower. Whether this is for his safety or for ours has not been revealed...

A



In an **EXCLUSIVE** interview with *The End is Nigh*, comic book legend **ALAN MOORE** talks to **MIKE MOLCHER** about the apocalypse, why George Bush is a bad idea and how the world as we know it will come to an end within a decade ...

Very English Apocalypse

“I'd like to think that, even amongst apocalyptic end-of-the-world mongers, I've got a special place ...”



You're a Jehovah's Witness.

You and your suited compatriot knock on the door of a house in Northampton, distinguished only by the painted snakes that slither across its surface. Horned devils leer at you from the gables, there are storm clouds mounting the horizon and a light drizzle forms drips from your lacquered hair.

The sound of footsteps padding down stairs leaks through the wood of the door, followed by the click of a door handle, a sliver of light grows wide and out of the illumination steps a vision of a man whose ideas about the apocalypse would give even your brand of evangelicalism a run for its money ...

"I don't get quite so many Jehovah's Witnesses these days," chuckles Alan Moore in that soft Northamptonshire brogue of his.

"A month ago, there was a ring on the doorbell and there was a couple of Jehovah's Witnesses standing there. I usually find they push a small adorable black child in front of them in case you open the door with a gun, or something like that - that might just be my imagination, or that's just how they tend to treat my house - but this time, there was a couple of perfectly nice Jo'Vos and they were saying hello, and I said 'I've got every respect for other people's religion but I do have my own religion and I'm very, very busy at the moment so you'll have to excuse me'. And one of them said 'Oh, that's okay, nice to meet you, Mr Moore'.

"I thought 'wait a minute, how did the Jehovah's Witnesses know my name?' and is it just that they say 'if you want to get into the apocalypse, you want to go up to the house with

the snakes on the front door, he's always good for a laugh there'.

"So, yeah, I'd like to think that, even amongst apocalyptic end-of-the-world mongers, I've got a special place ..."

It would be easy to trot out a cliché about how Alan's beard gives him the appearance of a marketplace apocalyptic soothsayer of yore, but I value my dreams being free of black dogs and snake gods right now, thank you very much.

For more than 30 years, the only living person to make Northampton even worthy of note has destroyed the world again, and again, and again; by nuclear fire, religious mania and celestial intervention. It's getting to be something of a habit.

"I love it, especially the English apocalypses, man. I love John Wyndham, Day of the Triffids, I remember reading that as a kid and it wasn't the plants, it was the fact that everybody had gone blind.

"It was some guy who was saying 'my wife and kids are upstairs dead, I just turned the gas taps on and left them and I'm off to join them once I've got enough drink inside me for me to be able to do it' and I was probably about nine, so I probably thought 'Oh gosh, that's jolly bleak'.

"And, yeah, it is, that is the apocalypse and I think the English do it very, very well. We also do it well in a mad, spiritual blaze of glory sense where you've got your David Lindsay with your Voyage to Arcturus, you've got William Hope Hodgson with House on the Borderland, which is beautiful fantasy of the apocalypse which is completely beyond understanding, it's overwhelming, it's a trip. And we also do the HG Wells, John Wyndham apocalypse very nicely."

In such a long career that's spanned everything from six-page throwaway tales in British comic book legends Eagle and 2000AD, to the icons of America's superhero fetish, to find any kind of common theme is surprising. But to find something as commercially suicidal as the end of all things is practically a miracle.

Yet the End of the World was a motif in Moore's very earliest work. Under the pseudonym of Curt Vile, 'Roscoe Moscow' appeared in the magazine *Sounds* in 1979 and featured an apocalyptic mix of music, nuclear war and aliens. This fascination with nuclear weapons and apocalyptic war appears again and again (used to be a great ending for a 2000AD Future Shock), and later cropped up in the popular 2000AD strip 'DR & Quinch', in which the juvenile humour of its ubiquitous anti-heroes was matched only by their love of flinging nukes about.

This, he says, was a product of his environment at the height of the Cold War, when you could hardly escape it.

"You have to remember that I started work as a cartoonist in the late '70s and the majority of my early career was throughout the '80s. It was around about 1979 that Ronald Reagan and Margaret Thatcher came to power, which turned up things a notch or two in relation to the nuclear problem. I believe since then there's been former KGB officials and things like that who've come out and said that during the Reagan era nobody knows how ridiculously close we were to complete thermonuclear disaster.

"So this was something that was hanging over my head, I suppose that starting off with Roscoe Moscow and DR and Quinch I suppose I was quite natural approach to take, like with DR

Alan Moore Apocalography

The complete apocalyptic works

Anything without a notation of issue numbers is a one-shot, * = no potentially 'apocalyptic' events, merely references or themes.

The Stars My Degradation

art/story by Alan Moore/Steve Moore (Sounds, 12th July 1980 - 19th March 1983)*

The Final Solution

art by Steve Dillon (2000AD, IPC, Progs 189-190, 1980)

Crawks Bearing Gifts

art by Ian Gibson (2000AD, IPC, Prog 203, 1981)

The Last Rumble of the Platinum Horde

art by John Higgins (2000AD, IPC, Prog 217, 1981)

They Sweep the Spaceways

art by Gary Leach (2000AD, IPC, Prog 219, 1981)

The Regrettable Ruse of Rocket Redglare

art by Mike White (2000AD, IPC, Prog 234, 1981)

The Double Decker-Dome Strikes Back

art by Mike White (2000AD, IPC, Progs 237-238, 1981)

Bad Timing - art by Mike White (2000AD, IPC, Prog 291, 1982)

Marvelman/Miracleman

art by Gary Leach/Alan Davis/John Ridgway/Chuck Beckum/Rick Veitch/John Totleben (Warrior (# 1-18, 19-21, Marvelman Special #1), Eclipse (# 1-7, 9-16), 1982-1989)

V for Vendetta

art by David Lloyd (Warrior (# 1-26), DC (# 1-12), 1982-1989)

Captain Britain

art by Alan Davis (Marvel Superheroes (# 386-395), The Daredevils (# 1-11), Mighty World of Marvel (# 7-13), Marvel UK, 1982-1984)

Cold Snap

art by Bryan Talbot (Food For Thought, 1983)

DR and Quinch Have Fun on Earth

art by Alan Davis (2000AD, IPC, Prog 317, 1983)

Eureka

art by Mike White (2000AD, IPC, Prog 325, 1983)*

trying to deal with it with humour. But there's limitations to that approach. It's quite natural approach to take, like with Dr Strangelove. How else do you deal with something that's that awful; it's the equivalent of the sick but understandable jokes that kind of spring up like a rash when there's any public disaster.

"I think that when it was that I was doing Dr and Quinch that I started to question the actual ethics of doing humour based upon nuclear destruction because I wasn't sure that my audience were understanding it with the heavy irony that was intended and, in fact, sometimes I wasn't even sure that I was understanding it with the heavy irony that it really needed.

"So after that I switched tacks, I think."

This change in tack was evident with cult hit *V for Vendetta*, set against a background of a 'limited' nuclear war which leads to society's collapse and the growth of a fascistic police state. It reached a level of disturbing sophistication during his time on *Swamp Thing*, when Alan included enough newspaper cuttings he'd collected in just six weeks about the impending nuclear apocalypse to chill the blood.

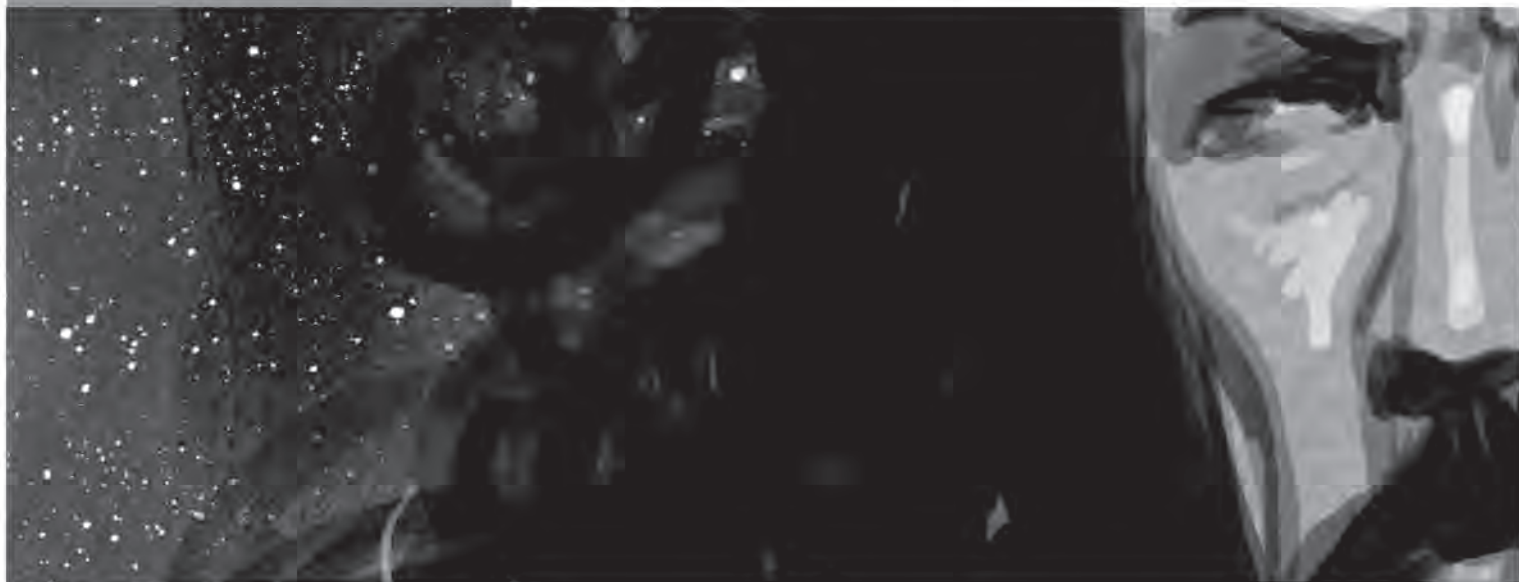
"So yeah, the nuclear thing, it was a huge issue, it

world is to its destruction,

"Like with most of the things in Watchmen, it was a kind of a pun that had got two or three different meanings. For one thing, it's a watch y'know, see what we did there?" he chuckles. "We thought it would make a really good motif on the back covers if we started it out at 12 minutes to midnight and then over the 12 issues it would progress, which we thought would be barely noticeable at first but we hoped would give an encroaching sense of urgency and doom as it closer towards the stroke of midnight.

"So, yeah, it was kind of saying this is the kind of world, we are living on the clock; this is not just a metaphor this is where we live so, yeah, that was a motif that we worked into Watchmen along with a lot of other icons and catchphrases of the nuclear era, I mean, Dr Manhattan himself ... though I remember a French analyst who'd come up with this brilliant intellectual analysis of the book but it was all based on the fact that he thought Dr Manhattan as named after Manhattan Island rather than the Manhattan Project and sort of, which, kinda misses the point."

Never having had qualms about wiping out all



still is. It's probably a more important issue now than it was, in that since the Soviet Union's fallen to bits there are places about the size of Peterborough - and are probably a good deal less economically stable than Peterborough - which have got a dozen SS20s and there are a lot of people wandering the world at the moment who could perhaps be prepared to offer a tidy sum which would look very attractive, y'know, from the point of view of the former Soviet Union."

And then came *Watchmen*.

"Watchmen ... I don't know, Watchmen in some ways, in fact, probably goes further, it's subtle and less overt but it's more about the atom bomb than the nuke-based thing in *Swamp Thing* was."

Apocalyptic imagery abounds in *Watchmen*. Aside from the ambulatory A-bomb that is Dr Manhattan, there's a palpable sense of society disintegrating as two sides in a nuclear showdown play a dangerous game of bluff, along with a feeling of impending doom heightened by the regular appearance of the Doomsday Clock, originally used by Manhattan Project scientists to illustrate how close the world is to its destruction,

mankind, Moore doesn't balk at obliterating New York and he does it without melodrama - an event that has disturbing parallels in the light of the 9/11 attacks and the subsequent rise of a New World Order.

"A friend of mine called Bob Morales a comic writer who used to write for *Vive* and things like that, he said he'd phoned up some mates of his on September 12, 2001, who were living a block away from the WTC and he said at least two of them the first thing they said was "It was really strange, I kept waiting for the weird half-alien body to turn up sticking out of a wall" which for one thing I think *Watchmen* is certainly the only comic book and I can't think of a lot of others, which has actually shown the destruction of New York or the partial destruction of it and I think what these people were referring to was the fact that on September 11, something felt a bit fishy.

"Now, I'm sure they didn't think it was Ozymandias and a matter transmitter, but it touched a nerve in some way, y'know."

The idea of a sudden "catastrophic catalysing event" is something remarkably like the noises coming from neo-Conservatives in America.

Wars every now and again, they say, are good. But Moore disagrees.

"The only difference between Ozymandias and the neo-Conservatives is that he's actually coming from a Liberal background and he is also genuinely intelligent which the neo-Cons aren't, now, I know that they have some people like Yale professors counted amongst their number which you would think 'these are American intellectuals' but these are the people who are saying basically our agenda boils down to 'America can now kick some serious ass', which is not the sort of thing I'd expect from CU Trevor Roper or someone like that. It's a kind of lesser standard of academia."

The neo-cons seized the political initiative in 2001 following the terrorist attack on the World Trade Centre, an event that sparked the erstwhile 'War on Terror'. Following the attacks, Moore agreed to do a benefit book on one condition - no superheroes.

"I agreed to do the one for Marvel because they swore to me on a stack of Bibles that it wouldn't have any stupid-arsed American superheroes in it," he said. "DC was more honest and said, yes, they were going to have Superman weeping

collected edition of *V for Vendetta*. Moore describes the level of fear he felt in the early 1980s, when the Cold War was at its height. This has not gone away, he says.

"Well, obviously the fear is still there and, yes, it could still all kick off and we'd be very lucky if we didn't get at least some kind of nuclear-based catastrophe.

"I think that I've kind of altered my thinking about that over the years - the McLuhan Institute in America did a study and said they believed that probably more nuclear bombs would be a better idea, the idea being that they present us with, in a very physical sense, really terrible possibilities of what could happen to us.

"It hangs, this huge insoluble question mark, over the heads of every individual upon the planet and what the McLuhan Institute was saying was that they thought this would in fact prompt humans to think of a way round a problem. Now, we aren't doing yet, but I believe that we will do. It's sort of, we're an inventive bunch and when things sort of get as dire as they are at the moment, it comes down to a basic thing either we will come out with some way round this or we won't."

The Ballad of Halo Jones

art by Ian Gibson (2000AD, Progs 377-385, 396, 405-415, 451-466, 500, 1984-1986)*

Swamp Thing

art by Steve Bissette/John Totleben/Rick Veitch/Alfredo Alcalá/Shawn McManus (DC, # 20-64, Annual #2, 1984-1987)

Superman

art by Dave Gibbons (DC, Annual #11, 1985)*

Watchmen

art by Dave Gibbons (DC, # 1-12, 1987)

Pictopia

art by Don Simpson (Anything Goes, Fantagraphics, #2, 1987)*

Godzilla Pin-up (Godzilla: King of the Monsters, Dark Horse, #1, 1987)

Leviticus

art by Hunt Emerson (Outrageous Tales from the Old Testament, Knockabout, 1987)

Lust

art by Mike Matthews (Seven Deadly Sins, Knockabout, 1989)

Big Numbers

Art by Bill Sienkiewicz (Mad Love, # 1-2, 1990)*



and all this stuff. And I said, well, that's completely inappropriate and I don't want to have anything to do with that. Marvel just lied.

"But Dark Horse said they'd give us eight pages and me and Melinda [Gebbie] were able to do something we were quite pleased with as an analysis of what had happened and what we were mainly saying was 'look, don't start reacting like idiots, don't start reacting like this is a comic book and that Osama Bin Laden is some sort of villain.

"We were trying to give a human picture of this and that, in the end, we support all victims everywhere, y'know, that it didn't matter whether they were in the ruins of Baghdad or the ruins of New York or in the ruins of 1940s London.

"Bush had already mentioned crusades and, I mean, Northampton is where three of the Crusades the real ones were actually raised, so we know a little bit about crusades around here.

"We said, 'this is a more complex situation than that and in complex situations it's really dangerous to go around acting like idiots.'"

In his refreshingly honest introduction to the

The key, he says, is tackling the "Uranium 93 hurdle". Theoretical Physicist, Dr Michio Kaku, surmised that there are different possible levels of civilisations - we're currently a type zero and if we eventually manage to harness all the power of our own planet we will be a type one civilisation. The first big hurdle to clear, says Moore, is our use of nuclear power.

"It gives us the power to destroy ourselves, so it's all wait and see. But on the other hand having impending death hanging over us does tend to focus the mind wonderfully, so it might be that some of these problems incite their own solutions. That's what I'm hoping."

In one of his strips, Moore envisaged a pseudo-Moses whose erratic commandments mean everyone just ends up dead. In the age of the Christian Right having the ear of the most powerful man on earth, and a rise in Islamic and Christian militancy, religion has all-of-a-sudden forced its way back to the fore.

This can only be a bad thing for Alan "Cults are always a bad idea, religion is always a bad idea" Moore: "I mean, I have said in some of my more truculent moments that belief is for sissies who are too scared to go and look for themselves.

Trampling Tokyo (Art Adams' Creature Features, Dark Horse, 1996)

The Birth Caul

art by Eddie Campbell (Eddie Campbell Comics, 1999)*

Jack B Quick

art by Kevin Nowlan (Tomorrow Stories, ABC/DC, # 1-12, 1999-2002)

Promethea

art by J. H. Williams III/Mick Gray (ABC/DC, # 1-32 1999-2005)

This is Information

art by Melinda Gebbie (9-11: Artists Respond vol. 1, Dark Horse, 2002)*

The League of Extraordinary Gentlemen vol. II

art by Kevin O'Neil (ABC/DC, # 1-6, 2002-2003)

Terra Obscura

art by Yanick Paquette/Karl Story (ABC/DC, # 1-6, 2003)

Terra Obscura volume II

art by Yanick Paquette/Karl Story (ABC/DC, # 1-6, 2004-2005)

Tales of the League of Extraordinary Gentlemen

art by Kevin O'Neil (Knockabout/Top Shelf, 2007)*



"I like the idea of Gnosticism, if you've seen it with your own eyes or believe you have, if you've experienced it for yourself then believe in it, don't just believe in it just because some asshole tells you to. This is important, this is you mediating between yourself and eternity. It's probably too important to entrust to other people, especially people who've been dead for several thousand years, because, y'know, they've got no comeback.

"I think that religion is probably falling to bits anyway, that's probably exactly why we have fundamentalism because it's like digging your heels in. If you think about, and I'm not just talking about spiritual fundamentalism now, I'm talking about political fundamentalism as well as nationalism and Nazism, our technology is the main thing that drives us, we create the technology and then the technology changes us. That's one of the main engines in human development. Me, I'm in retreat from the 21st Century.

"But the lines on the map used to be there for geopolitical reasons, yet these days, what does the map mean? I think that there are people who look at that and think that the world is evaporating, so they think all they can do is dig their heels in and insist upon the values that they've known and insist upon God, Queen and Country.

"And the same in the spiritual arena. God and theological ideas have taken a bit of a battering since the Age of Reason, it's become increasingly difficult to hang on to the tenets of belief.

"I think people dig their heels in because they can feel that the wave is going to wash them all away and it is a last stand.

"I don't know where the fundamentalist Christians in America got the word fundamentalist from because they're certainly nothing like any form of Christianity that's ever existed on the face of the Earth. They're not going back to basics, they're going back to what they imagine the basics were; which is a lot more crude and a lot less sophisticated than early Christianity actually was, from what I understand.

"You look at early Islam, every story in the Qur'an is an allegory, they are not permitted to tell stories about what God did or didn't do because that's kind of blasphemous, they take it as self-evident that nobody can know what or why God did it.

"The same thing with Christianity; I think originally people were much more flexible, they didn't insist upon a fixed day creation, it was sort of, in fact, there's been periods where people have revised Creation myths and it wasn't seen as blasphemy.

"It's only when you get these idiots, usually over there in the Southern states but, y'know, it's a bit more widespread than that, that actually insist that the Ark of the Covenant was a box that was five forearms by six forearms and bolts of lightning hit anybody that touched it and there WAS a literal Garden of Eden yeah there was, but it was in Iraq and you ran tanks over it. Fundamentalist Christianity, which is where a lot of this apocalyptic thinking seems to come from, is a purely modern American invention.

"Something that struck me about that is the fact that if only their president, in his initial inauguration address in 2000, hadn't peppered it with quotes from the Book of Revelations, which he was using as kind of signals to his fundamentalist voter base.

"He was assuring them that there was still 'an angel guiding the whirlwind', so he must be starting to wonder now," he says, referring to the damage wrought by successive hurricanes on America. Y'know, you have to be careful what you say (laughs), it can come back to haunt you."

Talk about the 'end of the world' is usually met with stony silence or outright ridicule, yet that doesn't stop

everyone trotting out apocalyptic terms in any disaster. Practically every other survivor of Hurricane Katrina used the phrase "it look like the end of the world". So can we really hope to treat it with any kind of serious objectivity?

In the turbulent 21st Century, according to Moore, we'd be better off redefining what we mean by 'the end of the world'.

"Do we mean end of the planet? No, I don't think so," he snaps. "Do we even mean the end of life on the planet, the biosphere? Now, world - what do we mean by that? It seems to me that 'world' is a construct, everything we have around us now has started out in somebody's head and that doesn't just include the design of your clothes and furniture and things like that, it includes the economies that we're living in, it includes the social structures that we're living in, it includes the way that we see reality, the way that we see time, the way that we see everything in our lives. Now, I could see *that* ending."

So does he think we've got anything to worry about within the next few years? There's a slight hesitation, and then the kind of prophecy you wouldn't expect from your common-or-garden doomsayer.

The end, he says, could well be nigh but not how you might think.

"The time that I'd heard, and this is both from conventional sources and from imaginary friends when I was in my more extreme magical states (that's not to say there's any validity to them at all, just feelings that I got), is that there is probably some sort of event looming between 2012 and 2017, that I believe that this is probably

“... There is probably some sort of event looming between 2012 and 2017...”

something to do with the phenomenon of period information doubling."

In 1993, mathematician and science fiction writer Vernor Vinge proposed that human knowledge is doubling exponentially, and is getting faster. At some point in the near future, Vinge argued, the doubling period would reach zero, which means that an infinite amount of knowledge would be generated in a finite time. At that point, the world will have entered a 'new stage' and whatever remains of humanity as we know it will have changed beyond recognition.

"If you take the number of human ideas since, say, the development of the first hand axe to, say, 1AD. You could say that that is one period of human information of, what, 50,000 years? And we invented quite a lot of stuff in that time. So he said, how long does it take for that to double? How long before we have twice as many ideas? And it takes about 1,500 years ... but the first period was 50,000 years. So, you're now around about the Renaissance and it takes a couple of hundred years to double after that, and then it takes 100 years, then between 1960 and 1970 apparently it doubled again ... in 10 years.

"Apparently, if that graph curve holds up, then there comes a point somewhere between 2012 and 2017 when it's doubling every fraction of a second.

"I can't think of what human culture will be like after that point; it means that more information than we've had in the previous history of the world in a fraction of a second, then in the next millionth of a second that much again and there are big pointers to this; something like more than 90 per cent of the scientists who've ever lived are still alive.

"I'm aware of the Jehovah's Witnesses and how stupid this is going to look from the point of view of 2020 when nothing has happened **but** I could see a kind of an explosion of knowledge, a massive breakthrough.

"I mean, we're now looking at quantum computers sometime in the next 20 years and perhaps sooner. What's that going to do to what we can know and what we can compute? It will be unbelievable.



"I could see that being a kind of a neat fulfilment of both sense of the word 'apocalypse', both as revelation and as end-of-the-world. That sort of burst of information that changes what we think we are, where we think we are, when we think we are, something that puts a new light on all of this and why we're doing it."

By thinking about the apocalypse in a *positive* sense, as a harbinger of greater things, Moore says we can fear less and understand more.

"I think it can only be a good thing because the programmes we've been running on from the start, they're damn programmes that end only in a crude, simple-minded Biblical sense of the apocalypse, with millions dead and the rivers awash with blood. It doesn't take any kind of class to think up an apocalyptic scenario like that; Mad Max was probably more sophisticated and interesting than that in terms of post-apocalyptic scenarios.

"That's crude and I think as a species we deserve better. I think that perhaps our old agendas could be going out in a blaze of glory, even as we speak and it's to be hoped that they are and I'm sure that when ... we do periodically change into a new world and when it does happen it tends to happen like a huge explosion of information and knowledge and I think that these could be the sort of times we're moving through, where we're about to make a really big paradigm shift.

"Now, I could see we could find out some things about ourselves that would completely redefine the way that we see ourselves and the way that we see the universe that we exist in. THAT would be the end of the world and, actually, I think that would be quite fun, because actually if you look at the world the world of our constructed reality, of our economy and our societies it's largely shit. It is cruel and it is unfair and for a lot of people it's un-endurable ... the sooner we get rid of that, the better.

"We might not even notice it when it comes. It'll be, one day, somebody in a laboratory somewhere will come up with, or some philosopher, some striking idea that will change everything and the world will end just like that because we'll be working on a whole new set of principles."

The theme of the end of the world isn't going to go away for Moore. The follow-up to his first novel, *Voice of the Fire*, with a 700-page apocalyptic tale that follows up on his alternative view of 'apocalypse'.

"*Jerusalem* is basically about a realisation that our ordinary, banal lives may have another dimension from which they can be looked at. I think as with most of the magical insights, I've internalised a lot of them, they're part of my world view now so I suppose that probably everything I do in the future will have some buried element of these insights in it and hopefully some new ones in it.

"I mean it'd be pretty tragic if I was just recycling my insights over the past six or seven years endlessly. I'm hoping to have a couple of new ones."

Apocalyptic fiction tends to focus on the moment or the avoidance of the moment of ultimate death. The asteroid's gonna hit you, the tsunami's gonna wipe you away, the disease is gonna kill us all. But the apocalypse is actually a much more personal thing for Moore. You may not be the fundamentalist president of the United States or a Rev Jim Jones and his tank of poisoned Coolade, but that doesn't mean you don't face an apocalypse every day, you just

have to think about it a different way.

"For all of us, life is a matter of trying to come to terms with the universe and I think that in its most benign sense, apocalypse is the moment of revelation, where we realise that all of our attempts to make sense of the universe are hopelessly off the mark and in the ruins of our theories we kind of get a glimpse, we have what drunks call 'a moment of lucidity' of the things that are really important. I mean, revelations can come in sorts of ways, in everybody's life.

"I mean, if you're paying attention you kind of notice that if somebody's born or if somebody dies, there's a kind of similar atmosphere about both events; there's a very charged atmosphere, there's an atmosphere of things seeming to be connected even though they probably aren't.

"When you come across this in your life, it's like all of a sudden, a perspective opens up. It's like most of our lives are spent walking down a narrow street of skyscrapers; these are the concerns of making a living, all the things that take up our time and our thoughts while we're trying to get through our lives. But sometimes you'll get to a plaza or a park where it suddenly all opens up, where a death, a birth, something of significance like that, and all of a sudden the perspective drops back and you suddenly get a sense of the genuine scale of your life and the things that make up your life. This can be shocking, sometimes it can be shattering, but it can also be really useful."

Despite making his own end-of-the-world-as-we-know-it-prediction, Moore bemoans those who either make predictions or ignore them. We're not thinking creatively enough about the apocalypse, we're too hung up on nuclear war or global warming. As future thinker Alvin Toffler pointed out, the world is pretty much divided into two camps those who don't believe the doomsayers and think tomorrow's going to be pretty much like today", while the others say "No, this is the end, there isn't any tomorrow".

"Now, in both of those instances, you'll notice that people have conveniently avoided any necessity to think creatively about the future. In one of them, it's just going to be the same as today but with smaller radios and in the other one it isn't going to be there. That's psychological and cultural suicide, because if we're not expecting to have a future then we're not going to have one.

"We have to think of a new way of thinking about terms like apocalypse. We have to think beyond the mushroom cloud or whatever else it is that we happen to be particularly frightened of."

The true power of the apocalypse, and why we have to rethink our attitude towards it, is because it's in our own hands. Expecting the world to end might just mean that it does, he warns, particularly if your name's George Bush, you've got several thousands nukes, and you believe in Armageddon ...

"The thing with the apocalypse is it never comes, it's only in our heads, but at the same time that's the only place it ever really needs to be. It can drive us to form suicide cults that castrate themselves and then drink poisoned Coolade as the comet's passing over, it can drive us to weird neo-Conservative ideas.

"The idea of apocalypse is quite adequate to end the world. I mean, when you look at people like Reagan and Bush, who take Biblical prophecies literally, it's more than adequate. 'Yeah, it's all going to kick off in Megiddo' ... er



MICHAEL MOLCHER



Contrary to popular opinion, **MICHAEL MOLCHER** is a journalist and editor of *THE END IS NIGH*. And he ain't getting on no plane, fool!

Worried about World War III? Don't be, it's already been and gone. **THE EMPEROR** explains ...

SO YOU MISSED THE WARS?

"Americans Say World War III Likely" the headlines blare when a recent poll to mark the 60th anniversary of the end of World War Two was announced.

It revealed that "[s]ix in 10 Americans said they think such a war is likely". How foolish would they have feel they knew that they had missed a couple of World Wars and the next one would be World War V?

How easy is it to miss a World War? The answer appear to be: Pretty damneasy.

According to those who job it is to sit around thinking about such matters we are actually currently *in* World War IV!! Take a look out of the window. Seems awfully quiet doesn't it? Not if you were in London or Cairo or Iraq during July or New York on 911. Because this is your very own World War against terror.

Hold on I have missed a World War out!! See how easy it is all of a sudden? The Cold War was often referred to as WWIII in intelligence circles but it wasn't until the months after that 911 that well-placed and influential commentators helped solidify the "reality" of these two World Wars. In November that year James Woolsey, a former director of the CIA used the term followed rapidly by Eliot A. Cohen in the Wall Street Journal.

There has always been a lot of debate about our WW definitions some have recently proposed that the nuking of Japan was not the end of WWII but was more a message to the USSR in the opening stages of WWIII. This could be dismissed as semantics or scare mongering but it has serious implications. It allows policy makers to define a concrete threat when in actuality they are faced with a nebulous enemy who may or may not even exist. This allows a certain "flexibility" when it comes to defining your enemies and with resources (oil and water) looking to be getting awfully scarce such flexibility may be required and big flashy invasions of countries will be replaced by a less visible rolling war.

Of course the increasing use of the term WWIV has led some people to suggest we were actually in World War V. However, this would involve making the Napoleonic Wars WWI and then incrementing the later World Wars I and II. For sensible people that is a step too far and an awful bother especially with all those history books that would need to be rewritten.

We currently seem to be over the peak on the graph I just made up in my head which plots the year against the likelihood of the world ending. While the First World War was, ironically, the war to End All Wars it was the Cold War was actually the most likely to get hot hot like the surface of the sun hot. In fact this current World War seems like The War With No End with lower level activity taking place with little likelihood of the things going completely apocalyptic.

However, terrorism can inflame potential flashpoints, as we've seen in



Kashmir, so we cannot discount the potential of terrorism to bring about The End of the World as we Know it. Some fringe commentators are already reporting a fiendish Al Qaeda plan in the works called "American Hiroshima" an attempted to not only detonate the 40+ tactical nuclear weapons they have acquired but also the nukes allegedly hidden by the Russians around the US during the

Cold War. If anything like that came to pass then things could get messy quickly.

If the Americans polled are right about some looming global war then this could mean we might face two World Wars running at the same time but who would really want to fight the United States? The only real



contender is China and tensions continue to mount over Taiwan as they bring more missiles in ever year which will soon lead to a tipping in the

balance of might in the region. Another factor could be America fighting two World Wars one on a home front possibly weakening it enough so that another state might fancy its chances on being the next big dog?

Luckily the political noises are promising and the US economy is now so underpinned by China (and Japan) any war between them would be disastrous. So if the world ends with a bang it is unlikely to be from actual war but bear in mind that, while teaching General Studies, my father stated the Berlin Wall would never come down in his lifetime only a few years before it actually happened so the

WWIII.
BY PETER NAGLE



"LADIES AND GENTLEMEN, WE HAVE DONE THE LORD'S WORK. AND WE HAVE SEEN HIS FACE IN ITS MAJESTY AND WRATH."

"AND IN THAT HOLY LIGHT WE SAW THE WICKED AND THE GODLESS BURNED AWAY. AND WE SAW THE RIGHTEOUS TAKEN TO THEIR HEAVENLY REWARD."

"AND SOON NOW - VERY SOON - THE LORD WILL COME AGAIN. TO HIS MOST HOLY, TO WE WHO HAD THE STRENGTH TO WIPE AWAY THE STAIN OF WICKEDNESS. HE WILL COME AGAIN TO GATHER US INTO HIS HEART."

"AMEN."

THE LAST WAR

'FISHY'
ALBACORE
EWING

'FILTHY'
MATTRESS
TIMSON

THANK YOU FOR THOSE WISE WORDS, FATHER, AND WELCOME, ALL OF YOU, TO THE REFUGE. I'LL MAKE THIS SHORT AND SWEET.

WE'RE SAFE.

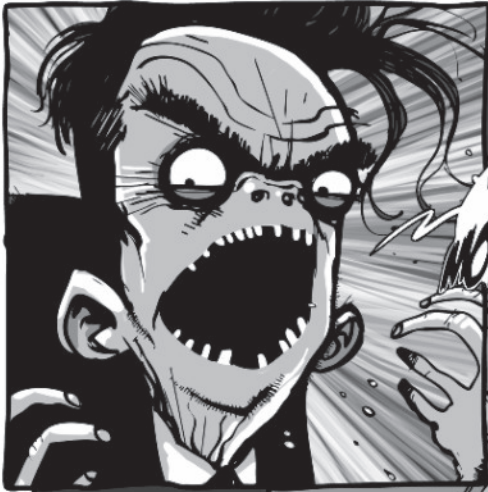
I WANT TO REITERATE THAT - THE RADIATION AND BIOTOXINS CANNOT PENETRATE, WE HAVE FOOD AND DRINK AND WE HAVE MEDICAL CARE.

IN FACT, WE HAVE ALL THE LUXURIES OF HOME. I RECOMMEND THE SAUNA.

NOW THE SETUP IN THE REFUGE IS TWO LIVING AREAS - AREA 'A' AND AREA 'B' - AND A SHARED RECREATION SPACE.

YOU EACH HAVE CARDS - RED OR BLUE - SHOWING WHICH LIVING AREA YOU'LL BE IN. I SUGGEST WE ALL GO AND GET SETTLED, AND THEN WE CAN HAVE OUR FIRST COMMUNAL DINNER AND START REALLY GETTING TO KNOW EACH OTHER.

I'M SURE WE'RE ALL GOING TO GET ALONG JUST FINE.



THOSE DAMN BLUE-CARD

WASTERFUCKERS!

RED DORM

HAVE YOU NOTICED HOW WE'VE BEEN USING UP OUR WATER SO FAST? IT'S THEM. THEY SIPHON IT.



THEY DON'T SIPHON OUR SOAP, THOUGH, FOR DAMN SURE.

I DON'T LIKE THAT WE DON'T KNOW WHAT THEY DO, Y'KNOW? THEY COULD BE HAVING A MEETING RIGHT NOW - Y'KNOW, PLOTTING AGAINST US -



OH, THEY ARE. THE WAY THEY SMILE ALL THE TIME, THEY'VE GOT SOMETHING TO HIDE, ALL RIGHT.



WE NEED TO PROTECT OURSELVES.



UH, WE COULD UNSCREW THE LEGS FROM THE BEDS - THEY'RE METAL, THEY'D PACK A HELL OF A WALLOP -

JUST FER DEFENCE, RIGHT? CASE THEY TRY SOMETHING?



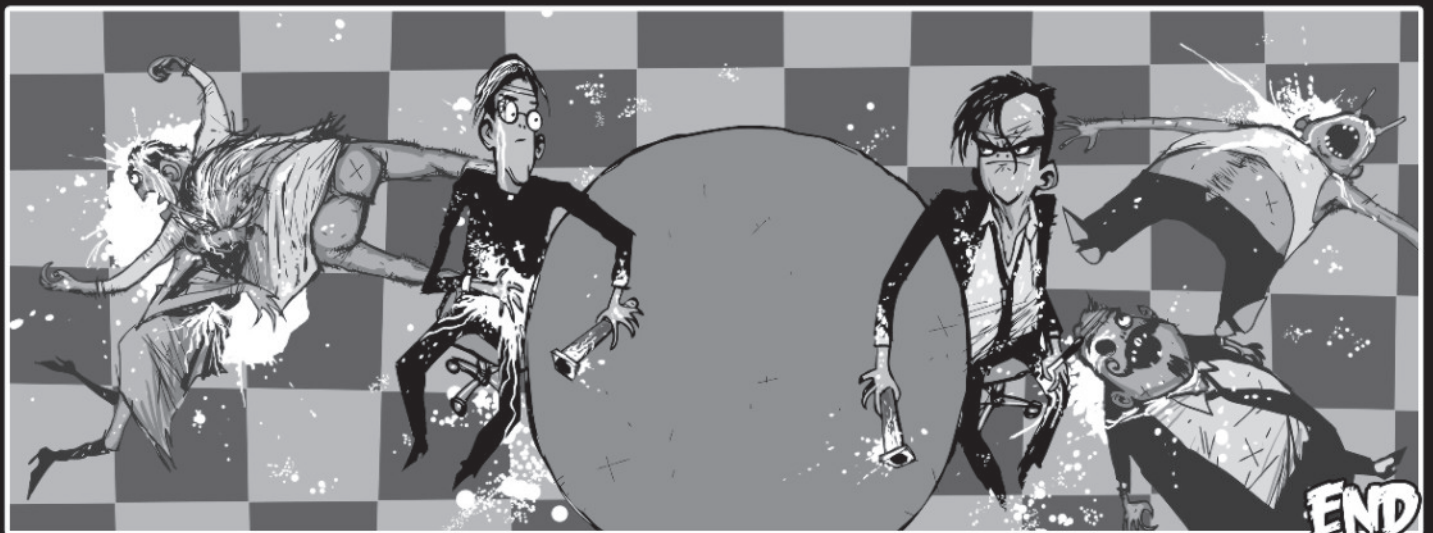
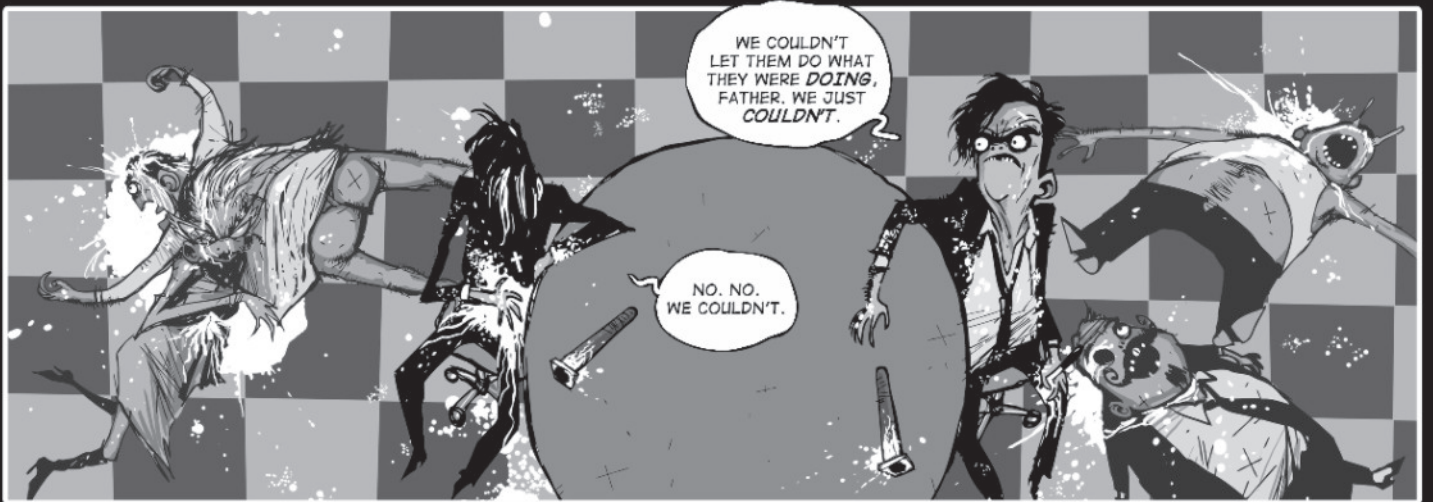
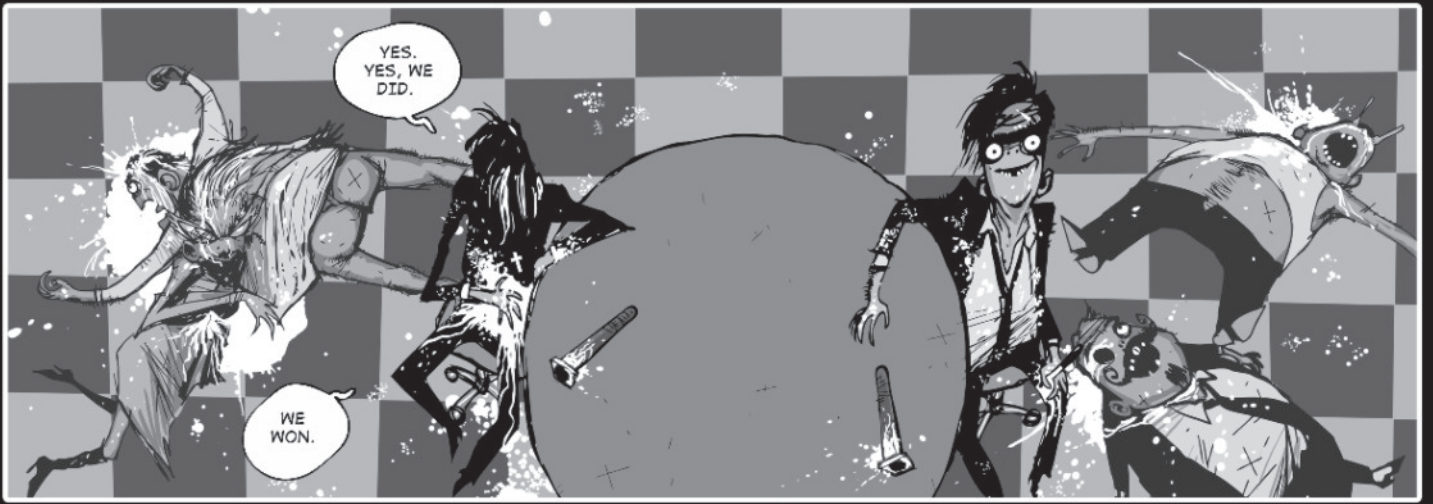
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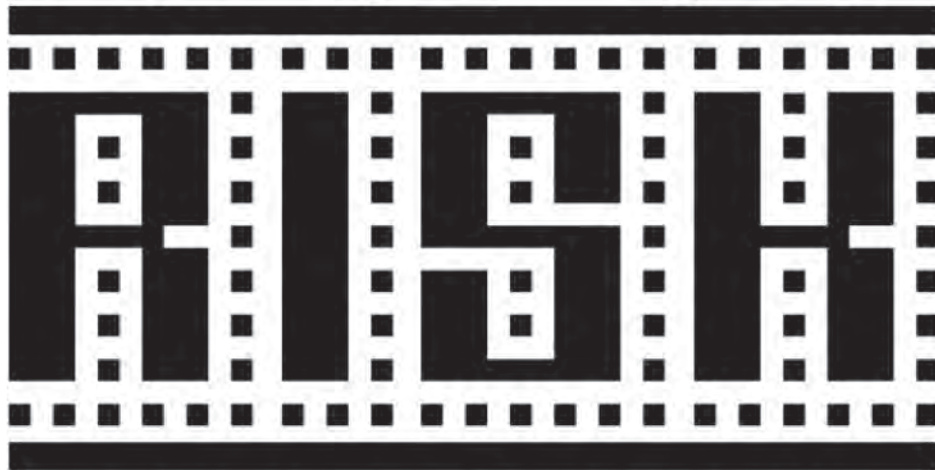


JUST IN CASE.

"WE WON."







WOULD YOU LIKE TO PLAY A GAME?



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



CHEMICAL WEAPONS



BLACK MARKET WEAPONS



CHEMICAL WEAPONS



BLACK MARKET WEAPONS



CHEMICAL WEAPONS



BLACK MARKET WEAPONS



M.A.D. RISK

A GAME FOR 2, 3, OR 6 PLAYERS

RULES BY DAVID ELIOT

Welcome all would-be-Bushes and Bin Ladens to the precarious and volatile arena of Global war in the 21st Century!

You must use all your cunning and bravery to dominate the world's resources and with the threat of mutually assured destruction, stockpile your weapons, developing them or buying them on the black market; making sure you don't get nuked by nukin' the other guy first!

"Whose year is it? What's The President!?"

The object of the game is to eliminate your enemies through, conventional, chemical and ultimately nuclear warfare. The first player to do so wins the game, as everyone else will be very dead.

To achieve this goal Players must save money to buy or develop weapons or invade their opponents Zones and Continents taking their valuable resources. Each Zone generates it's own number of credits per turn. There are also Special Zones that generate more credits than normal but only if you are in trade with other countries. Will you co-operate and bide your time, or smash the peoples of the Earth bit by bit? You decide!

"My things, my things, my beautiful things.."

You will need:

1 game board (provided as double page spread)
5 dice (please supply yourself)
24 Special Weapons Cards (cut out cards from surrounding pages and stick onto thin card) These are 12 Nuclear Weapon cards, 6 Chemical Weapons cards and 6 Black Market Weapons cards.

"Welcome to Earth"

The map is divided into 6 continents, which are further split into a total of 42 Zones. Each of the continents contain anywhere between 4 and 12 Zones.

Pennies can be used to represent armies on the board. E.G. 1p for one army, 10p for five armies and 50p for ten armies. Or use your imagination and get creative!

"And so it begins.."

Every Player on the board has a total of 16 armies (per Continent) Each player Rolls a dice, the highest of all gets to choose which continent he wishes to occupy first and then places One Army on each of the Zones in that continent. the second highest goes next and so on, till the last player. If only two people are playing they must roll three times each and place their armies in order of numbers rolled. E.G. If Player one gets a 6, 3 and a 1 and Player Two gets 4,5, and 2 then first choice goes to Player One, then Player Two gets to go twice, then Player One, then Two and then One.
If any double rolls occur Players must roll again.

Once all the Armies are in position the Player can Place the remainder of his or her armies anywhere in any of their Occupied Zones. There is no maximum on the amount of military build up in a single Zone.

"Your move, Monsieur Grande Fromage..."

Turn begins with the Player who went last choosing a continent and

moves round the board clockwise and to the left. each turn consists of six stages;

1. Economy
2. Trade
3. R&D
4. Amassing and Moving armies
5. Attacking
6. Strengthen your borders. Take a M.A.D. card.

1. Economy

At the start of every turn (with the exception of the first) Players receive a certain amount of money based on what territory they hold. Players start the game with 10 Credits each per continent, but can acquire additional funds throughout the course of the game. For each Zone already owned, or invaded and taken over in a preceding turn, receive 1 extra credit. If you take over a whole continent receive a one-time bonus as detailed below;

N. America: 11 Credits

S. America: 7 Credits

Africa: 4 Credits

Europe: 10 Credits

Asia: 16 Credits

Oceania: 5 Credits

Each Player must pay 4 credits per turn to maintain his or her countries infrastructure. If you run out of credit and cannot pay for your continents upkeep one army will desert per turn from a zone chosen by an enemy player to the broke players right.

If a Player is Playing more than One Continent he or she cannot transfer funds between powers. there are also specific regions that offer financial bonuses, see section 3 for details.

3. Trade

Each one of the continents has special attributes assigned to certain Zones within it's borders. These give each player a highly individual opportunity to stockpile and develop weapons of mass destruction in order to obliterate their opponents. The Special Attributes for each continent are as follows;

N. America

The Ability to build Nuclear Power Plants in The Eastern US and Alaska. The Western US and Eastern US Zones return a revenue of 3 Credits per turn through with Oceania and /or Europe.

S. America

Argentina Generates 2 Credits per turn through trade with Asia and Oceania. Brazil can generate 4 credits per turn only through trading with The US and / or Europe. Ex-soviet weapons can be bought on The Black Market in Venezuela

Africa

South Africa generates 4 Credits per turn in trade with South America and / or Oceania and black market ex-soviet weapons can be built here also. Chemical Weapons factories can be built in Egypt and Congo.

Europe

Nuclear Power Plants can be built in Great Britain. S. Europe generates 4



THE END IS NIGH *M.A.D. RISK*



WOULD YOU LIKE TO PLAY A GAME?



Credits per turn through trade with Asia and / or N. America.

Asia

Ex-soviet weapons can be bought on The Black Market in The Ukraine, Chemical Weapons can be built in The Middle East and Nuclear Power Plants can be built in Ural. India and China generate 2 credits per turn through tourism with the US, Oceania and / or Europe.

Oceania

Nuclear Power Plants can be Developed in Western Australia and New Guinea. Indonesia and Eastern Australia generate 3 credits a turn in trade with Asia, Africa, South America and/ or Europe

As you will see in addition to normal credit generation you can 'up the ante' by trading with other countries. On your turn talk to the other players and ask them if they would like to set up Trade. For each country you are able to trade with you get the extra credits.
E.G. If Oceania is trading Indonesia with Asia and South America, Oceania's Player would receive 6 credits per turn, due to tourism. If he or she were only trading with Asia, Oceania's Player would only receive 3 credits per turn.

No one has to trade, but it does allow the smaller countries to generate revenue for their arms manufacture. If however, you attack a country you are currently trading with you lose any credit generated by that country's trade with you.

Remember to keep a notebook handy to keep a log of those countries you're currently trading with!

2. R.&D.

In this stage of the game use the credits you have amassed to fund research and development into W.M.D's.
Nuclear Power Plants cost 50 Credits to initiate research and cost a further 10 credits per turn for 5 turns until the weapons are completed. Once the research the R&D is paid for take a Nuclear Weapons card.

Chemical Weapons factories cost 35 Credits to initiate research and a further 6 Credits per turn for 5 turns until the weapons are completed. Once R&D is complete, take a chemical weapons card.

Black Market Weapons can be bought for 25 Credits a piece and require no actual development. They are however notoriously unreliable and inaccurate... (See Attack section) Once purchased take an Illegal Weapons Card.

3. Amassing and Moving Armies

At the beginning of every turn (with the exception of the first one) count the Zones you currently occupy, you will get additional forces based on how many parts of the board belong to you. Divide the amount of Zones you hold by three, rounding up any fraction and this is the amount of extra armies you receive on that turn. You always receive a minimum of three armies on any turn.

Also use this turn to move your Armies, One Zone at a time, either between your own zones or into your enemies' zones preceding an attack!

4. Attack!

You may only attack a Zone that is next to the one your attacking force is in (if using Armies), you can't go repeatedly rampaging across the board more than one conquered territory at a time and you must always have two armies at the least in the territory you're attacking from as you cannot leave a territory empty. You can attack as many times as you wish in a turn.

As an attacker you're allowed to roll between one and three dice, but you must have one army more than the number of dice you're rolling. As a defender you are permitted to roll one or two dice to defend, but must have armies equal to your number of dice.

To decide the outcome of a battle, compare the highest score of the dice rolled. If the Attacker's is higher, the Defender loses one army from that territory. If the Defender's is higher, the Attacker loses one army. If more than one die has been rolled repeat this procedure with the remaining dice. In the case of a tie, the defender always wins

You may attack as many times as you like and shift your attack to other adjacent territories as often as you wish, assuming you have enough armies left to do so.

If you obliterate an enemy's army you must occupy that territory immediately with at least One army. If you totally wipe a player off the board during an attack you immediately gain the Credit bonus and any Special Weapons that Player has.

4a Special Weapons

In the course of the game you can put credits into Research and development into special weapons. Once you have them you can use them to attack your opponents.
Special Weapons can only be used once and then must be discarded. A Radioactive zone cannot be entered ever again and causes one army in the zone to die each turn from radiation poisoning. The Irradiated Zone also loses any Credit revenue it generated previously.
A Poisoned Zone causes one army in the Zone to die each turn from a variety of sickening diseases. All Credit revenue is lost until the Zone becomes healthy again.

Nuclear Weapons can be used to attack armies 7 Zones away and the defenders are not usually allowed to roll for their defence.
Roll a dice.

6 - All Armies and Special Tech in the Zone are wiped out and the Zone becomes radioactive.

5 - A maximum of three armies and all Special Tech are obliterated, the zone becomes radioactive.

4 - Two armies are destroyed as well as all special tech, the zone becomes radioactive

3 - One army and all special tech is destroyed and the zone becomes Radioactive.

2 - The Nuke does not detonate properly and explodes without thermonuclear detonation. Roll for attack as if using three dice. Defenders are allowed to roll defensive die as they take cover from the exploding shell.

1 - The Nuke misfires and explodes in the Zone it was launched from. Two armies are destroyed in the Zone.

Chemical Weapons can be used on enemies' four Zones away.

Roll a dice

6-5 The Chemical Weapon kills two armies and all special tech. the Zone becomes Poisonous for four turns.

4-3 The Chemical Weapon Poisons the Zone for three turns but does not kill any armies

2-1 The Chemical Weapon misfires and explodes in the Zone it was fired from. It Poisons the Zone for Three turns

Black Market Weapons can be used on Enemy's two Zones away.
Roll a dice

6-4 The Black Market weapon detonates properly and kills All armies in the Zone.

3-1 The Black Market Weapon blows up in the zone it's being used in. The Zone becomes radioactive.

5. Strengthen Your Borders

At the end of your turn you may, if you wish strengthen weak areas in your Empire by moving remaining armies into weakened areas, or moving forces out of irradiated and poisoned Zones. You may move as many armies as you wish only one adjacent Zone away. No attacking can take place in this turn

The winner is the last remaining Player alive, standing proud over the wreck of the Earth.



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



NUCLEAR WEAPONS



CHEMICAL WEAPONS



BLACK MARKET WEAPONS



CHEMICAL WEAPONS



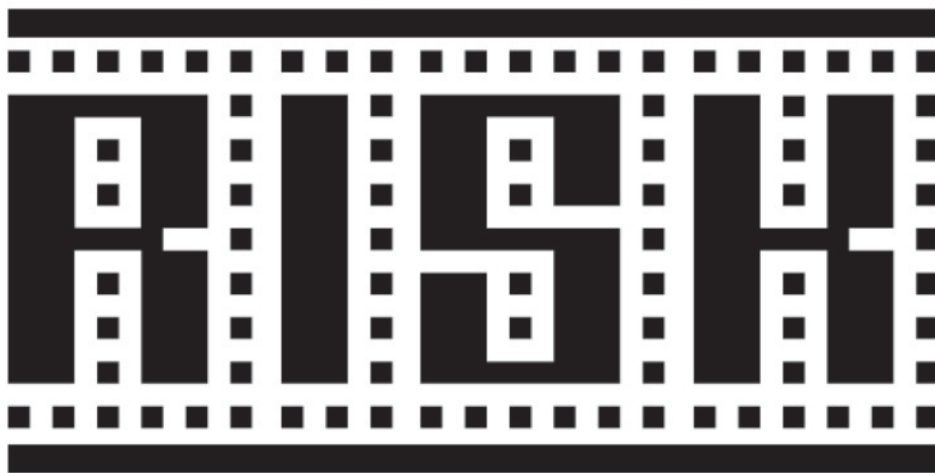
BLACK MARKET WEAPONS



CHEMICAL WEAPONS



BLACK MARKET WEAPONS



WOULD YOU LIKE TO PLAY A GAME?

Throughout its history, mankind's desire to anthropomorphise and mythologise has seen War itself transformed into various characters and incarnations. So, which War is the best War? **JOHN REPPION** weighs up the contenders ...

THE GODS OF WAR

Art by:
James Fletcher
Leah Moore
Lyndon Webb
Oliver Redding
SMS
Tim Perkins
Valerie Bundy

MARS

Roman God firstly of spring and new life then of death and ultimately of war. *Mars* was the forebear of *Romulus* and *Remus*, and so the father of Rome itself, thus leading the Roman's to refer to themselves as "sons of Mars". His image came to be used as a symbol of Roman nationalism, a figurehead for their conquering and pillaging. Countless atrocities have been committed in the name of Mars.

Belief Points: 0.5/5 ☠️☠️☠️☠️☠️

Despite the month of March and the red planet being named in his honour and once being the most widely worshipped Roman God, *Mars* just doesn't have much of a following these days.

Fear Factor: 2.5/5 ☠️☠️☠️☠️☠️

Mars was usually depicted as a warrior. Scary, but not terrifying.

APOCALYPSE RATING: 0%

One nasty piece of work, but he's having too much fun to just end it all so he's got a low rating here ...





SMS

SETH

AKA *Seġ, Sutekh, Setech, Sutech*

The Egyptian God of chaos, evil, storms, deserts and war. *Seth* fought an eighty year battle with the hawk headed God *Horus*, tearing out his left eye. *Horus* responded by removing one of *Seth's* legs and both of his testicles, thus making him the winner. After returning *Horus's* eye *Seth* was banished to live with the sun God *Re*.

Belief Points: 0.5/5 🏴‍☠️🏴‍☠️🏴‍☠️🏴‍☠️🏴‍☠️

It wouldn't be true to say that *no one* worships *Seth* these days, but not many do.

Fear Factor: 5.5/5 🏴‍☠️🏴‍☠️🏴‍☠️🏴‍☠️🏴‍☠️

Seth is commonly depicted as an unknown creature referred to by Egyptologists as "the *Set* animal". The creature appears to be an amalgam of jackal, aardvark and human attributes.

APOCALYPSE RATING: 0%

Sadly, despite his fearsome reputation, *Seth* has no real Apocalyptic connections.



KALI AKA Shyama, Dakshina Kalka

the Hindu Goddess of creation and destruction, whose name means "dark" or "time". *Kali* first came into being in a battle with the demon *Raktabija*. Each time some of the demon's blood fell onto the ground another version of *Raktabija* sprang up. *Kali* was able to defeat the demonic horde by using her long tongue to catch every drop of their spilled blood, but the diabolic plasma drove her into a killing frenzy. Her rampage was only brought to an end by her husband, the God *Shiva*, throwing himself at her feet. *Kali*'s dual role as creator and destroyer embodies the Hindu concept of *Pralaya* in which the Apocalypse is merely a way of "wiping the slate clean" for everything to begin once again.

Belief Points: 4/5



It is estimated that there are over eight hundred million practising Hindus in the world today, making up thirteen percent of the Earth's total population. Even taking into account the diversity of beliefs within the religion and the fact that some Hindus do not worship *Kali* you can't really deny that there is serious and widespread belief in the Goddess.

Fear Factor: 5/5



A giant, bright red, multi armed Goddess with a huge pointed tongue synonymous with global homicidal rampage. Enough said.

APOCALYPSE RATING: 25%

According to Hindu beliefs the material world is a mere illusion [*Maya*] and although *Kali* will destroy the Universe some day she will also be the one to create it anew.

MORRIGAN

(AKA THE MORRIGAN, MORRIGU)

Celtic Goddess of battle, strife and fertility, whose name translates as "Phantom Queen". *Morrigan* is often pictured not as a single being but as a trinity consisting of the woman (*Morrigan*), the crow or raven (*Babd* or *Macha*) and the frenzy (*Nemain*). She is a shape shifter, sometimes a crone, sometimes a raven and sometimes a young woman, who uses her magical powers to influence the outcome of human battles. Her spirit is invoked by the imitation of a carrion bird's croaking with battle horns.

Belief Points: 1/5



Worship of *Morrigan* has seen something of a revival in recent years thanks to the growth of modern Paganism. However, the Goddess is hardly a household name.

Fear Factor: 2.5/5



Ravens, crones and young women aren't particularly frightening but shape shifting is.

APOCALYPSE RATING: 20%

Morrigan is closely associated with the power of destruction by her followers. That's a *bit* Apocalyptic.



TEZCATLIPOCA

AKA TITLACAHUAN

the Aztec God of night, beauty, war and all material things whose name means "smoking mirror" (on account of his magical mirror which emits deadly smoke). *Tezcatlipoca* is the opponent of *Quetzalcoatl* ("feathered snake") the creator sky God, wherever he travels war and misery follow. He is sometimes known as *Necocyautl*, which means "sower of discord on both sides".

Belief Points: 0.5/5 ☠️☠️☠️☠️☠️

Some worship of *Tezcatlipoca* does still occur but not on any large scale.

Fear Factor: 4/5 ☠️☠️☠️☠️☠️

Aside from the magical killer mirror [which is often shown either set into the God's chest or in place of one of his feet] *Tezcatlipoca* also has the power to transform himself into a Jaguar.

APOCALYPSE RATING: 0%

The Aztecs may have had their doomsday at the hands of the Spanish, but this god has no real Apocalyptic connections.



OLIVER REDDING



VALERIE BUNDY

WAR

Widely accepted to be the second of *The Four Horsemen Of The Apocalypse* from chapter six of *The Book Of Revelation* in the Christian Bible (the remaining three being commonly said to be *Famine*, *Pestilence* and *Death*). However, only *Death* is actually named within the text: "And I looked, and behold a pale horse: and his name that sat on him was *Death*, and *Hell* followed with him." Riding a crimson steed, whose colour is thought to symbolize the bloodyness of battle, *War* wields a mighty sword - often interpreted as representing the violence of combat. The horsemen appear when "the lamb" (*Jesus*) opens the first four seals of a scroll with seven seals and are sent to Earth under the guidance of *God Almighty* as the bringers of the Apocalypse.

Belief Points: 4/5 ☠️☠️☠️☠️☠️

The Book Of Revelation is an issue of much debate in the Christian church; it's authenticity being questioned for centuries. Many Christians would argue that *War* and *The Four Horsemen Of The Apocalypse* are entirely allegorical. However, there are those who take these things literally, and with more than two billion Christians worldwide [including marginal groups such as Mormons, Jehovah's Witnesses, etc], *War* must have his believers.

Fear Factor: 3/5 ☠️☠️☠️☠️☠️

Bright red horse, great big sword, yeah, he's pretty scary.

APOCALYPSE RATING: 100%

If being one of *The Four Horsemen Of The Apocalypse* doesn't deserve full marks here I don't know what does!

TIM PERKINS



ODIN

aka oden, wotan, wuodan

The God of wisdom and war and is considered to be the supreme deity of late Germanic and Norse mythology. At *Ragnarok* ("fate of the Gods") *Odin* commands the *Aesir* pantheon in battle against the forces of evil, lead by *Loki*. The resulting war destroy's not only all of the Gods and demons but also most of the universe.

Belief Points: 2.5/5 ☠️☠️☠️☠️☠️

Worship of *Odin* had declined but has been steadily increasing once more since the early 19th century. *The Odinic Rite* are an excellent example of modern *Odin* worship: formed in 1978, and now the world's largest *Odinist* organisation with chapters in France, Germany, the US, Canada, UK and Italy.

Fear Factor: 5.5/5 ☠️☠️☠️☠️☠️

Odin is usually depicted as a bearded old man looking a bit like a wizard. Not very scary.

APOCALYPSE RATING: 100%

It really doesn't get much more Apocalyptic than the final battle of *Ragnarok*, to be honest.



AHHH!

AHHHH!

JESUS, THE PAIN!

YEH'VE GOT TEH HELP MEH, PLEASE! AH THOUGHT YEH HAD TEH DIE TEH GO TEH HELL, BUT AH WAS WRONG!



PLEASE HELP MEH!



DON'T WORRY, FELLAH - IT'LL SOON BE OVER...

EH, YEH WON'T NEED THAT WATCH ANYMORE, THEN?

--EHP? WELL, I SUPPOSE N--



BLAM!!!

ON THE BRIGHT SIDE, AT LEAST THIS LOT WON'T BE GETTIN' BACK UP AGAIN...

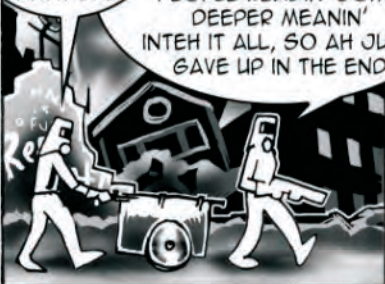


NICE.

BENMEN of the APOCALYPSE

ARE YEH NOT DOIN' THE COMICS ANYMORE?

YEH MUST BE JOKIN'... AH COULDN'T PUT ANY JOKES IN THEM WITHOUT PEOPLE READIN' SOME DEEPER MEANIN' INTEH IT ALL, SO AH JUST GAVE UP IN THE END.

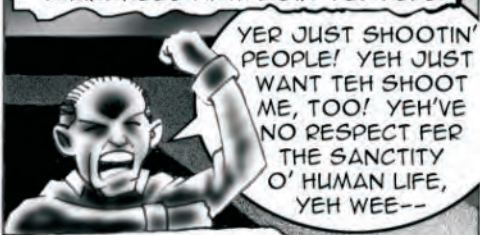


I CAN'T BE HAVIN' WITH PEOPLE THININ' THEY KNOW WHAT'S GOIN' ON IN THE MIND OF THE WRITER BASED ON SOME HUMOUROUS LINE OF DIALOGUE TAKEN IN ISOLATION.



NOW LET'S GO SHOOT ME DA.

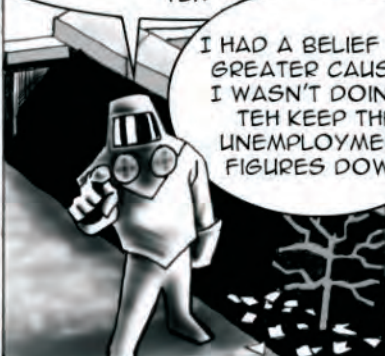
AH, C'MON, DA YER LESS'N FIFTY MILES FROM THE BLAST AREA - IT'S VIRTUALLY A KINDNESS AH'M DOIN' YEH HERE!



YER JUST SHOOTIN' PEOPLE! YEH JUST WANT TEH SHOOT ME, TOO! YEH'VE NO RESPECT FER THE SANCTITY O' HUMAN LIFE, YEH WEE--

BUT YOU WERE IN THE IRA!

PEOPLE BEG ME TEH SHOOT THEM! THEY BEGGED YOU NOT TEH--



I HAD A BELIEF IN A GREATER CAUSE! I WASN'T DOIN' IT TEH KEEP THE UNEMPLOYMENT FIGURES DOWN!

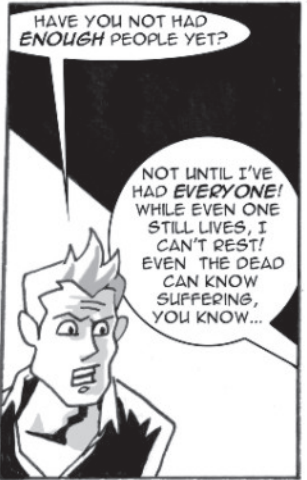
NOW PISS AWAY AFF - THE PAIR OF YIZ!



AH! JESUS!

THE IRONIC THING IS HE USED TEH MAKE ME PROMISE HE'D NEVER END UP IN AN OUL PEOPLE'S HOME, AND NOW AH CAN VIRTUALLY GUARANTEE IT, AH CAN'T GET NEAR 'IM.





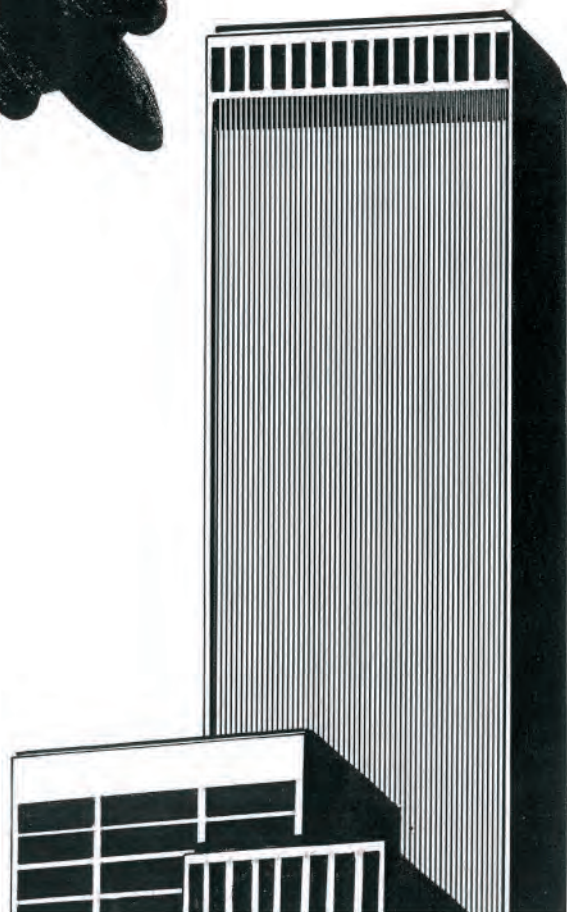


THE WARS TO END ALL WAR

Qiyamah, Armageddon, Ragnarok, Judgement Day

Whatever the name, the idea of a final, terrible battle between good and evil that brings about the end of the world has been a fundamental part of the world's major religions for millennia. In an age of growing religious-inspired terrorism, how can an understanding of these legends provide an insight into the minds of those who truly believe that a great war is nigh?

In this special six-page feature, **ED BERRIDGE**, **LIZ MARSH** and **GB PERT** examine the histories and question the modern-day consequences of belief in legends of apocalyptic war ...



To start, **ED BERRIDGE** looks at the grand-daddy religion of them all, which gave modern faiths their idea of a Final Battle ...

In the beginning

Zoroastrianism once numbered its followers in the millions and stretched its influence across the Persian Gulf to Anatolia, whilst current estimates place the total population of believers at between 2 and 3.5 million.

Its origin is ascribed to the prophet Zarathustra (whom the Ancient Greeks names Zoroaster), who is credited with reforming the ancient Indo-Iranian practices that bear parallels to the ancient practices of the ancient Vedic religion in India. Ostensibly a monotheistic religion, the Supreme Being (Ahura Mazda) is accompanied by six entities that are good and constructive, similar in nature to the angels of the Christian religion, whilst another group of seven embody the destructive and evil.

The Holy Book of Zoroastrianism is called the Zend Avesta, originally passed down through memory and verbal teaching until it was eventually transcribed in the Sassanian period. Zoroastrianism teaches concepts including Heaven, Hell, the Day of Judgement and Satan, amongst others, and is credited as having influenced a number of subsequent monotheistic religions, including Christianity, Judaism, Mithraism and Manichæism, as well as originating eschatology, demonology and angelology.

In C.W. King's book *The Gnostics and Their Remains*, published in 1887, the author states that "it was from this very creed of Zoroaster that the Jews derived all the angelology of their religion... the belief in a future state; of rewards and punishments... the soul's immortality, and the Last Judgment - all of them essential parts of the Zoroastrian scheme."

Zoroastrians believe that the history of the world is divided up into four distinct periods, covering roughly 12000 years. In the first the forces of good and evil (Ahriman) are separated, with the evil invading the good world in the second, and the battle intensifying during the third. The fourth, and last, period began with the birth of Zarathustra and is still in the progress of continuance.

The passage of the End Times will be marked by the arrival of three saviours at millennial intervals. The first, named Aushedar (the Developer of Righteousness), will be born of a 15 year-old virgin who bathes in a lake that contains the seed of Zarathustra. When Aushedar turns thirty, the sun will stand still for ten days above his head, marking the place where it stood before evil attacked the previously perfect world. For the following three years, as some harmful forces of evil,



JAMES FLETCHER

typically personified as wolves, perish, the world becomes more peaceful and harmonious. The second saviour, named Aushedarmah, will be born in the precise manner as the first, and this time the sun will stand still for twenty days, and the period of harmony will be doubled to reach six days.

During this period more creatures of evil will perish, whilst man will stop eating meat and drink only water. However, evil will reappear with the release of Azhi Dahaka (or Shahnameh) from his prison atop Mount Demavand, and will smite the sacred elements of fire, water and vegetation before he is vanquished. In the final stage, the third saviour, Soshyant (conceived in precisely the same method as his forbears), will eventually defeat all the forces of evil, defeating death, disease and disorder. At this point, Soshyant raises the dead and leads the people to face the final judgement, where they will see all the good and bad deeds committed during their lives.

The concept of the Zoroastrian final judgement concerns the two halves of man: the resting place of the soul and the resurrection of the Earthly body. Those that are judged to be good are sent to heaven, whilst the wicked are cast into hell for three days and nights. This involves a number of



DAVE EVANS

ABOVE: The Zoroastrian third saviour, Soshyant, battles the forces of evil

tests, including pouring molten metal across the Earth, enveloping it and purifying, sweeping over all men and making them uniform.

The metal will destroy hell, rendering Ahriman impotent and effectively nullified. Soshyant grants humanity the gift of immortality for their

final sacrifice, using the fat of the last ox to die in the service of man and the White Hom (Haoma) to create the elixir. With the world leavened, evil destroyed and mankind's spirit and body balanced, the Earth is now returned to the perfect state in which it began.

THE TRUMPET'S BLAST

Judaism and the Apocalypse
by
ED BERRIDGE

Judaism is the first of the triumvirate of monotheistic faiths that dominate the world of modern religion (or, if you prefer, Judaism is the prequel to Christianity, to which Islam is the sequel). And like both of these theologies, it too has a strong belief in the End of Days (Acharit Hyamim).

The Talmud states that the world will only exist for six thousand years, based on the assumption that time began with God's creation of the world in Bereshit (Genesis, or In the Beginning). There is disagreement as to whether or not these numbers are symbolic, though Orthodox Jews believe the years to be literal, which places the end of the world at sometime around the year 2240. The end will see a series of apocalyptic events that overturn the old order of the world, creating a new one in which God is recognised by

all as the creator of the universe. This period will see the return of all Jewish peoples to Israel and the defeat of all of her enemies. There will be a Third Temple erected in Jerusalem, with the recommencement of the traditional rituals that it brings. Following this, the world will witness the Resurrection (Techiat Hametim, or Revival of the Dead).

A trumpet is blown on the day of judgement that not only summons the Israelites, but also beckons the dead back from the Underworld (Sheol), recalled to answer for their sins: "Thy dead shall live, their bodies shall rise. O dwellers in the dust, awake and sing for joy!..." (Isiah 26:19). This period also sees the appearance of the Mashiach (Anointed One), the Jewish Messiah, who will be a descendant of King David. He will become the anointed King of Israel, and divide its peoples into their original tribes. Israel then will be attacked on

the orders of Gog, King of the unspecified nation of Magog.

The two sides will then fight a great battle (the Battle of Armageddon) in which huge numbers on either side will die, and is described as being of much suffering and conflict, with one of the scribes of the Talmud writing "Let the end of days come, but may I not live to see them". However, God will intervene to save the Jews, and having vanquished this final enemy, will have banished all evil from mankind.

Following the year 6,000 in the Jewish calendar, the era of Olam Haba (Future World, or The World to Come) will be ushered in, seen by some scholars as the afterlife itself and a return to Gan Eden (Paradise), and the seventh millennium will see a period of unequalled worldwide peace, tranquillity and holiness.

And lo, it shall come to pass

American Christian Fundamentalists and the Cosmic War that will claim us all

by GB PERT

Do you know America is at war?

Not the Gulf War, that finished last year (although try telling the Iraqi people that) And no, not the shadowy Chuck Norris-style war either.

America is involved in a cosmic war that it cannot afford to lose. The trouble is, it cannot win it either. And guess who is caught in the crossfire in this battle of good and evil? Everyone.

Christian Fundamentalists believe in the literal truth of the Bible, and part of that truth is the Revelation of St. John. John's letter to the seven Churches of Asia Minor is an apocalyptic vision of the Last Battle, which only the elect will survive. It is a book of destruction, John sees seven seals which are broken, from the first four come the Horsemen, War, Famine, plague and death.

T h e

fifth seal raises the dead who will be judged, the sixth unleashes a terrible earthquake. With the opening of the seventh seal there is a dread silence which is ended by the blowing of seven trumpets. With each trumpet blast the wrath of god is unleashed. The first four trumpets destroy a third of the earth, the sea, fresh water and the sun and moon. The fifth trumpet unleashes a plague that effects all but the elect and the sixth angel wipes out a third of all people. With the seventh blast the new Kingdom of God is announced and the final battle with Satan begins.

For millions of Christian fundamentalists it really is very simple:

* it is prophesied that Christ will return to reward the

elect and punish the wicked

* Christ will not return until certain criteria have been met, such as 1,000 years of Christian rule on Earth

* the timeline for Christ's return is not pre-ordained; it is up to the faithful, the chosen, the elect to prepare the way for Christ's return. By any means necessary.

* and some of them are

practically jumping for joy at the state of the world - during an edition of CBS' 60 Minutes in October 2002, Ed MacAteer, considered to be the godfather of the Religious Right, said: "I believe that we are seeing prophecy unfold so rapidly and dramatically and wonderfully and, without exaggerating, makes me breathless. Every grain of sand between the Dead Sea, the Jordan River and the Mediterranean Sea belongs to the Jew." When asked if that includes the West Bank and Gaza, his answer was "Every bit of it."

It is no exaggeration that millions of people believe this Apocalyptic vision; according to a 2002 Time/CNN poll, 59 percent of Americans believed that the prophecies found in the Book of Revelation are going to

come true and nearly one-quarter think the Bible predicted the 9/11 attacks - that's about 50 million people.

Some of those believers form political lobby groups like the Christian Coalition, while there are those who prefer to take "direct action". One such group is the Army of God led by Reverend Michael Bray, a reformed Lutheran minister who is the poster child of Christian terrorists.

In 1985, Bray was jailed for four years for destroying seven separate abortion facilities but he subsequently became a leader in the militant 'army' of pro-life activists.

The "Army of God" website is a hate filled corner of cyberspace with colour photographs of the latest 'murder victims' - not people they've killed, but aborted foetuses - and is littered with constant references to war, a soldier's 'duties' and scriptural excerpts to support their actions.

One of Bray's closest friends, Paul Hill, was executed in 2003 for the murders of Dr John Britton and James Barrett at an abortion clinic in Florida in 1994. To the Christian terrorists, Hill is an American hero, a brave martyr in their army.

The Army of God use typology that says God is vengeful, that anyone who kills will be killed and is particularly fond of the Old Testament which stresses the war-like, vengeful nature of God.

When a struggle becomes sacralised, the use of violence becomes legitimised. In war there can be no end unless one side or the other has been destroyed; Juergensmeyer classifies how confrontation is characterised as cosmic war by Fundamentalists:

1. the struggle is perceived as a defence of basic identity and dignity. The basis of Christian reconstruction theology is that there can be no pluralism. Their truth is that there is one God. There is no room for other religions and anyone who is not a Christian is not saved. They fight for the souls of all humankind. They are martyrs for your soul. Be grateful.

2. losing the struggle would be unthinkable - let Satan win?

3. the struggle is blocked, or cannot be won in real time.

The militant reconstructionists see themselves very much as 'martyrs'. Every year, Bray hosts the "white rose banquet" at which those who are incarcerated receive



PAUL CARTER

praise and prayers. They don't believe that it is a war that will be won quickly, so if they spend their time languishing in jail they are safe in the knowledge that their place in heaven is secure. And if you are executed? No problem, Jesus is waiting once the state pronounces you dead. Plus, as soon as rest of your army is victorious you will be resurrected - human concepts of time and death do not apply in the cosmic war.

Another name attached to Reconstructionism is Dominion Theology, a belief that Christianity must dominate the world before Christ will return. One Dominion theologian summarised their beliefs thus:

"Christians have an obligation, a mandate, a commission, a holy responsibility to reclaim the land for Jesus Christ - to have dominion in civil structures, just as in every other aspect of life and godliness.

But it is dominion we are after. Not just a voice. It is dominion we are after.

Not just influence.

It is dominion we are after.

Not just equal time.

It is dominion we are after.

World conquest. That's what Christ has commissioned us to accomplish. We must win the world with the power of the Gospel. And we must never settle for anything less."

This world view is currently being preached in churches across America, but of concern is the office to which such congregations can rise.

Lt General William G. Boykin is the Deputy Undersecretary of Defense for Intelligence with, that others have called, a "glittering" service record in the US' elite Delta forces.

This service record includes dealing with religious confrontation on several occasions; during the Waco siege in 1993 he advised a gas attack, his leadership in Somalia contributed to the Blackhawk Down fiasco and as commander he failed to rescue US hostages in Iran.

A Born-again Christian, Boykin has cast the "War on Terror" in apocalyptic terms and has gained notoriety for his Christian Fundamentalism-inspired views over the last few years with some unprofessional public remarks.

Appearing in uniform during a speech at an Oregon church in 2003, Boykin said: "Why do they (radical Muslims) hate us? Why do they hate us so much? Ladies and gentlemen, the answer to that is because we're a Christian nation."

He has also repeatedly said that America's enemy was: "a spiritual enemy ... called Satan". The enemy will only be defeated, according to Boykin, "if we come against them in the name of Jesus".

A Pentagon investigation concluded in 2004 that he had violated regulations by failing to explain these remarks were not made in "an official capacity" and, although the Bush administration distanced themselves from Boykin's remarks, Donald Rumsfeld stated that Boykin was exercising his right to freedom of speech.

But what of the man in the White House? Well, according to Boykin, Bush has been divinely ordained to rule. "Why is this man in the White House? The majority of

Americans did not vote for him. He's in the White House because God put him there for a time such as this," he told MSNBC in America.

But does George W. Bush himself believe this? Since 1999 Bush has employed evangelical Christian Michael Gerson as speech writer and advisor. Gerson is a clever man who inserts scriptural references in Bush's speeches to appeal to the Christian right, for example the phrase Axis of Evil was originally the 'Axis of Hatred', it was changed by Gerson to give it that Biblical sheen.

Gerson claims that there is nothing 'coded' about these phrases, and openly admits that one of the categories for using Christianity in his speeches is to influence social reform. He claims that America is a pluralist nation but I guess he must have just nipped out to pray when Bush warned that after September 11 he would lead a 'crusade' (the statement was quickly retracted and he has not used the word since) George still insists on presenting conflicts in Christian terms, in the speech at his second inauguration he said:

"You have seen that life is fragile, and evil is real, and courage triumphs."

And there is no doubt in George's mind that he is on the side of the righteous: *"Today humanity holds in its hands the opportunity to further freedom's triumph over all these*

There is no doubt in George Bush's mind that he is on the side of the righteous ...

foes. The United States welcomes our responsibility to lead in his great mission.

"While the United States will constantly strive to enlist the support of the international community, we will not hesitate to act alone, if necessary, to exercise our right of self-defense by acting pre-emptively..."

Chip Berlet, senior analyst for Political Research Associates, was quoted in The Progressive: *"Bush is very much into the apocalyptic and messianic thinking of militant Christian evangelicals. He seems to buy into the worldview that there is a giant struggle between good and evil culminating in a final confrontation. People with that kind of a worldview often take risks that are inappropriate and scary because they see it as carrying out God's will!"*

The Inter-Hemispheric Resource Centre's new website Right Web talks about how apocalyptic thinking - especially in the Christian Right - is influencing US Middle East policy, such as controlling global oil sources, assisting corporate-driven globalisation, militaristic imperialism.

"The Christian Right is a powerful force shaping politics and culture in the United States, and they are the largest voting bloc in the Republican Party, so they can expect politicians to pay attention to their interests," IHRC writers have said Chip Berlet and Nikhil Aziz. *"That George W. Bush takes his born-again religion seriously and applies*

it to his political decisions has been discussed widely."

There are two different versions of apocalyptic philosophy. One that the transition will be peaceful, and one that it will be violent. In the US, it seems that the violent transition has had more force and has led Pat Robertson (who recently called for the Venezuelan president to be assassinated) and other Christian evangelicals into their interest in US foreign policy generally and their particular focus on the Middle East.

"With the collapse of communism in Europe, the United States was reframed as the defender of global civilization against the heathens and barbarians in 'rogue states', where terrorism still festered," add Berlet and Aziz. *"This opponent-swap drew from an even earlier apocalyptic focus than anti communism - a worldview extension of the earliest Christian millennial visions."*

According to Kees van der Pijl, a European scholar, in the current Bush administration the 'End of History/Axis of Evil' line of thinking argues that for the world to reach its definitive form in terms of civilisation: "[it is necessary to] neutralise the states 'mired in history' as potential rabble-rousers, the 'rogue states' beyond the pale."

Modern day Christian fundamentalists had previously been marginalized, even presented as 'crazy mountain militia men' but increasingly there are many on the Christian right who believe quite literally that we are in the throes of a grand cosmic war, that the End Times are at hand and the world is engaged in the battle of good and evil described in Revelations.

Some of these people are in prison; some of them are in the Whitehouse. Consider Former Attorney General John Ashcroft, whose tribute to Christian America was performed at Bush's second inauguration and who had himself anointed with oil before taking office.

Then there's Jerry Falwell, the Evangelical Fundamentalist who believes 9/11 was God punishing America for its wicked ways.

And how about that Anne Coulter? The New Times best-selling author and defender of the Christian right. Her plan for a more peaceful world is "We should invade their country, kill their leaders, and convert them to Christianity."

For some of the people involved in the "War on Terrorism", the fight isn't simply one that is about preserving American security or stopping violence. Instead, it is also or even primarily a battle of Good and Evil, a battle of those who side with God against those who side with Satan. Most of the time, though, they manage to keep quiet about that.

Revelations talks of how the sounding of the angel's trumpet will see "hail and fire mixed with blood" hurled down upon the earth, scorching a third of the planet.

Some of the most powerful people in the nation, with the largest stockpiles of nuclear weapons, are at this very moment looking forward to that very trumpet blast.



False jihad

How fundamentalism hijacked Islam

by ELIZABETH MARSH

Q IYAMAH, or the hour, told to us in the Qur'an and the Hadith (the sayings of the prophet, peace be upon him, which outlines the way Muslims should live), is the Arabic name for Judgement Day. It is a day when all humans and living creature will be resurrected and made to account for their deeds on earth.

Osama bin Laden, megalomaniac madman, warrior for truth or Messiah - perception, religion and location determine which of these descriptions is your best fit. While George W will inevitably put him in the megalomaniac category (perhaps a case of what we hate in others is often a true reflection of ourselves), many Islamists rate him more as a warrior for truth against the agents of Satan and evil. In other words, the West.

"Behold! Allah sent me (the prophet Muhammad, peace be upon him) with a sword, just before the Hour [of Judgement], and placed my daily sustenance beneath the shadow of my spear, and humiliation and contempt upon those who oppose me"

There is an awesome, unstoppable power in apocalypse. What ties apocalyptic groups is the belief that with the coming end of the world Allah is on their side alone, they have a definite aim, and ultimately the greatest seal of approval. This force allows them to break moral codes and carry out deeds beyond our sense of

humanity. It creates a group or society that is destructive in nature and which views "them" as the evil, the outside to be destroyed or subjugated. So, to see the above quotation from an apocalyptic world view - convert to the true faith or die.

Islamists (those that call themselves Muslims

with extremist and terrorist tendencies) using the above quote from the Qur'an are not seeking ultimate power over the world for its own sake, but because it is asked for by Allah, before the Hour arrives and Judgement is dealt. They almost achieved it in the seventh century under Muhammad (pbuh), and in fact many modern Islamists believe that they are simply following in his footsteps as warriors of 'truth' against 'evil' and 'the infidels'. And now, as was the case during the Crusades when the dead were not 'victims' but instead signs of the Lord's coming day of judgement, for Bin Laden and the Islamists the 10,000 dead from attacks on Western nations and their citizens are merely a down payment on the apocalypse.

It could be argued that the modern world and its secular outlook has created its own enemies - reactionaries fighting against the confusion and multicultural relativism of modernity. An increase in apocalyptic movements and scares is often acknowledged as a common symptom of social upheaval or war, as people turn towards those offering certainty in uncertain times. Also, the decline in Muslim political control

across Europe and the Middle East since the seventh century cannot be blamed on Allah, Muslims instead take the responsibility on themselves. If anything, Allah is testing His people just before the final Hour, and they must prove themselves and overcome the evil, pursuing truth.

So, where are the apocalyptic signs? Well, most modern Islamist apocalyptic thought revolve around the Muslim version of the anti-Christ called Dajal, a demonic and, above all, Jewish, beast that will rule the world. This being may not be physical, but hold influence in the world prior to his final revelation and lead the West and Israel into an apocalyptic war with the Muslim world. Many Islamist websites and pamphlets, including those proposed by Bin Laden, assert Jerusalem as the staging ground for this final battle. In fact, the start of the 1987 Arab-Israeli

conflict is often cited as the beginning of the end, the first sign of the coming of the Hour. Jerusalem is the site of the Judgement and the resurrection, and therefore Jewish dominance of this holy area must be overcome before the Hour arrives.

But why the west? Abuse of the Arab world aside, to the Islamists the modernity of the western world displays 'evil' behaviour that signals the coming end with violence, immorality, debt (particularly through loans, which are forbidden in Islam) all prevalent in western society. The existence of these unwanted traits elsewhere in the world is conveniently ascribed to western influence through the media, and is to be attacked as the end approaches. To these people, while the rest of the world succumbed to the materialism and covert influence of western society, Islam resisted and therefore stands as a pillar of truth that must turn the rest back. This can be used as an excuse to attack Western-facing Islamic nations, such as Saudi Arabia, which has suffered over its close links with the US in successive Iraq wars. For these extremists, their own governments have been influenced and corrupted by the West, a simple rationalisation that means they also

“Allah is testing His people just before the final Hour, and they must prove themselves and overcome the evil”

“It could be argued that the modern world has created its own enemies”

need feel no sympathy for Muslims killed in attacks in Western countries. The Muslim sect of Wahabbism, which is practically the state church in Saudi Arabia and is the religion of choice for Osama Bin Laden, follows such a line of thinking. However, it is dangerous to paint the rest of Islam with the same brush, as scholars point out its perversion of the religion's basic concepts towards much more apocalyptic and violent ends.

Predictably, America appears in most if not all Islamist apocalyptic traditions, as the Great Babylon, or as Dajal. Support for Israel, world domination through foreign policy and the debauchery of its culture makes America the prime suspect for Satan's work. According to the apocalyptic tradition Allah has recognised the work of Satan in this land, and as the Hour approaches He will punish them with earthquakes, hurricanes and nuclear attack. Ironically, while Islamists frame America in such apocalyptic terms, so America returns the favour

with further talk of Armageddon against these nasty Arabterrorists.

So what is the relationship between the apocalyptic tradition and Islamist extremists? Should we really expect a great war between Islam and the west? Does a Hamas bomber really believe that the end of the world is coming and therefore there is no point living? Or was the end of the world being brought closer in New York, Bali, Madrid and London? It is not the first time that apocalyptic material has been used to bring about a Muslim revolution, in 1399 and 1979 similar materials were blamed for revolt and domination.

Although there have been 'apocalyptic' revolutions in the past, this modern world provides something different. While the message of a coming Judgement Day is the same as it ever was, we now have the means to bring it about ourselves with vast stockpiles of weapons of mass destruction. Osama Bin Laden, America and its allies claim, has and is seeking to obtain such

weapons in order to attack the West. Whether this is the case, or not, is open to debate but such claims underline much of the so-called War on Terror and now heavily influence the foreign and domestic policies of the major Western nations.

Islam is no more an apocalyptic religion than Christianity, indeed they have a shared vision of a war-like End Times. Yet don't let the apocalyptic language fool you - what has occurred over the last few decades is as much a cultural backlash as a religious one. It is a reaction against modernity itself, against a world they are not in control of and which does not subscribe to their beliefs. There is understandable anger at this, but they chose to explain it through apocalyptic prophecy. Modernity has given weapons of mass destruction, mass communication systems and now, it seems, fundamental enemies. What is most disturbing, is that these very trappings of modernity could eventually that bring about its downfall.

Doom of the GODS

ED BERRIDGE explains why Ragnarok is the coolest Final War of them all ...

There are probably few descriptions of the End Times as dramatic, or indeed as apocalyptic, as the Norse concept of *Gotterdammerung*.

Ragnarok (Ragnarokr) literally means "Doom of the Gods" or "Destruction of the Powers", and is the literal battle at the end of the world. Recounted in the *Voluspa* (Prophecy of the Volva), the battle would be fought between the Norse Gods (led by Odin) and the evil elements

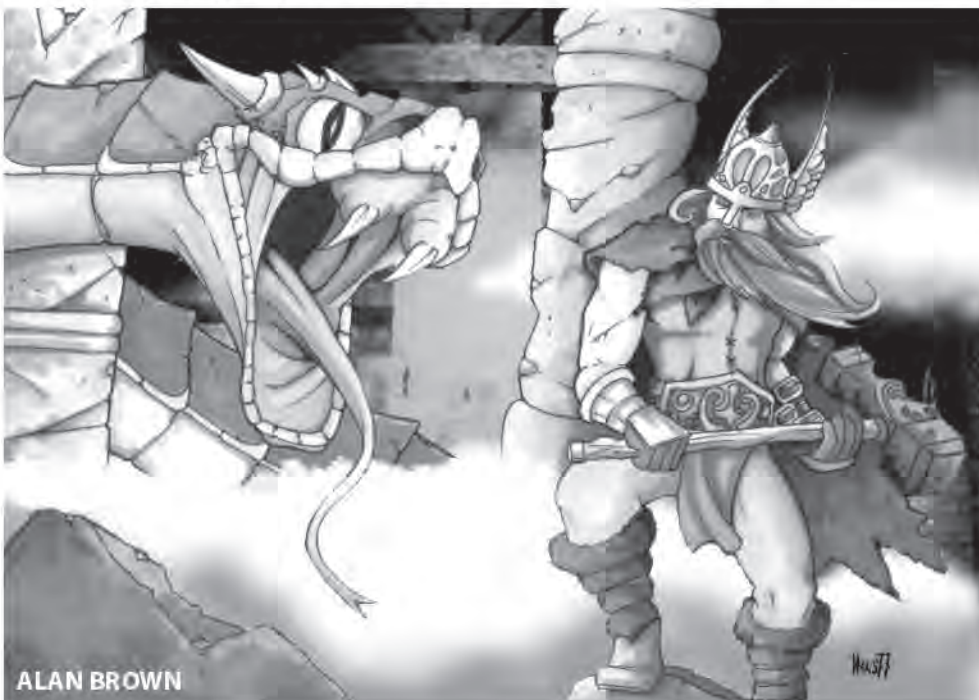
comprised of various giants, demons and elves (including *Jormungand*, *Hel* and *Fenrir*) led by *Loki*. Not only does this battle see the end of the universe, torn apart in the conflict, but also the deaths of all the participants involved - certainly unusual in any of the 'Judgement Day' myths. Ragnarok itself is seen as a fixedly bleak event precisely because even the Gods themselves are aware of what is going to happen, when the battle is supposed to take place, who is supposed

to kill whom, and yet they are powerless to avoid it, as much a prisoner of fate as man is himself.

The myth describes the final battle being preceded by three winters (*Fimbulvetr*), with no summer in between. The beginning of the end will be marked by the breakdown of civil order, as feuds and conflicts between families and friends break out, and all morality disappears.

Following this, the wolf *Skoll* devours the sun, whilst *Hati* eats the moon, and the Earth is plunged into darkness. The giants, the Gods and the dead will all rise. The Earth will be shook by earthquakes, releasing the wolf *Fenrir*. As the Midgard serpent (*Jormungand*) makes his way towards the land, the sea itself will rise up against the Earth. All the inhabitants of Hell will set sail towards the battlefield, with *Loki* at the helm. One by one, the old Gods such as *Odin*, *Thor* and *Freyr* fall in battle on the huge plain of *Vigard* (*Battle Shaker*). At the climax of the battle, the blazing sword of the fire giant *Surt* will scorch the Earth, flinging fire in every direction, burning the nine worlds with fire, death brought to all living things as flames scorch the sky, the land poisoned by fumes, and the earth itself sinks into the sea.

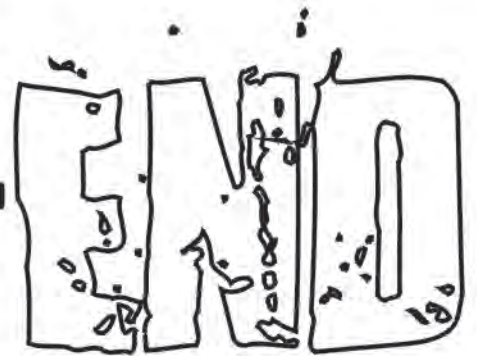
Friends and foes, good and evil - all have perished, and the world is dead. However, the Earth will rise again, green and fresh, whilst a few of the old Gods such as *Vili*, *Modi* and *Magni* will survive, as will two humans, *Lif* and *Lifthrasir*, who escape Armageddon by hiding deep within the great tree *Yggdrasil*, and will live on to repopulate a world where Gods and men live side by side in peace and harmony.



ALAN BROWN

The HILL WHERE THE WORLD WILL END

The question isn't *when* the world will end, but *where*. **JOHN REPPION** explores the real Armageddon ...



IT LOOKS like nothing more than a dusty hill, located in mountains in the north of Israel. It is unremarkable save for its many layers of ruins, making it a site of some archaeological interest, and the fact that once held a strategic location at the head of an important pass. Yet this is no ordinary hill. This is Megiddo. This is where the world will end.

It may seem like an unlikely location for the final cataclysmic battle between good and evil, but Megiddo's name check in the Bible's Book of Revelation ensured its immortality as the word most closely associated with The End. Its reputation as a place of great bloodshed is well founded - the past 4,000 years have seen at least 34 bloody conflicts on or near the hill. In fact, so many conflicts had erupted at this spot that it must have seemed natural to John, the author of Revelation, to imagine that it might one day be host to the biggest battle of them all.

In ancient times the city of Megiddo guarded the western branch of "Via Maris", an early trade route from Egypt to Mesopotamia. Like all trade routes the path to and from Megiddo is essentially a short cut, the easiest way to get from A to B and this has inevitably led to a great many ambushes and sieges at the site. Many have died at Megiddo, laying down their lives for some long forgotten God, King or General. However, if you were to look up "The Battle of Megiddo" in the archives of military history you would probably find account for one of three conflicts.

The first such battle took place in the 15th century BCE (BC) and was a clash between Egyptian forces and a rebel Canaanite coalition. The Canaanites had, at that time, united with the Syrian kingdom of Mitanni in defiance of Egyptian rule. And so it was that Pharaoh Thutmose III gathered an army of ten thousand and set out on a campaign to reinforce the sovereignty of Egypt. After being all but defeated in the field, the Canaanites took refuge in the city of Megiddo where they were subjected to a siege that lasted all of seven months. When the city finally fell to the Egyptians, its structure and citizens were mercifully spared by the Pharaoh.

Nearly five hundred years later, in 609 BCE, Megiddo was the scene of another bloody encounter, this time between the Egyptians and the Kingdom of Judah. At that time Egypt was allied with the Assyrians who were at war with the Babylonians. Under the command of Pharaoh Necho II (AKA Nekau II) the Egyptians had rushed to assist the Assyrians only to find their passage blocked at the crucial junction of Megiddo by King Josiah and his army. Once again, the Egyptians triumphed and Josiah was killed.

In September 1918 CE (AD) British General Edmund Allenby led the Egyptian Expeditionary force into combat at Megiddo as part of the conquest of Palestine. Allenby's troops did battle with Turkish forces in the valley and emerged victorious after three days of combat. When General Allenby was made a Viscount on August the 6th 1919 CE he took the title of "Viscount Allenby, of Megiddo and of Felixstowe in the County of Suffolk" in honor of the battle.

Three battles, all hugely significant in their day, both for their heroic victors and their tragic losers. But what of the battle mentioned in the Book of Revelation? What of Armageddon?

"And he gathered them together into a place called in the Hebrew tongue Armageddon."
Revelation 16:16

The word Armageddon is itself a corruption of the Hebrew for Har Megiddo; literally "the mount of Megiddo". There is some debate amongst Christian theologians as to whether the actual final battle is supposed to take place at Megiddo or whether the site is merely the place where forces gather prior to combat. Indeed, some Christian sects believe the war prophesied in Revelation has, in fact, already taken place. Preterist Christians, for example (who believe that *all* Biblical prophecy has already been fulfilled), interpret the battle of Megiddo as described in Revelation 16:17-21 as the events which led to the destruction of Jerusalem in 70 CE. Rastafarians commonly interpret the Biblical battle of Megiddo as a reference to the Second Italo-Abyssinian War (also known as the Italo-Ethiopian War) when fascist Italy invaded Ethiopia in 1935-36 CE. After the Ethiopian's were defeated (due largely



MEGIDDO: THE FACTS

- i** AKA: *Tel Megiddo* (Hebrew), *Tell es-Mutesellim* (Arabic).
- i** Hill made of 26 layers of the ruins
- i** Strategic location at the head of a pass through the Carmel Ridge, which overlooks the Valley of Jezreel.
- i** Inhabited from 7000 BC to 500 BC.
- i** Important junction on the main road connecting the centre of Israel with lower Galilee and the northern region.
- i** Site of three recorded battles: 1469 BC, 609 BC and 1918

to the Italian's extensive use of Mustard gas) the King of Italy, Victor Emanuel III was anointed Emperor of Ethiopia, a title which he retained until the liberation of Abyssinia in 1942.

There are, of course, those who interpret John's Revelation more literally as an actual battle between the forces of good (God/ Jesus) and evil (Satan/the antichrist). Jehovah's Witnesses believe that the Devil will not physically participate in the battle but will exercise his influence over the great kingdoms of the world causing them to rise up against "the camp of the saints and the beloved city". The Fiend and his troops are, naturally, expected to come off worst and he and all his followers will be totally and utterly destroyed by Jehovah and his followers. According to Seventh Day Adventists the battle will take place when, after residing in heaven with Christ for a thousand years, his followers will return with him to the Earth. Christ will then resurrect all of the wicked and nonbelievers and he and his heavenly army will enter into a War with them. Once the resurrected heathen army of evil (under the command of Auld Scratch, naturally) is defeated the Earth itself will be destroyed and recreated anew and without sin.

Today Megiddo represents the halfway point on the most direct route between the city of Haifa (in Northern Israel) and the city of Jenin (in the West Bank). "Megiddo junction", as the road through the city is now known, is still a very important and sometimes dangerous place. In 2002, a suicide bomber detonated a device behind a busload of Israeli soldiers at the junction. Seventeen people were killed, including the bomber, and many more injured. Hours later, Israeli forces attacked the city of Jenin after their government openly blamed Palestinian leader Yasser Arafat for encouraging terrorism against Israel.

Yet, despite the ongoing troubles between Israel and Palestine Megiddo is also a place of pilgrimage for many modern Christians and Jews alike. A quick Google reveals countless travel and holiday opportunities. For instance, www.Isralimo.com offer luxury chauffer driven limonene tours of the holy land "You can also choose to visit Megiddo, the site of Biblical Armageddon [sic], and Nazareth, the boyhood home of Jesus and the Church of the Annunciation.". www.Golsrael.ca offers a nine day all inclusive pilgrimage for only \$1,649.00 per person (plus \$170 airport tax) "[...] then continue via the Jezreel Valley to visit Megiddo, site of the epic Armageddon. View 21 layers of civilization. Follow the pilgrimage route that Jesus and the Galileans took and ascend to the Holy City". All of which rather reminds me of Douglas Adams's "The Restaurant at the End of the Universe", people hoping against hope to be in that special place, in the lap of luxury when the end finally comes; taking holiday snaps of Doomsday whilst drinking chilled champagne.

Megiddo is a place brimming with history, mentioned in both the Old and



New Testaments it has been a settlement for over six thousand years. Archaeologists have been working at the site since 1903 CE and still consistently turn up unparalleled finds. Without the work done on Megiddo our understanding of the workings and construction of ancient cities would be significantly less detailed. There is no denying that the city is a very important place in many different ways and to many different people.

As to whether the war to end all wars will take place, or at least begin, at the gates of the ancient city, who can really say? Perhaps that war is just around the corner, or perhaps it was won and lost long time ago. Or maybe all our wars are but battles in one Great War. A war without end that can only lead to one thing: our total destruction.



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**MINUTEMAN
TECHNOLOGIES**

LAWRENCE BAILEY

FAILED GUESS #2: Sound as a bell ...

April 5, 1761

Following earthquakes on February 8 and March 8, William Bell claimed the world would be destroyed on April 5 (surely April 8 was the obvious next date?!). Londoners gathered in boats on the Thames or headed for the hills. When it didn't happen, the population (presumably feeling a tad foolish at this point) threw Bell in an insane asylum.

WHAT KIND OF SURVIVOR WILL YOU BE?

WORDS: MARK WOODLAND PICTURES: LAURA WHENT

THE chances of you helping to prevent the End of the World are pretty slim, sunshine, so why not assume the worst, think ahead, and decide just how you're going to survive in the post-apocalyptic world. Not all of us have a handy bunker in our backyard to hide in should push come to shove vis-a-vis the nuclear button, so just what place is there for you in those barren wastes? Try our handy quiz, so you can start sharpening your knives, polishing your bike or -like everyone else- cowering in a hovel someplace ...

1. Your significant other arranges a dinner-party and invites all their work colleagues, do you:

- A. Stare each one continually in the eye as they arrive, ready to make the first move before they do.
- B. Smile sweetly and serenely and be the perfect host, slipping sleeping tablets in their drinks so you can add them to the larder in your basement.
- C. Hide in the cupboard under the stairs and wait for the guests to come and get their coats...
- D. Drain the fuel out of each of their cars and add it to your stockpile in the upstairs bathtub...
- E. Sit there and eat your food quietly, while wishing for the whole thing to end quickly.

2. You decide that your wardrobe needs to be refreshed, do you:

- A. Order in from the Army and Navy catalogue; camouflagé green is the new black after all.
- B. Go straight to the haberdashery for some long flowing (preferably white) material for that serene look (also good for the concealment of 'things').
- C. Stick with the rags...it's too bright out there and so lovely and dark in here...
- D. Ride your bike through the window of the local leather-outlet store, grab what you can, and grope what you cant.

E. Go shopping with the significant other and let them decide what you wear.

3. The postman delivers your favourite subscription magazine and yet again it's torn and wet (even though it hasn't rained all week). Do you:

- A. Add him to the list of people who will be first against the wall come your revolution...
- B. Ask him to come in for tea and when he's not looking, dub him and add him to the larder.
- C. Use the old £10 note on a piece of black cotton trick to get him within striking distance of the cupboard and then...
- D. Pounce on him from off the roof, heavily modify the delivery van and use him as a hood-ornament.
- E. Say thanks and then give him his Christmas tip early this year just to stop him staring at you.

4. Your friends decide that you should all have a big game of poker. Do you:

- A. Not reply. It's probably a Government trap to get you out of the safety of the compound. Nice try pinkos, but you're not falling for it.
- B. Friends, nice, tasty friends...sounds good...why not have it at my place...
- C. Turn them down as it's getting a bit crowded in the cupboard right now.

D. Get in the whiskey, set fire to the piles of tyres in the front garden and turn up the Death Metal...we're gonna party tonight...and God help 'em if you don't win.

E. See if the significant other is doing anything that night and if they don't mind you going out. Not that you mind staying in while they enjoy themselves, they do work so hard after all.

5. Your favourite place to be is:

- A. A mountain cave
- B. A ruined future city
- C. An irradiated sewer
- D. Highway 666
- E. Asleep

6. It's that time of the year to choose a holiday

- A. Holiday!?! You don't have time for a holiday. Constant vigilance is required, you never know when THEY might be coming.
- B. You have no need for a holiday, your relaxed enlightened state sees to that. But if someone wants to stop by for coffee...
- C. Cheddar Gorge sounds good...
- D. Why do I need a holiday? Are we running out of drink, fuel or tyres for the fire...?
- E. Caravanning in Rhyl again probably...

MOSTLY A'S

MAD DOG SURVIVALIST



YOU try to warn everyone that the pinko liberals are gonna blow us all to hell, but in the end you'll be on your own out there, soldier!

You'll survive through nothing but guts and your basic need for survival. The post-apocalyptic world's going to be tough, so make sure you're stocked up on the latest high-calibre weaponry, bottled water and lumberjack shirts. So, escape to the mountain - but make sure you develop a taste for beans cuz that's all you'll be eating after the bombs drop!

MOSTLY B'S

UTOPIAN CANNIBALS

WHILE your enlightened side will grieve and mourn for the losses in the upcoming Apocalypse, you're still secretly looking forward to it helped, of course, by the chance of stocking your larder to the hilt with unsuspecting victims. Now's the time to start leaving cryptic signs so stragglers can find their way to your home-grown Utopia. Get practising your smile, so you can welcome them in with open arms, and then dub them on the head when they're not looking.

Enjoy...your time approaches.



MOSTLY E'S

Gowering Victim

For goodness' sake snap out of it before its too late, oh, too slow, it is too late. You are weak, mindless and controllable fodder. Your only hope in the 'new world' to come is that someone mistakes you as their God, but you're more likely to end up as a sacrifice to their deity.

For your sake, hide amongst what's left of the masses and hope that you're not the one that gets picked out...

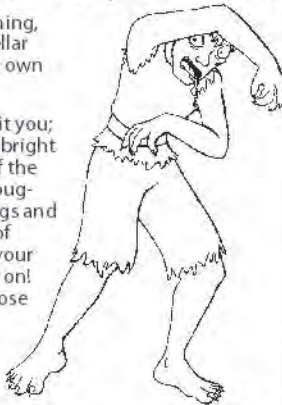


MOSTLY C'S

DROOLING UNDERGROUND ALBINO MUTANTS

YOU know what's coming, so head to the cellar and start digging out your own cave system.

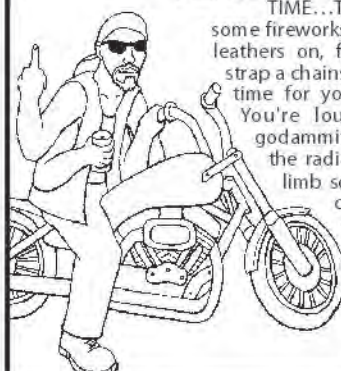
This new life is going to suit you; years of shying away from bright lights and the warm feel of the sun has left you pale and bug-eyed. Get use to eating bugs and drinking from fetid pools of water - that's going to be your Friday night out from now on! Oh, and start collecting those moss-covered rocks - you never know when you'll need a quick snack!



MOSTLY D'S

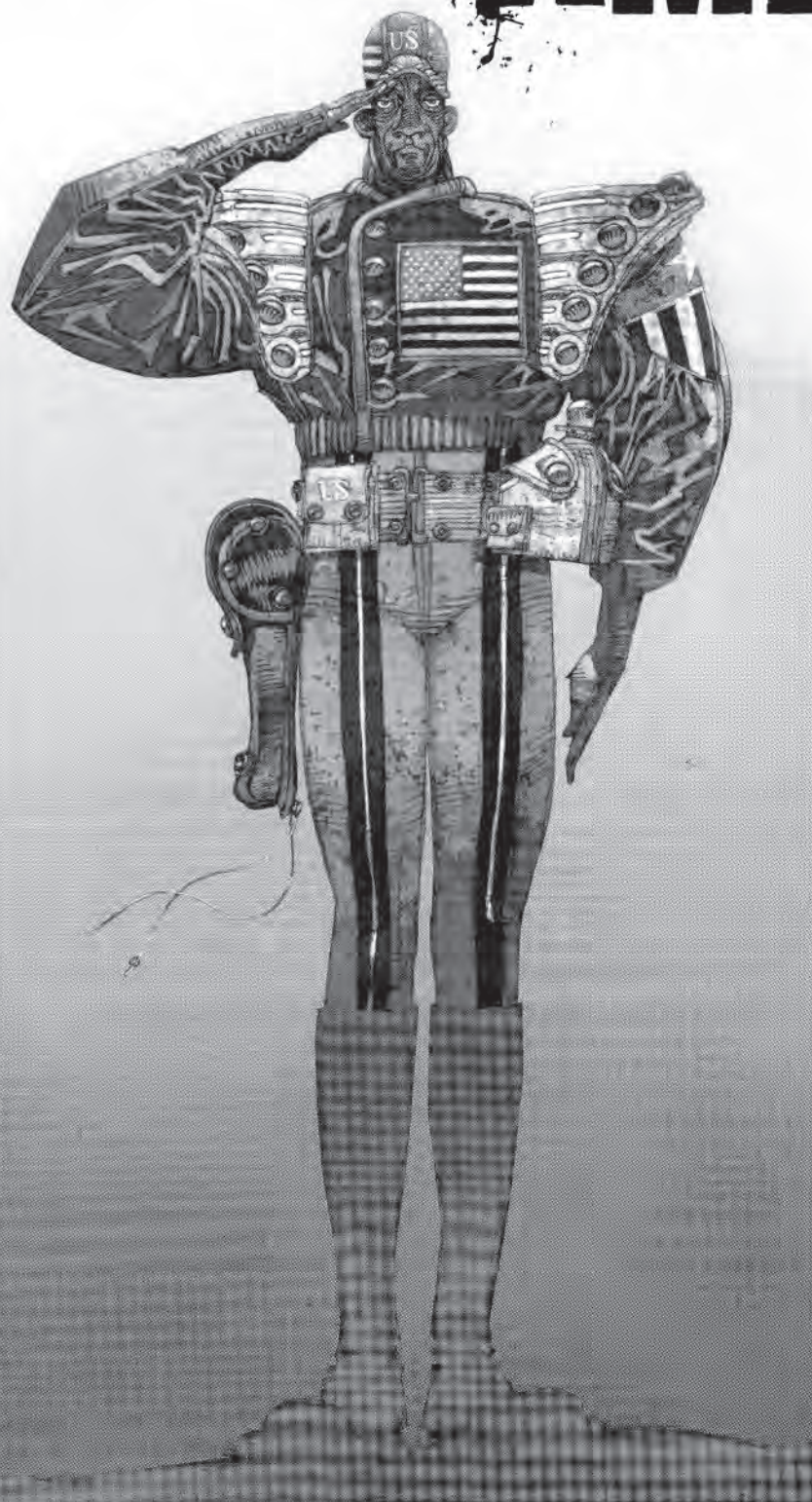
Mutated Biker

YEAH Baby... it's PARTY TIME...There's going to be some fireworks TONIGHT!!! Get your leathers on, fire-up the Hog, and strap a chainsaw to your arm... it's time for you to rule the roads. You're loud and proud, and godammit you just can't wait for the radiation to add an extra limb so you can drink **TWO** cans of beer while shooting AND riding shotgun. It's a Highway to **HELL** out there and there's ain't no speed cameras to stop you now!



What if one man really *did* survive the extinction of humankind?
 Comic book legends **JOHN WAGNER** and **ALAN GRANT**
 talk exclusively to **ED BERRIDGE** about
 their final, and most striking, project.

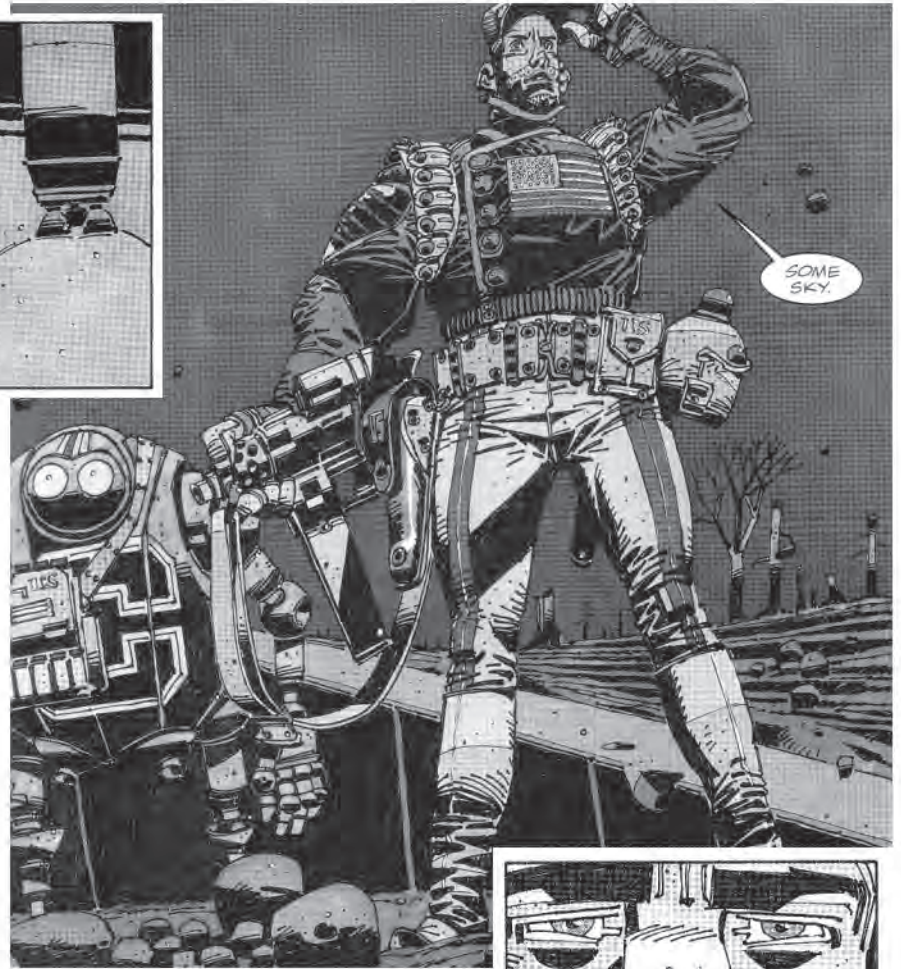
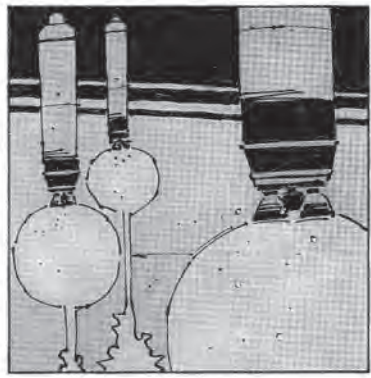
The **LAST** **AMERICANS**



O imagine you woke up one day to find your whole world gone. Everyone you ever knew, even civilisation itself, completely eradicated.

Signs of a once-bustling and bountiful society are all around you: the skeletons of crumpled buildings rise up over the barren wasteland that was once America, the streets lined with what remains of the nation's populace. The world died screaming in a series of blinding flashes long ago, and all that remains are the ruins and the dead. And you know what killed them. Because you agreed to be cryogenically frozen so that you could be the last man left alive. So that your country could win an un-winnable war. To preserve the American way of life. What would you do in such a situation? Would you simply give up and wait for death to catch up with you? Or would you begin an apparently hopeless search for what might remain of mankind? This is the situation that Ulysses S. Pilgrim finds himself in John Wagner, Alan Grant and Mike McMahon's *The Last American*.

Written at the climax of the Cold War, and originally published in 1989, the 4 issue series marked one of the most depressingly realistic depictions of a post-nuclear war America. "The story was our attempt to break into the US market via Marvel's Epic Comics division" says writer Alan Grant. Blackmailed (or perhaps cursed) into agreeing to be the literal 'last man standing', the series charts Pilgrim's progress as he searches a radiation scarred America for any surviving trace of humanity. "The whole cryogenic warrior thing is so fucking absurd like deep-freezing a dinosaur 65 million years ago, then expecting it to return to a normal life in 2005 when the temperature is 5 degrees cooler and all its pals are dead. It demonstrates that politicians and scientists are unable to think rationally. They should all be locked up and scourged with birch-whips." The setting of the United States was apparently quite a simple choice: "Americans are notoriously uninterested in any other part of the world; after a 20-minute conversation, a waitress in California once asked me "So...what language do you speak in Scotland, then? It's in Norway, right?" Had the book



been more successful in its original edition, John and I had plans to sell it abroad. Minor changes to flags and badges by Mike would have allowed "The Last Norwegian/Swede/Finn/Australian/Frenchman etc". With somewhere around 220 countries in the world, we had dreams of riches beyond the ken of man."

The writers chose to tell the tale in a more overtly 'realistic' style, "to emphasise everything there was to lose," says co-writer John Wagner. "It was a tough story all round. The situation is so bleak, the possibilities huge and endless. The difficulty was focusing in on the right story to tell".

"We wanted the series to be as true to reality as possible, hence very grim and unsettling" adds Grant. "At the time we wanted to expand TLA into an ongoing monthly series, though sales and Epic politics decreed this wouldn't happen. In retrospect, I'm glad if we'd gone on to write more, it's almost certain the story would have turned into what we were trying to avoid: marauding mutants, giant insects...all the stuff we've covered in **Dredd** and **Strontium Dog**."

This inevitably meant eschewing much of the leavening black humour that the pair were known for, says Grant: "The **Hitchhiker's Guide** presented Earth's destruction as a belly laugh. We wanted to show how awful the end of everything would be. Not very funny. The descriptions we used were based on the figures/descriptions of what happened when the bombs exploded in Japan. How does it come about that half of a society's greatest thinkers are working on ways to kill millions of people, while the other half are figuring out ways to sell petfood?"

Wagner points out that the writers had to find some humour in the strip: "It's such a desperate tale that it would have been intolerable to write without some relief. There's more there than you think, but the overall mood of doom tends to overshadow it". The 'relief' comes mostly in the form of Pilgrim's companions: robots Abel, Baker and Charlie: "The names were a military reference, to the words representing the first three letters of the alphabet. However, we might have got this from **Z-Cars**, rather than the real world," explains Grant. The robots continually quote advertising clichés from television programmes, as Wagner elaborates: "Though my memory of the thinking behind it isn't that good, I believe its main

purpose was to act as a continual reminder of the world that had been. It was also good light relief".

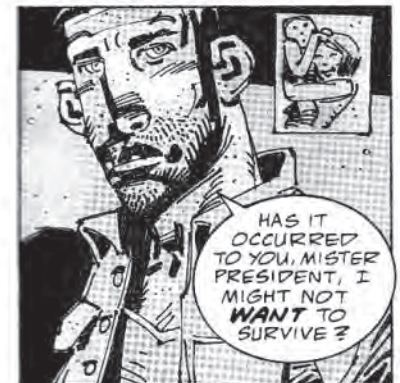
"It was also how we figured US military strategists would try to safeguard against Pilgrim going mad give him the banality of what he was used to," continues Grant, "I once flicked through 81 channels in an Arizona hotel room and still couldn't find a show worth watching".

The series also features a running reference to the civil defence films of the 1960's and 1950's in the illusory figure of Bert the Turtle: "The **Duck and Cover** stuff typifies the attitudes of those who govern towards those who are governed," says Grant. "Basically, they're saying "We've invented great destruction, we're going to use it, fuck off you dead chumps. If I recall right, we had a video of the civil defence films, and the turtle came straight out of that. Those films were so hilarious, I felt sick after watching them".

"It was an absurdity that we couldn't ignore," agrees Wagner. "It helped to highlight the difference between the sanitised (yet still horrible) public perception of a winnable war and the grim reality."

There was also a strong undercurrent of religious criticism to the series, as Grant explains: "Religious people just don't seem able to sit back and relax and say 'Well, I've been saved, I'll have a glass of wine and a toke now'. They always have to force their beliefs, no matter how stupid, on other people, no matter how reluctant those others are to receive them. I think it's fair to say John despises religion more than I do. I had a fairly religious upbringing and have some sympathy for those who 'believe'. Truth is, when you look around at the shithole we're turning the world into, most folks NEED something to fall back on, to give them succour, to heal life's wounds. Then they invent fucking atom bombs and think it's a gift from God."

Wagner claims the real target was "political", universe won't give a shit. All life evolves or dies. Possibly man is



something Grant agrees with: "Mankind has reached what might be called the Nuclear Decision Threshold - we either deliberately turn ourselves into a rational species and forswear war, or sooner or later some nut (apart from current possessors) will get his hands on the bomb and Edinburgh will cease to exist. If the dominant species on one small planet someplace way out in the spiral arms nukes itself to death, the universe won't give a shit. All life evolves or dies. Possibly man is the only species where we can actually see Devolution at work: despite the expansion of electronic data, we're more ignorant than we ever were."

The series not only charted the slow fracturing of Pilgrim's sanity, the writing of the story created a crisis in the Wagner/Grant partnership: "It paralleled John's and my own descents into madness," explains Grant. "The truth is, because it was a serious story and we were used to writing comedy - John and I had more disagreements about TLA than anything else we ever worked on. At the end of one week's work, we discovered that far from writing the seven pages of TLA we'd planned, we'd actually cut three pages of what we'd already written. This played a decisive part in the splitting apart of our writing partnership. As it turned out, John wrote parts one and two, and I wrote parts three and four."

Grant chose to end the story with a remarkable momentary feeling of hope in the final pages: "The story had saddened and depressed me so much, I couldn't leave it on that note. Sages may caution against it, but ordinary people need hope in order to help them cope with normality's quiet despair. We all know we're living in an insane world, we all know that we're sleepwalking to a

totalitarian state and possible human destruction ... but we all hope somebody else will fix things. Hence the absurdity of electing religious fundamentalists to high office. Personally, I'm dubious of such hopes ever bearing good fruit. But that doesn't mean that we don't need them."

Yet despite the troubles involved in its conception, the series still retains much of its original impact, despite the



Cold War having come to an end more than a decade ago, with notable fans including Garth Ennis and Dave Gibbons, and was reprinted as a single collected edition by Com.X in 2004. Wagner believes that the story has a timeless quality "Because one way or another be it nuclear, chemical, biological or through misuse of the planet - human beings seem hell-bent on their own destruction."

"It's a sad reflection of our reality," says Grant of the book, "or, rather, it's a reflection of our sad reality. Hope and despair are the human lot. No doubt Dubya will be hoping that God smiles on America when he starts to nuke Iran. Unless Osama's boys get there first. It's weird to think their differing gods both enjoy big explosions so much. As it stands - and particularly with Mike's art, which makes my soul ache - I'm happier with TLA than almost anything I've written in my 25 year career."

As to Pilgrim's fate, Wagner ruminates: "Perhaps we'll find out in the sequel. I feel we're far enough removed from the original now to contemplate it." Grant too seems to find the idea of return to the story appealing: "If the page count was right, I could see it running for another couple of decades." But as for the fate of its central character? "Hal! You'll have to pay us to find that out."

So, one question still remains what would the pair do if they were Ulysses S. Pilgrim, faced with the end of the world?

"I'd smoke a fat spliff and probably cry a lot" says Grant whilst, for Wagner, it's something much simpler: "I'd walk off in search of America."

The collected edition of **The Last American** from Com.X is available from all good bookshops.

SECRET AGENT W.W.D. SLOPPY

BY PETER NAGLE



BY DAVE EIVENS & MARK WOODLAND



FAILED GUESS(ES) #3 - #12: The eternally hopeful Witnesses ...

1874 (et al)

The end of the world according to the Jehovah's Witnesses. There are few groups that have made such a habit out of failing to predict doomsday, with other guesses including 1878, 1881, 1910, 1914, 1918, 1925, 1941, 1975 and, finally, October 2, 1984, after which they officially gave up trying to read God's mind and went with the much safer 'soon'.

There ain't no weapons inspectors for this lot ...

We've spent many a sleepless night worrying about WMD and the End of the World but it's not actually been too long in geological time since we were hitting each other over the heads with sticks (and let's be honest some of us are still doing that).

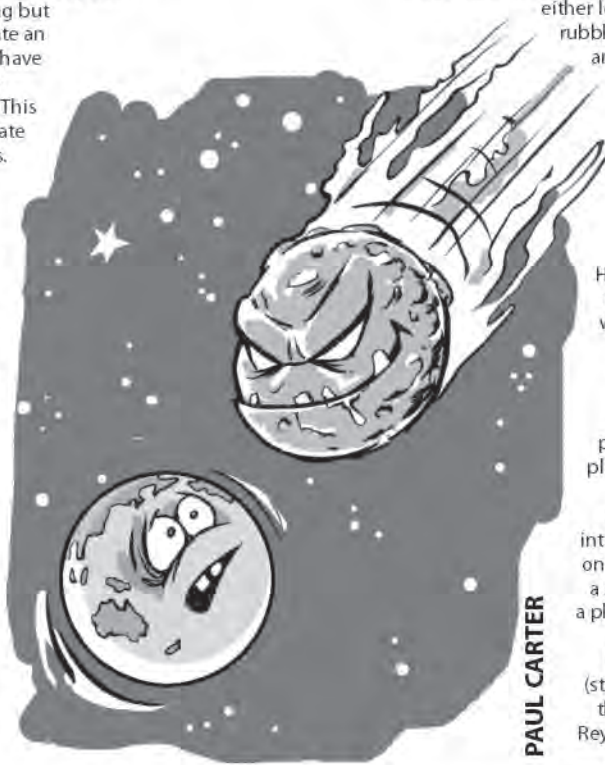
It's only in the last half a century that we have started to grasp some of the fundamentals of science and while our ill-informed meddling has resulted in some terrifying toys, when we apply our ever-expanding knowledge to the next generation of WMD then our ability to make a bit of a mess grows exponentially. Creators of science fiction have already given this issue some thought and devised a whole range of potential weapons that will be keeping our great great great grandchildren up at night too - as long as we don't wipe ourselves out first of course ...

PLANET SMASHERS

The general principle is fairly simple and is something monkeys can grasp quite easily - you smash something into something else. The science bit is that you transfer energy from one thing to another and when done right the effects can be devastating. As the energy is kinetic energy which is defined as $\frac{1}{2}mv^2$ (where m = mass and v = velocity) you can either use something relatively small but relatively fast (in fact if you can get it so fast Relativity comes into play then all to the good) or something slower moving but massive. With planning it is possible to create an Extinction Level Event, like that thought to have killed the dinosaurs, but without the messy "fallout" that comes with nuclear weapons. This can leave a cowed planet or even a clean slate ripe for rehabilitation within only a few years. In the *Stargate SG-1* episode *Fail Safe* (episode 517) the team discover a more imminent threat than the parasitic Gou'ald - a large asteroid discovered by an amateur astronomer plunging in towards earth. However, it turns out that the asteroid was launched at the Earth by the baddies in an attempt to get around intergalactic treaties by making it look like a natural disaster. To make things worse, just as they are about to blow it up they realise it's been booby-trapped - the rotters! In *Babylon 5*, we see the other end of the spectrum. In the Centauri assault on the Narn home world **MASS DRIVERS** are deployed (see episode 42: "The Long, Twilight Struggle" - 2.20). Although banned by inter-species conventions these large rail guns were effective in their objective "bombing them back to the stone age." As the show approached its climax the mysterious Vorlons showed some of their impressive ships including their kilometres-wide **PLANET KILLERS** which, conveniently, brings us to the next category ...

PLANET KILLERS

When kicking the snot out of a planet isn't enough its time to destroy it and that's where the phase in weapon technology takes us. The ultimate planet buster is, of course, the Death Star. This moon-sized space station was armed with a battery of smaller weapons, housed whole armies of stormtroopers and vast numbers of smaller spaceships. While formidable it was the huge, planet destroying energy beam that made it so much of a threat. Darth Vader was never a man who was shy of over-the-top displays of might and he blew up Princess Leia's home planet, Alderaan, as part of his, less than subtle, interrogation technique (or because it was there). The nature of the beam is a source for much debate as it seems to be neither a laser nor a proton beam but some product of superphysics beyond our current grasp. Also worthy of mention is the Stellar Converter. This is the weapon deployed by Sador of the Malmori (could anyone have a more evil name?) in *Battle Behind the Stars* Roger Corman's 1980 *Magnificent Seven* Samurais in space epic starring John Boy from *The Waltons*.



PAUL CARTER

The next step up the ladder for any marauding Galactic Warlord is to destroy the sun or even an entire Solar System. This is a rather drastic as it either leaves only dust or inert rubble but if that's what you are after there are plenty of goodies in the toy cupboard and it is a rather popular theme in Space Operas.

In the *Neutronium Alchemist*, the second book of Peter F. Hamilton's *Night's Dawn trilogy*, the eponymous weapon was developed by Dr. Alkad Mzu to enact revenge on the people who had destroyed the population of her home planet by bombing them with antimatter. It generates Neutronium internally and, depending on the settings, can cause a sun to go supernova or a planet to get turned into a black hole. In the *Revelation Space* series (starting with the book of the same name) Alastair Reynolds rolls out a whole arsenal of spectacular weaponry. Over the course

of the books it emerges that there is a threat to the widely spread human populations in the Milky Way. The threat is from The Inhibitors a self-replicating machine designed to extinguish sentient life (i.e. commit xenocide). The actual purpose of their mission is lost in the dim distant past but they are capable of making themselves into weapons of staggering size. It is said they know 14 ways to kill a star and we see one of those when they form a kind of funnel to spray a star's core across a solar system burning the planets to a cinder. However, the humans aren't sitting around quietly and have at their disposal an array of weapons. The "Hell Class" weapons are the centre of a struggle spanning the whole series as they tinker with the laws of physics and may be our species' best hope for survival. They, and other high-concept weaponry, were created by a faction of humanity that has been using technology to create a distributed intelligence which has allowed them to build complex machinery. As well as the engines that power interstellar flight these include a range of mind-boggling weapons. In fact the mind passes the Boggling Point as the physics of the weapons is so esoteric that, as Arthur C. Clarke knew well, it approaches magic. Stephen Baxter's *Xeelee Sequence* deals with the Xeelee who are close to God's. Their weapons include Starbreaker technology which means a weapon that could kill a sun can be made the size of a handgun. Once stars themselves are flung around like weapons we slip off the edge of sci-fi and into the realms of theology.

THOUGH once you reach the level of being able to knock a Solar System about, you're tampering with the basic building bricks of creation. You're exploiting loopholes in the laws of physics, so throwing singularities around with rare abandon and destroying the galaxy is really just down to how much willpower and time you have on your hands...

WMD OF TOMORROW
SOLAR DESTRUCTION

Nothing prepared the world for its first truly global conflict, but The Great War of 1914 to 1918 had another disturbing impact ... many thought the slaughter in Europe was the Final Battle itself

Beyond Flanders

By **EDWARD BERRIDGE**

*"Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed..."*

William Butler Yeats, *The Second Coming* (1920)

1918 and a rough total of 23,148,975 casualties have been dealt on the battlefields, trenches and other fields of conflict during the years of death and destruction now popularly known as the First World War.

Of these casualties, around eight million are already dead, whilst a further six and a half million civilians have lost their lives, bringing the total to a rough fifteen million people dead at the climax of the conflict. At the time it was described as 'The War to End all Wars', and though bigger and bloodier conflicts would later occur across the globe, the years of 1914-1918 still seem firmly rooted in the public consciousness as the ultimate vision of war as apocalypse, perhaps only shared by the shadow cast by the rising mushroom cloud of nuclear paranoia that followed the fall of the Enola Gay's 'Little Boy' on 6th August 1945.

Certainly the war was seen as some form of apocalypse during the years it raged across Europe and much of the rest of the planet. On 3rd August 1914, the then British Foreign Secretary Edward Grey famously ushered the words: "The lamps are going out all over Europe; we shall not see them lit again in our lifetime". There was a genuine fear amongst the political establishments of Western Europe that the collapse of

the old Empirical order was imminent, and that social anarchy was waiting eagerly to replace it, a view not at all assuaged by the fall of the Russian Autocracy during the Revolutions of 1917. The day of the 'chivalric fighting man' seemed to be at an end, a fact noted by Munitions Minister Winston Churchill, still smarting from his humiliating defeat at Gallipoli, to the poet Wilfrid Scawen Blunt in 1918. Blunt notes in his diaries that "He does not see any prospect of our beating the German armies by land and so winning the war", and later goes on to quote Churchill directly: "God... is bent of the destruction of mankind".

However, the belief that the war was God's Judgement on mankind was not merely proprietary to failed politicians: the Watchtower Society, the organisation of the Jehovah's Witness movement, had long predicted 1914 as the date of the War of Armageddon. Founded in the 1870's, and publishing *The Watchtower* magazine since 1879, the society was founded by Charles Taze Russell and taught that Christ had returned to the world in 1874 and would found the Kingdom of God on Earth in October of 1914: in his third volume of *Studies in Scriptures* published in 1897, Russell states that "...with the end of A.D. 1914, what God calls Babylon, and what men call Christendom, will have passed away, as is already shown from prophecy". However, even by 1912 Russell was clearly growing worried by the imminent deadline of his prophecy, writing that "while the prophecy remains valid, the power of the Gentiles could end in October 1914 or in

October 1915" in an apparent bid to hedge his bets. In the commencement of World War One, the Watchtower Society saw the confirmation that their apocalyptic vision had begun. However, with the deadline breached, Russell shifted the goalposts, claiming that the process of the Final Judgement could last "a good many years". Following Russell's death in 1916, the society continued to revise and rewrite his scriptures, claiming in *The Finished Mystery*, published in 1917, that "in the year 1918, when God destroys the churches wholesale and the church members by millions, it shall be that any that escape shall come to the works of Pastor Russell to learn the meaning of the downfall of Christianity". Following the cessation in hostilities, the society once again changed the period before the final conflagration, now moving it to "before the generation who saw the events of 1914 passes away", whilst claiming that 1914 was the year Christ established the Kingdom of Heaven, instead of Earth, and was merely the beginning of the End, not the End itself. Given the society's constant need to redefine its own prophecies to fit the changes in society (and frustrating lack of Armageddon-based events), coupled with the increasingly sparse number of survivors of the year in question, it would seem that another imminent change could well be called for.

Of course, it was not just the Watchtower Society that was changed by the almost-apocalypse of the First World War: Western society itself suffered a cataclysmically seismic shift following the devastating





Total Allied Soldiers Killed: 5.17m (approx.)
Total Central Powers Killed: 3.4m (approx.)
Total Soldiers Killed Worldwide: 8.6m (approx.)
Total Civilians Killed: 6.5m (approx.)
Total Killed in WW1: 15.1m (approx.)

Total Killed by Poison Gas: 91,200 (approx.)
Total Poison Gas Casualties: 1.3m (approx.)
Battle of the Somme: British forces suffer 60,000 casualties on first day (most in first hour)

Fields



MICK TRIMBLE

conflict. During The Great War the 'War to End all Wars' nearly an entire generation of young men, the 'Lost Generation', had been killed, all but destroying certain villages and towns across Europe and providing an enormous economic strain on its societies as they tried to rebuild themselves. The political establishment in Britain had been forced into allowing women to work in the factories for munitions production during the war, and had to continue to allow them work in the immediate aftermath thanks to the depleted able-bodied male population, which was no doubt a significant factor in the female political emancipation that soon followed. Western society was shocked to its very core by the horrific images and half-dead survivors that eventually returned from France and Belgium. The war literature of the dead continued to haunt the living, a physical testament to what many perceived as being the closest humanity had yet come to total annihilation. War poets like Wilfred Owen, killed just a week before the Armistice, with their almost complete personal anonymity, gave a literal public personification to the figure of the Unknown Soldier. In the years following the war, there was a great resurgence of interest in spiritualism; that favoured old Victorian pastime of making contact with voices of the dead, of which there were now a seemingly unending multitude.

Europe had witnessed the most devastating war in its history, and this time it was not simply confined to the battlefields. Its countries were forced into becoming

single giant engines of war production, the Modernist 'Industrial Islands'; the concept of 'Total War' made flesh. Even those civilian populations in countries not within the field of battle felt the destructive power of the war, as bombings and raids on European cities and key targets were made for the first time in the continent's history, despite the 1907 Hague Convention that had outlawed the uses of chemical gas and aerial bombardment.

The apocalyptic visitation of mankind's technological prowess upon its own populace also had an effect upon the secular world of popular art. The Modernists, under the auspices of the Italian Futurist and divergent Anglo-Vorticist movements had idolised man's control and mastery of technology and the growth of contemporary industrial society. Espousing a utopian yet almost fascist Nietzschean ideal, the *Initial Manifesto of Futurism* published in 1912 expressed a desire to "glorify War, the only health giver of the world, militarism, patriotism, the destructive arm of the Anarchist, the beautiful ideas that kill, the contempt for women". Yet the fetish of the Machine that great Modernist dream of the Machine Age was crushed beneath the tracks of the Mark-1 tanks in the Somme, choking to death on chlorine gas as its dreamers were bombed by night time zeppelin raids,

A time-line history of the Great War

- 1871: Creation of German Empire
- 1879: Austro-German Treaty
- 1882: Triple Alliance established between Germany, Austria-Hungary and Italy
- 1883: Austro-Romanian Alliance
- 1884: Franco-Russian Alliance
- 1902: Franco-Italian Agreement
- 1904: Entente Cordial between Britain and France
- 1907: Anglo-Russian Agreement
- 1909: The Russo-Italian Agreement
- 28th June 1914: Archduke Franz Ferdinand of Austria-Hungary assassinated in Sarajevo by Serbian
- 28th July 1914: Austria-Hungary declares war on Serbia
- 29th July 1914: Russia mobilises troops to aid Serbia
- 1st August 1914: Germany declares war on Russia, demands French neutrality. French refuse to mobilise troops
- 3rd August 1914: Germany declares war on France
- 4th August 1914: Germany invades neutral Belgium. Britain declares war on Germany
- 10th August 1914: Austria invades Russian Poland
- 15th August 1914: Russia invades East Prussia
- 18th August 1914: USA declares itself neutral. Russia invades Eastern Galicia
- 23rd/24th August 1914: Battle of Mons
- 15th September 1914: Trenches first dug on the Western Front
- 18th October - 12th November 1914: First Battle of Ypres
- 2nd November 1914: Russia declares war on Turkey
- 5th November 1914: Turkey joins Central Powers. Britain and France declare war on Turkey
- 21st December 1914: First German air raid on Britain
- 25th December 1914: Unofficial Christmas Truce in trenches
- 31st January 1915: Germany uses poison gas at Bolimow, Poland
- 4th February 1915: Beginning of Unrestricted Submarine Warfare with German U-Boat blockade of Britain
- 11th - 13th March 1915: Battle of Neuve-Chapelle
- 22nd April - 25th May 1915: Second Battle of Ypres. Germans first to use poison gas against Canadian troops on the Western Front
- 25th April 1915: Allied group assault at Gallipoli begins
- 26th April 1915: Treaty of London - Italy joins the Allies
- 23rd November 1915: Serbia falls to Central Powers
- 10th December 1915 - 9th January 1916: Allies leave Gallipoli
- 21st February - 18th December 1916: Battle of Verdun
- 31st May 1916: Battle of Jutland
- 5th June 1916: UK Minister for War, Gen Kitchener killed at sea
- 1st July - 19th November 1916: Battle of the Somme
- 27th August 1916: Romania declares war on Central Powers
- 15th September 1916: Tanks used for the first time by the British at Flers-Courcelette during the Battle of the Somme
- 6th December 1916: David Lloyd George made Prime Minister
- 9th December 1916: Central Powers defeat Romania
- March - July 1917: February Revolution in Russia
- 15th March 1917: Tsar Nicholas II abdicates
- 6th April 1917: USA declares war on Germany
- 26th May 1917: US troops first arrive in France
- 31st July - 18th November 1917: Third Battle of Ypres
- 12th October 1917: First Battle of Passchendaele
- 26th October - 10th November 1917: Second Battle of Passchendaele
- 7th November 1917: Lenin's Bolsheviks seize power in Russia
- 20th November - 3rd December 1917: Battle of Cambrai, Britain uses massed tanks for the first time
- 8th December 1917: British capture Jerusalem
- 15th December 1917: Russia and Germany sign armistice
- 3rd March 1918: Russia and Germany sign Brest-Litovsk Treaty
- 9th - 20th April 1918: Battle of Lys
- 28th May 1918: US forces' first offensive at Catigny
- 26th September 1918: Allied assault breaks through German 'Hindenburg Line'
- 6th October 1918: Yugoslavia breaks from Austria-Hungary
- 7th October 1918: Poland declares independence
- 28th October 1918: German sailors mutiny at Kiel. Czechoslovakia declares independence from Austria-Hungary
- 30th October 1918: Turkey agrees armistice with Allies
- 1st November 1918: Hungary declares independence
- 3rd November 1918: Austria, Hungary and Allies agree armistice
- 9th November 1918: Kaiser Wilhelm II abdicates
- 11th November 1918: Armistice Day. Germany signs armistice with Allies at 11th hour of the 11th day of the 11th month
- 18th January 1919: Start of Paris peace negotiations
- 21st January 1919: German Fleet scuttled at Scapa Flow
- 28th June 1919: Treaty of Versailles signed by Germany and Allies
- 10th September 1919: Treaty of St Germain en Laye signed by Austria and Allies
- 27th November 1919: Treaty of Neuilly signed by Bulgaria and Allies
- 4th June 1920: Treaty of Trianon signed by Hungary and Allies
- 10th August 1920: Treaty of Sevres signed by former Ottoman Empire and Allies

the upcoming artists of 1914 becoming what American poet H. D. would later describe in her book *Palimpsest* as "a still-born generation". The art that would rise out of the bloody aftermath of the Great War was much changed from the experience, having seen the technology that their aesthetic had once lionised almost bring about their own end, as in Jacob Epstein's description of "the terrible Frankenstein we have made ourselves into". The movements that grew out of the post-war period would take a more abstract bent in forms like Art Nouveau and Dadaism, as an attempt to banish the chaos of the mechanised war. The Great War marked the beginning of the rude awakening from man's dream of his benign union with technology.

The nightmare of the First World War did end however, and the expected apocalypse never came, yet the effects of the war are certainly still felt today. Resentment in Germany following the Versailles Treaty of 1919 would eventually result in the rise to power of the National Socialists. Meanwhile, in Britain the general despair of the establishment at how close the country had come to the brink of defeat and collapse led to a

general aversion towards military conflict, the pulling out of allied troops aiding the Tsarist White Army during the Russian 'Civil War' and the later appeasement of the Nazis over Czechoslovakia. These events would themselves inevitably lead to the Second World War, and the subsequent East-West Cold War and the division of Europe. But it also sowed the seeds of the conflicts in Palestine, Cyprus and Mesopotamia (later divided into Iran and Iraq). The political, financial and social climate of the world today finds its catalytic roots in The War to End All Wars.

The End may not have come during the Great War, but the world that existed prior to 1914 was not the same one that emerged from the ashes of 1918. One world had very definitely come to an end, as summed up by C. E. Montague in his book *Disenchantment*: "The generous youth of the war, when England could carry, with no air of burlesque, the flag of St George, was pretty well gone ... it was as dead as the half-million of good fellows whom it had fired four years ago, whose credulous hearts the maggots were now eating under so many shining and steaming square miles of wet Flanders and Picardy".



"Condemned by the civilised world"

Chemical warfare in the First World War

THE French were the first to use chemical weapons in the Great War, but its first full-scale deployment began with the Second Battle of Ypres in 1915. During the war, a total of **50,965 tons** of pulmonary, lachrymatory, and vesicant agents were deployed by both sides. Official figures claim about **1,176,500 non-fatal casualties** and **85,000 fatalities** directly caused by chemical warfare. Chemical weapons caused so much revulsion that in 1925, 16 major nations signed the **Geneva Protocol**, pledging never to use gas or bacteriological methods of warfare.

LUNG IRRITANTS

Chlorine	Phosgene
Chlormethyl-chloroformate	Chloropicrin
Stannic chloride	Cyanogen bromide
Phenyl-carbamin-chloride	Dichlor-methyl-ether
Tridomethyl-chloroformate	

LACHRYMATORS (tear gas)

Benzyl bromide	Xylyl bromide
Ethyl-iodoacetate	Bromacetone
Dibrom-methyl-ethyl-ketone	Acrolein
Monobrom-methyl-ethyl-ketone	Methyl-chlorosulphonate

PARALYSANTS

Hydrocyanic acid	Sulpherretted hydrogen
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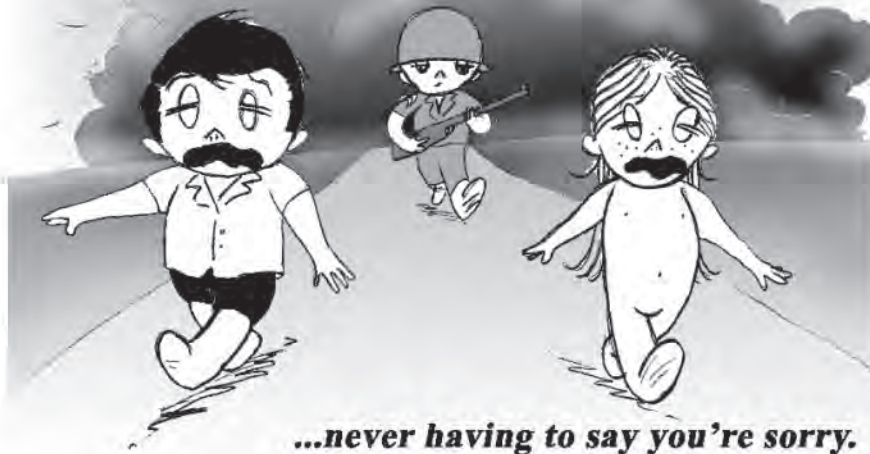
STERNUTATORS (irritants of eyes, nose and chest)

Diphenyl-chlorarsine	Diphenyl-cyanarsine
Ethyl-dichlor-arsine	Ethyl-dibrom-arsine
N-ethyl carbazol	

VESICANTS (causes blisters)

Dichlor-ethyl-sulphide (Mustard Gas)

War is...



LEAH MOORE

THERE'S A MAN
GOIN' 'ROUND
TAKIN' NUMBERS...

Win a place in your nearest Lottery funded Civil Defence Bunker with the New Mid-Week Survival Lotto.

Buy two tickets today...

...WHEN THE MAN
COMES AROUND!

THE NATIONAL
LOTTERY

YOU HAVE TO WIN IT TO BE IN IT

LAWRENCE BAILEY

W.W.I.D.
BY PETER NAGLE



FAILED GUESS #13: The Long Dream Goodnight ...

September 21, 1945

In 1938, a minister named Long had a dream of a mysterious hand writing the number 1945 and a voice saying the world would be destroyed at 5.33pm on September 21. Perhaps that cheese sandwich just before bedtime wasn't such a good idea ...

THE END IS NIGH CUT OUT 'N' KEEP!

PRESENTING THE EXCUSE O'MATIC WHEEL O' WAR™

Hey there, World Leader! Is your economy in the slump, along with your approval ratings? Are your proposals being shot down like clay pigeons? Do the Media AND the Opposition both have it out for you? (And does your secretary have 'strange' stains on her dress...?)

If so, you've got **ISSUES AT HOME**, and serious ones at that. Countless Heads of State have had to face these issues during their time in office. And as history shows, if you can't fix the issues, they'll fix you - and your record!

Fortunately, you don't have to fix them, provided you can **HIDE** them. And as countless other Heads of State have discovered, the best way to hide the issues is crystal clear - **YOU NEED TO START A WAR!** And the bigger, the better!

The **EXCUSE O'MATIC WHEEL O' WAR™** has been designed to provide sure-fire, time-proven rationales to march against neighbours, foes and fair-weather friends. Whether it's a border skirmish or a full-blown conflict that takes the whole world with you, the **WHEEL O' WAR™** will give you the enemy, the excuse, and the course of action before you deploy a single soldier!

DESIGN: MIKE MOLACHER



- INSTRUCTIONS**
1. Photocopy wheel three times
 2. Cut out each wheel
 3. Stick onto card or enemy's flayed skin
 4. Form war cabinet
 5. Just stick in pin ... and spin!

J EDWARD TREMLETT writer

J EDWARD TREMLETT, a stinky warmonger who's relocated to Michigan from Dubai, has written for Pyramid Magazine and Nooome, and is the Wrath Project's webmaster: www.cattail.nu/wrathproject

WE ONLY BURN THE

A WARMONGER'S GUIDE TO A WAR

SENATOR ED EDDIE EDWARDSON is a very influential and powerful man in Washington these days. One of the chief proponents of military action in the gulf he was described in *Time* magazine as 'The man who has his finger on the trigger of the great big gun that's pointing at the head of the man being made to press the button'. An ex-marine himself it comes as no surprise then that he pushed for the Iraq War, The Liberation of Afghanistan and the controversial and not yet passed Invasion of Supposed Terrorist Liechtenstein.

In an *The End is Nigh* exclusive we find out if Senator Edwards really believes that the horrors of a potential, devastating Global War can be excused if the enemy are defeated. And just how does ol' Ed 'Fingers of Doom' Eddie Edwardson justify such sacrifice and death?

DAVID ELIOT discovers the answers to these questions and more ...

DE: So, Senator, to hit the ground running here can I ask, what's your opinion of war?

SE: War. War, war. War. War, war, war, war.

You know, over the many years before this one we're in now, I reckon War has been given a bad name. Not as bad as Morag or Colin, they're god damn awful names. I hear them and I wanna puke and puke and puke until I sound like Elmo from Sesame Street after a throat scraping. But War has a bad name none the less.

It's turned into something Ugly. An Ugly word that reflects something real ugly. Not as Ugly as Ugly is, that's a real Ugly word and the most Ugly word is Ugliest, there's nothing Uglier than Ugliest. But I think you'll agree that War isn't Ugly like Ugliest is Ugly.

DE: Er..

SE: It's very, very easy to see War as something horrifically destructive, and I guess that's because of all the stuff and people that get blown to tiny pieces and splattered over a wide area and set on fire, but it's not about that all the time.

Some war is good war. Like Iraq. And Afghanistan. And maybe Liechtenstein. It's just a different form of diplomacy. A more Assertive aggressive diplomacy ... with guns... Guns and tanks and planes and plane tanks. Plane gun tanks that go underwater and change colour and beep if you lose them like your keys, and who knows what other toys our boys have got out there. That'd be great. I'm always losing my tanks.

DE: Would, do you think, there ever be a good reason for using this 'Aggressive Diplomacy'? And would it excuse the possibility of worldwide nuclear meltdown?

SE: I'd answer an affirmative yes.

DE: And what would that reason be?

SE: Well that's self-explanatory. It explains itself.

(large pause in the interview)

DE: Erm, please go on.

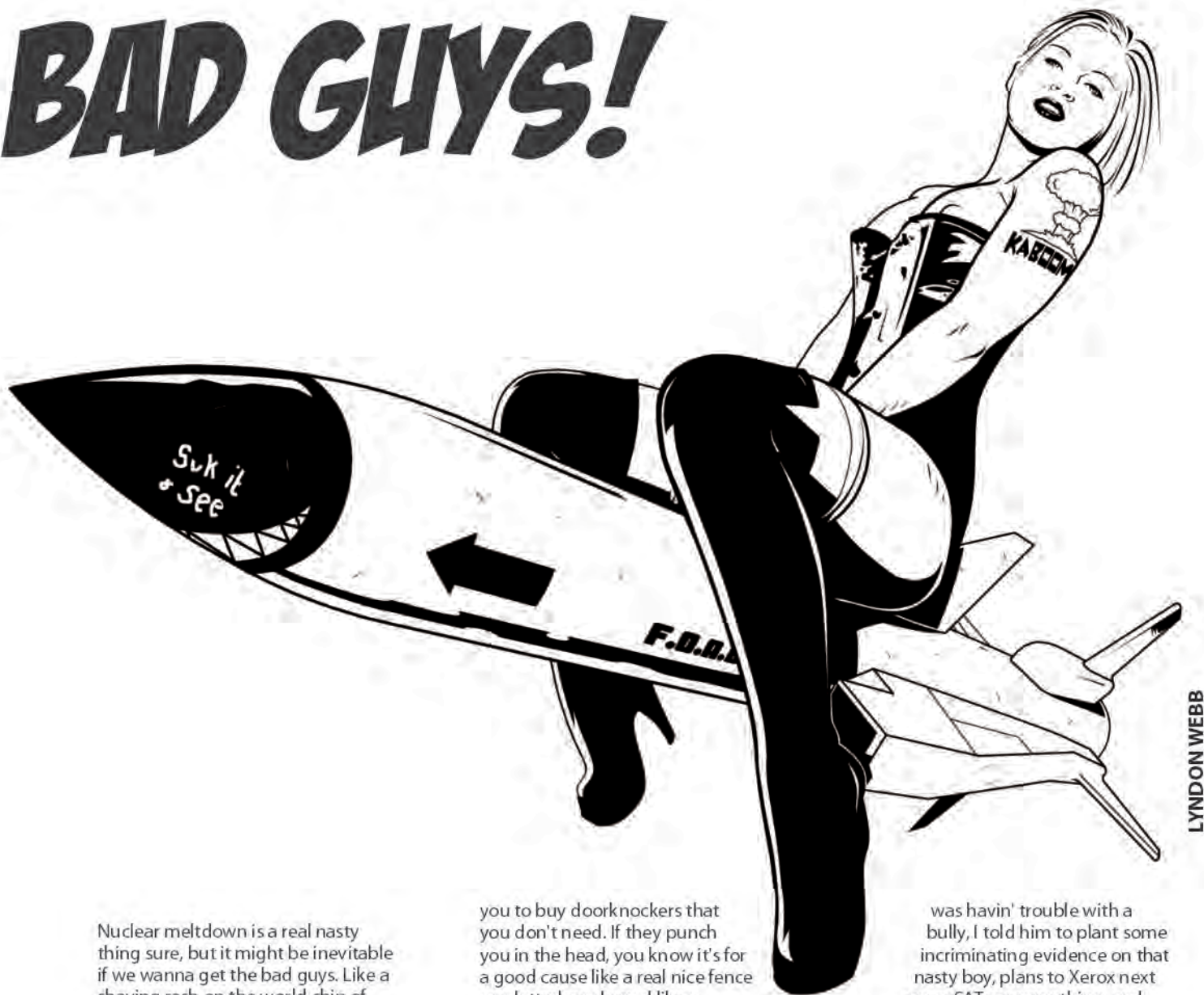
SE: Oh, right well I guess it doesn't just explain itself completely then. Well take a look around, son. What do you see?

DE: Your collection of deer heads on the wall?

SE: That's right, killed every one of 'em myself. With just one gun. Took my son out the other day, he held a gun for the first time and I smeared his face in blood. It was nothing to do with huntin, I shouldn't've been standing over him with my spurting nosebleed, dammed hot that time of year.. but the point is that it's a hell of a tough world out there. Did you know that there's now Global Terrorism across the whole planet?

That's damned frightening!! These Terrorists wanna take our freedom from us, they hate it. They'll stop at nothing till we're all scared all the time. We should call 'em Scaryists. Cos they're scary, at least that makes sense. I don't know where Terrorist comes from, probably Dirkhastannie or something. Negotiation with people like that just don't work. War is the only way of getting' through to them, it's the only language they understand. That and Dirkastannie and America doesn't speak Dirkastannie. They'll hide from us too, looking for a Terrorist in Afghanistan is like looking for a bearded man-needle in a rocky haystack mountain.. War's the only way to find them, if they go to ground just burn all the ground. We have to take Democracy out there.

BAD GUYS!



LYNDON WEBB

Nuclear meltdown is a real nasty thing sure, but it might be inevitable if we wanna get the bad guys. Like a shaving rash on the world chin of justice. It has to be done! Democracies don't just make themselves, they don't just pop outta the ground like some, like ... some Pansy of Liberty.

DE: Well, no. That would be ridiculous.

SE: Damn straight, son. You have to build em up! You have to bend down and take that Pansy by the ass.

DE: Oh... Okay then. How would you respond to people who've called your particular methods to combat terrorism too violent? The New York Times referred to you as a 'Warmonger who has forced countries to enter into conflict with the US.'

SE: Well, first of all, why do we see Warmonger as a bad word? It's not. Is Ironmonger a bad word? No. Ironmongers aren't bad people. They don't smash you in the face and force

you to buy doorknockers that you don't need. If they punch you in the head, you know it's for a good cause like a real nice fence or a letterbox shaped like a mouth. You don't see Ironmongers getting hate mail and neither should Warmongers, we're all just tryin' to get by mongering as best we can.

And you know pushin' a country to fight sometimes ain't so bad either, it's like the bully that hits you in the playground and then runs if you try to hit her back. Or him. He's gotta be taught a lesson and you've just gotta bide your time. Get revenge. My best advice would be to wait till Iran goes home and then hold him down and piss in his eyes. Then he'll go for you next day, you just make sure you're next to the U.N. appointed Dinner lady and she'll see that when you defend yourself by biting his crotch that you were totally justified!

Or plant evidence on him to make him look bad. Get some bad stuff and make it look worse, sex it up. My son

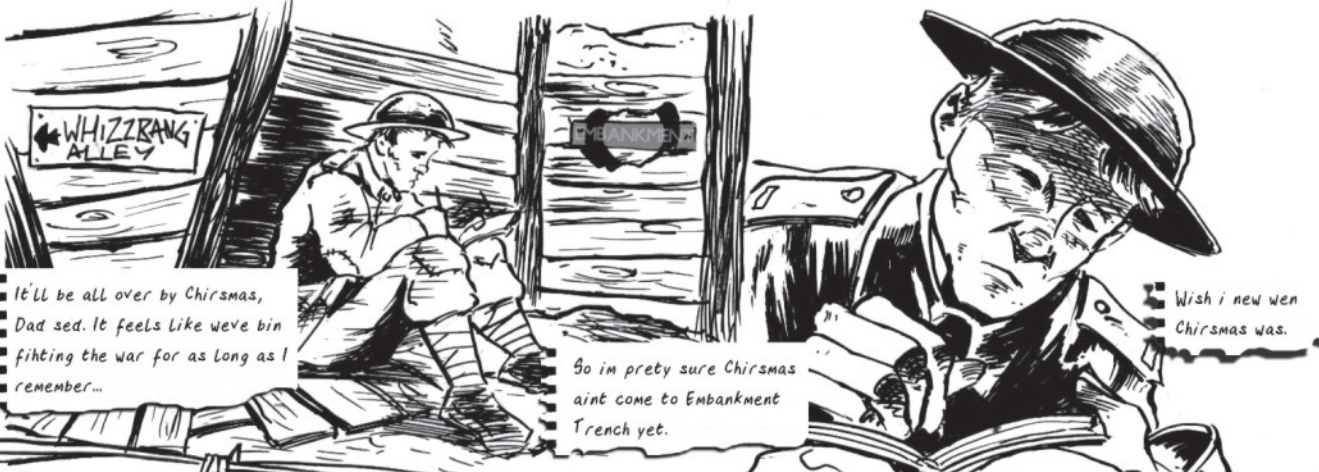
was havin' trouble with a bully, I told him to plant some incriminating evidence on that nasty boy, plans to Xerox next years SATs or something, and you know not long after nobody touched my son again.

That was nuthin' to do with bullyin though, I was sick all over him in show and tell, dammed hot that time of year.... shouldn't of had that coffee and fifty kebabs..

The best thing to remember is that there are things we know we know, things we know we don't know and things we don't know that we don't know and there are no unknown known gnomes that I know.

On this final point the Interview was terminated as, for some undisclosed reason our reporter had begun to cry uncontrollably...

Everyone at The End is Nigh wishes David a speedy recovery.



It'll be all over by Chirsmas, Dad sed. It feels like weve bin fihhting the war for as long as I remember...

So im pretty sure Chirsmas aint come to Embankment Trench yet.

Wish i new wen Chirsmas was.



'AVE A LOOK AT WHAT I FOUND, JOE!

HOY!

a long way from Tipperary...

words by Edward Berridge
art by bjr



BLIMEY PAT! 'HNNNG!' WHERE'D YOU FIND THIS OLD NAG?

'E WAS WANDERIN' 'UNNFF!' OUT THERE ON HIS OWN, LIKE. WE WONT 'MMFF!' GO HUNGRY TONIGHT, EH?

I didnt like doing it, but foods scarce and you got to take what you can scrounge.

It made a change from fishing for rats wiv barbed wire.



...BETTER! THAT'S THE FIRST PROPER GRUB I'VE 'AD IN WEEKS!

BLOODY 'ELL! WHERE'D YOU FIND THESE, PAT...?

TAKE COVER! ENEMY FIRE...!

HEY JOE, TAKE A LOOK AT WHAT ELSE I FOUND OUT THERE...

BRACKA
BDANGGG
PTANGGG



I GOT 'IM!
DID YOU SEE IT
PAT, I GOT 'IM...?

PAT?

REUGH!

It was the first person
we've seen in more than
a year.

Dont even no wot side she was
on. I dont think it matters any
mor.

There aint noone on yourside
when theres only one of you.

Fore all I now it
coud be the last.

I serpose ill stay here and
wait to see what comes first-
def, Victory or Christmas.

Where coud i go? this is
the ownly world ive ever nown.

Born in and care of Embankment
Trench, as my dad was befor me
and his ffather before him, just
like his pop too and God nows ho
many more before them.



The wars that made me.

Lin?



PAUL PALMER

Worried that the end really *is* nigh? Well, fret no longer as we present a special three-page guide to surviving in a post-apocalyptic world ...

SURVIVALISM FOR BEGINNERS!

STEP 1: FINDING A HOME

Strangelove Estate Agents
Finding you a home in the post-apocalyptic landscape since 200

by Craig Heap

So your former home was reduced to a slag heap of atomic bricks? Perhaps the west facing wall was demolished by the blast and you desire that much sought after privacy and protection from hordes of rampaging mutant biker accountants? Or maybe you just can't get any sleep now that your neighbourhood glows fluorescent green every night. Yeah, sucks to be you.

Or at least it did until now!

Strangelove Estate Agents has recently secured an extensive list of luxury properties - each designed to meet the needs of the contemporary Armageddon survivor. All of our properties measure curies on the Geiger scale, have reasonable access to clean water and include a generous five acre plot of land (soil may or may not be toxic to all forms of life).

So whatever your unique needs are, we can provide a suitable living environment.

THE MOUNTAIN SHACK

Our amazingly low Grade One price range!



Running to the hills has been man's intrinsic fallback plan in case of any catastrophe, from the days of Roman invasions - right up to our present 'mishap', so why ignore centuries of old wisdom? Those of you nurturing dreams of living fresh and well away

from the fallout zones will be thrilled by our range of charming shacks, cabins and stone cottages strewn throughout the wild Welsh mountains, Scottish highlands and Yorkshire Pennines - traditional areas so undisturbed by the war most of the locals don't even know it happened at all! Although these properties require a lot of attention, this option is a real favourite with modern, young couples seeking a starter home.

Nuclear Submarine



I'll bet you remember those high and lazy summer days, cruising on Uncle's yacht, fishing with active concussion grenades he saved from the War. Ah, what a lark. Good times, and now, for a limited time

only, we can help you relive those heady days with your very own nuclear submarine! This state of the art former Royal

Navy submarine makes the perfect mobile home with limitless power, plentiful living space and we'll even throw in five live warheads, meaning you can really 'fish' in style! At grade three you're practically holding an ICBM to our heads and stealing it!

* reliable source of vitamin supplements not included.

THE NUCLEAR BUNKER



Prices vary from as little as Grade Two upwards!

You'll be safe as houses in your new underground house. Our favourite seller, we've sold two hundred and fourteen nuclear bunkers across eighteen countries, ranging from a two man listening post to the deluxe Prime Minister range. This bomb-proof shelter can stave off the most aggressive of mutant gang attacks, provides healthy recycled air and the in-built processing plants recycle bodily waste into water and protein rations. If you're worried this vital form of family security is beyond your price range we can offer you a plot in a Government 'Eden' Facility, so you can help rebuild the human race! Don't delay, get underground today!

THE MOON BASE

Let's not mess around here. Sure, life on the high seas is cool, and the underground bunker offers good, all round protection, but what you really, really want is to go to the moon. No giant rats, no mutant flesh-eating oranges and no more Jehovah's Witnesses knocking on your door, yelling 'We told you so!' and laughing as they run off.

Here you can make a fresh, clean start* and mock the doomed Earth below along with such prestigious neighbours as the Bush family, Elvis Presley, Bill Gates and Patrick Moore!

* Nothing less than a large military complex or dictatorship of a small country will be accepted in payment



ASK ABOUT OUR MARS COLONY TIME-SHARE!

Price Guide: What will it cost me? *

- Grade 1:** Tinned food, uncontaminated water
- Grade 2:** Hardware, medical supplies
- Grade 3:** Petrol, guns
- Grade 4:** Military vehicles, fertile women

* **Disclaimer:** Our properties are safe at point of sale. We accept no responsibility for any further acts of war. Only nuclear bunkers provided by us and kept in the conditions stipulated fall under our re-housing guarantee.

* We regretfully no longer accept paper currency, precious metals or precious stones as forms of payment.

1. HOME FINDING

STEP 2: SURVIVING ON A BUDGET

Practical Housekeeping for the Modern Survivalist

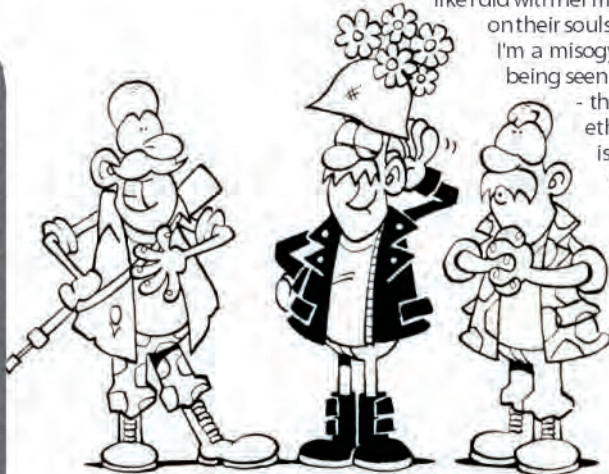
How to Defend Yourself Against the Federal Government and the UN, Whilst Maintaining and Improving Your Homemaking Skills During The End Times.

by Bryan Coyle and Ed Berridge



Art by Paul Palmer

2. HOUSEKEEPING



The Boudoir

Living Area

AMMUNITION and food take up most of the living space, but the use of throw rugs and fetching blankets arranged across the crates helps create a more 'homely' atmosphere, and makes it difficult for young ones to go poking around where they shouldn't. Candles should generally be avoided - not because of the explosive nature of ammo, but to stop spy satellites spotting your home with their thermal imaging cameras. For a bit of extra class, we added a wall mounted sculptural art installation constructed from three Krebs Custom KTR-03S tactical rifles, artistic and practical. A few touches of colour and ingenuity can lend even the drabest foxhole a glamorous exoticism. For instance, Corporal Manson had the cutest idea of using spent bullet-casings embedded in sand as a holder for incense sticks. He would have made a great pop with DIY skills like that. Shame, really.



Many thought when The End came, that it was an excuse to let standards slip and revert to the base savagery of their bachelor years, when every day was Sunday, and no day was washday. But those people were wrong - and probably dead.

It is our duty to maintain standards of hygiene and taste. Just not in a homosexualist way. One of the Federal Agents we pulled into the compound was female, leaving me with the problem of what to do with her. I can't just break out the car battery and jump leads like I did with her male colleagues (God have mercy on their souls). I don't want the men thinking I'm a misogynist, but then I run the risk of being seen to discriminate against women - the fact that there isn't a single ethnic minority amongst the men is bad enough, the last thing I want is to look like those Klan lunatics down the mountain.

My best bet is to convince the men I'm courting. Hopefully, it might also help rein in the sudden outbreak of homosexuality among the troops - it's unhygienic, for a start, leaving those

moisturising facemasks everywhere.

I therefore set about rearranging my living space, to set an example to other visionary survivalist leaders. I haven't much to work with - I was caught as much on the hop as anyone else when the Venusian shape-changers used their powers to reach into the minds of our leaders (those they hadn't replaced) and brought about a fiery Apocalypse to change Earth into a planet more like their own. But, unlike most people, I knew something big was gonna come sooner or later.

Well, I'm well prepared to repel the invasion of the United Nations from my God-given land, and make that sure my home space looks fantastic whilst doing it!



The Kitchen

The kitchen has been the most problematic area until now we haven't had one. We eat what we kill, where we kill it - cooking optional. I prefer to honour the spirit of the fallen beast by consuming it as is, and leaving the remains as an offering to any angry forest spirits whom I may have offended by being from the traitorous species who allowed alien conquerors to destroy our land with their smothering pollution. But, for now, we have bigger concerns. There was no small amount of protest when we had to renovate the cinema room into a functioning kitchen (especially as tonight's movie was scheduled to be the classic *Battlefield Earth*), but I think the men realised that Federal Agents don't cook themselves, so it's all for the best. We discovered that we could use ballistic shell casings as pots to grow vegetables (though make sure you're not using depleted uranium shells!). I also found that my collection of combat knives, such as the Spyderco Police Clipit (with tri-point serration), were not only useful for hand-to-hand home defence, but also for carving the turkey come Thanksgiving (or what passes for turkey in our house).



Thanks to the application of a few simple and practical measures, I've managed to make what was once just a heavily armed shelter into a welcoming home from home. The Feds might be besieging us, but at least we're holed-up in style and comfort, and boy, if they weren't looking into the compound before, they're really looking into the compound now!

STEP 3: RELIGION

The Unthinkable has finally happened... after reason, there was only anger, panic and death. And The War... The world burned. As the shadows of the Nuclear Fire lengthen across the globe, the few survivors stand in the dark and wonder how they can go on. How can The Human Race find order amongst so much chaos and anarchy? Will they band together in fortified enclosures, competing violently for the scraps of an old world? Should they retreat to the undamaged forests and unpolluted seas, to work in harmony creating a Second Eden? Or will the thoughtless masses be enslaved by the insidious few to form a new world order where they are worshipped as Deities?

MAKE THEM LOVE YOU



STYLE!

DAVID ELIOT examines the possibilities in ...

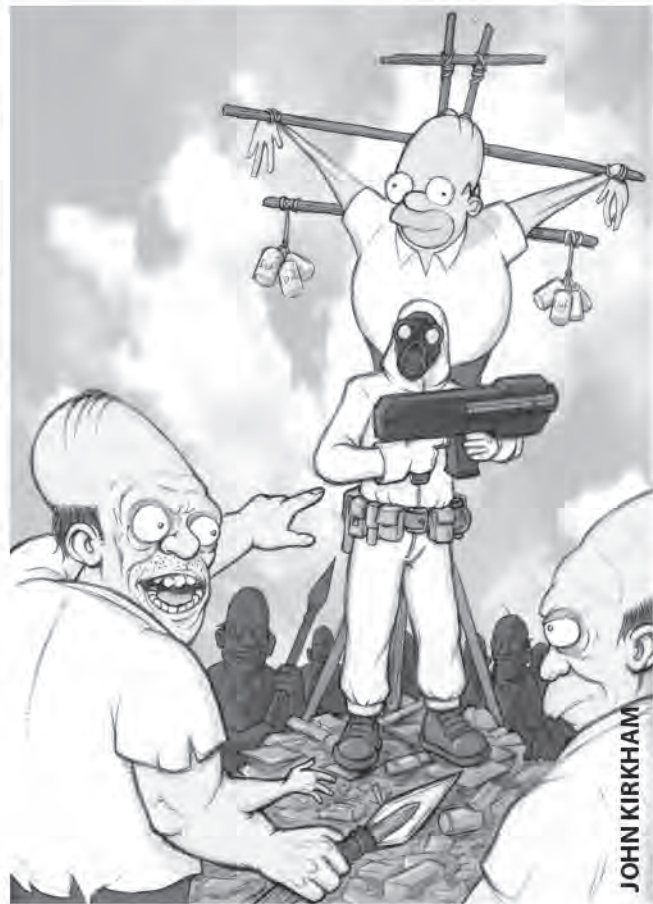
In such a lawless and disordered society people, the confused and dribbling multitude of humanity's off-cuts, will need something to focus on. Something to keep them going and distract them from their lack of skin. The old religions have, obviously, spectacularly failed, going up in radioactive smoke and it could well be up to you to guide them (possibly with longer bits of skin, tied together) toward an entirely New Belief System, ensuring your own survival in the ashes of the Nuclear Fire as 'Chief Priest Extraordinaire A go-go a rama' (delete suffixes as appropriate).

The initial step should be to locate something in the collective cultural memory of the last humans that they, well, can remember. Your followers will most certainly be a few sexy dossiers short of a reason for going to war, especially after the Nuclear Winter and the terrible, terrible burning. But the benefit of this galloping stupidity is that they'll be more pliant and susceptible to your suggestion. You should find something obvious and overtly blatant that they can focus on, a facet of the life before that was so socially barefaced that it wouldn't go away even if you buried your head under a concrete pillow and nailed it to your face.

Which brings us naturally to Big Brother.

There is bound to be the odd Nuclear Bunker lying about and with the right amount of knocking and moaning you may convince those inside to kindly open up, just in time for you to systematically gut them all like, silly, silly fish-people. Once this is done freeze the bodies for food, or hideous 'Find Ten Livers in a Minute' Housemate games later on, it's your choice. And now, as the bunker is yours so begins the transformation into the Big brother House. Re-decorating should be easy as the theme of the Apocalypse is 'Unbelievably Trashed' - just remember to paint big eyes everywhere, seal off parts of the bunker so only you as 'Big Bro' can go in it and dish out The Housemates supplies, and have a chair across from a mirror in a secluded spot as the Confessions Room. After you've carefully selected ten housemates, drug and drag them to the house and when they awake convince them that you are the voice of God (FX: Rolled up Heat Magazine through holes in the walls) and let the games begin!

If The Davina Method doesn't float your boat then you could always resort to Matt



JOHN KIRKHAM

Groening's Simpsons for inspiration. This particular theme offers a more open style of New Religion, as you won't be cooped up inside a bunker with ten idiots and it enables you to spread the word and attain more worshippers, even amongst those who don't speak your language, or can't speak, or have no jaws to speak with as everyone knows of Homer's luvverly mush. Try making a head mask from Homer's image and placing it over your face. Convince the ambling population that you have arisen from the destruction to reclaim the Earth in the name of beer and cocktail weenies and get them to make similar masks (raw materials should be easy to find, try papier mache, glue and yellow paint, or other people's dead heads, melted spleen and yellow paint). They should subsequently join you in the holy chants of 'Mmmm, forbidden doughnut...', 'Why you little,' and 'Nah na na nah na na naa, Leader, ah na na nah na na naa, Leader, Leader, Leader, Leader'.

'D'oh' is also excellent if you hang out the vowel sound for a suitably holy amount of time. The Simpson Way further offers an amazing opportunity to create a multitude of relics due to the massive pre-Armageddon merchandising. All hail the Sacred Wobbly Homer to be placed at The Back of the Springfield Pilgrimage Cart and marvel as Bart Messiah flashes his holy, right at us!

As fantastic as all your new fangled blessed enterprises are there may be those that try and take them from you! Rival religious groups such as *What Not to Worship* and *Location, Adulation, Devotion* may very well equal the threat posed by government forces. It is therefore vitally important to instantly, if not before, label these groups as infidels in whatever way you can and have them immediately burnt on the Bart-beque or relegated to the Spiky, Spiky Side of the House.

Finally, however unlikely, it is entirely possible that the two suggestions above just don't work and that you are unable to think of any of your own. In such a nightmarish situation of 'Priest's Block' the solution is murderously simple - just tack yourself onto another fast growing religion, graduate to second in command, have your position renamed Grand Vizier, get a talking parrot and a comedy 'tache and bump off the bloke in charge. It's a classic.

For further information on Apocalypse Religions and New World Orders contact David Eliot at 'Armageddon Me a New Order' at 001-555-hallowedbethyfame!

3. START A CULT

Something bugging you? **EMMA McNEIL** explores the world of biological warfare

I got you under MY SKIN

“Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain:

(1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification... (for) peaceful purposes;

(2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict.”

The Biological Warfare Convention of 1975 makes it pretty clear. Crystal, in fact. Modern diplomacy will not tolerate the use of bioweapons. But, as generations of generals have discovered, it can be just too tempting.

Biological weapons have plenty of advantages. They're nasty, which is an important quality in any weapon. They're also readily available. Governments can spend valuable resources on years of research and development or they can use a ready-made option. Nature has provided us with plenty of nasties (toxins, fungi and infections) that can be used as bioweapons. Bioweapons can also be virtually undetectable until symptoms develop. Anthrax doesn't have to come in an obvious envelope stuffed with white powder. By the time the infection is noticed it could be impossible to identify the origin of the infection. Biological warfare

also has one more big advantage. Armies like weapons that leave the infrastructure intact. Cleaning up bodies is easier than repairing roads, buildings and bridges. If you can avoid poisoning your own side, biological weapons are very useful.

But not infecting yourself is one of the big problems of biowarfare. You can vaccinate your own troops and scientists but that requires a lot of vaccine. And vaccines are not always effective. There is also the risk of accidental release. In 1992 Boris Yeltsin admitted that the anthrax outbreak in Sverdlovsk (now Yekaterinburg) in 1979 originated at a military facility.

The biggest limitation of biological warfare is the source of the weapon itself. Diseases are capricious. Viruses mutate. Chemicals contaminate. They can render a vaccine or antibiotic ineffective. They can become airborne. Infectious diseases are unpredictable. They are hard enough to control in peacetime let alone during a war.

Biowarfare has a long and disreputable history. It's been used spite of the risks (or in ignorance of

THE END IS NIGH: UPDATE

Concern over rediscovery of Spanish Flu strain

THE announcement in early October that the 1918 Spanish flu (responsible for the global pandemic that killed at least 50 million) had been synthesised has filled many with trepidation. The team at the US Armed Forces Institute of Pathology in Rockville, Maryland reassure as that their research is necessary and that the potential benefits outweigh the risk of an outbreak.

The work at Rockville is helping scientists to understand what made the 1918 pandemic so deadly. It is hoped that such research will enable us to better understand and prepare for the predicted future pandemic. The researchers have already established which gene sequences made the Spanish flu so deadly. They have also demonstrated that a deadly bird flu does not, as many believed, need to combine with a human flu to trigger a pandemic. According to the team the risk of an accidental outbreak is slight; at the second highest biocontainment level the virus is unlikely to accidentally escape (because Spanish flu is theoretically treatable it is not necessary held to hold it at the highest level). The CDC explain that most people have been exposed to a related flu virus in the past and so will have some natural immunity. A vaccine can also be synthesised if necessary and antivirals can also be used.

Accidental outbreaks are not the only concern. Some worry that there is a risk that terrorists could use the information (helpfully posted on the Internet in a spirit of openness) to create a deadly strain of a current virus. The samples themselves could also fall into the wrong hands; the 2001 anthrax attacks demonstrated how laboratory strains could be used as weapons of terror. The threat of a flu-based terror attack is considered so serious that the National Institute of Allergy and Infectious Diseases has given a team at Stanford University \$15 million to research the potential use of flu by terrorists.

The research is undoubtedly valuable in the fight against a potential flu pandemic but in the current terrorist age the potential for misuse cannot be ignored.

MORE ON FLU FEARS ...

For more on the latest fears of a flu pandemic, turn to our special Doomwatch news feature ...



them). Biological weapons were even popular in the Ancient World. The parasitic fungus ergot was used by the Assyrians to poison the wells supplying their enemies. The Romans and the Tartars preferred instead to hurl bodies infected with plague into besieged cities.

Infectious weapons could be particularly devastating to indigenous groups under attack from their enemies. If the attacker used an infection that was native to the region, the population would not have developed even a small degree of natural immunity. A similar situation would occur today if a laboratory strain, even of a common disease such as influenza, was to infect the population. The body's immune systems would be unprepared for dealing with it. During the French and Indian War, Sir Jeffrey Amherst, the British commander in North America ordered smallpox to be introduced to the rebelling Native American tribes. Callously, two smallpox-infected blankets and a handkerchief from a British infirmary were given as gifts to the Delaware Indians. The epidemic that resulted went on to kill inestimable numbers of Native Americans. Although other

deliberate and accidental factors were involved the Native American population north of Rio Grande crashed from around 1,150,000 at the beginning of the sixteenth century to less than four thousand in 1907.

As laboratory science developed in the 20th Century, increasingly unpleasant and more devastating weapons were developed. During the First World War, Germany made extensive use of chemical weapons. Although biological warfare had been outlawed by the Hague convention of 1899, they made extensive use of a variety of chemical weapons. If they were lucky enough to survive the initial attack, the victims would suffer inflammation of the lungs. A few hours more and the exposed soldiers would die. Among the remaining survivors, fatal pneumonia often developed. Those who continued to survive suffered from the devastating emotional effects.

Britain and the US investigated the use of biological weapons during the Second World War but considered them ineffective. In Japan, however, the powerful and elite Unit 731 were put in charge of a terrifying biological warfare programme. At secret research facilities over 10,000 Chinese, Korean and Russian POWs were used in the development of bioweapons. The suffering involved was immense and there are many accounts of horrific live

vivisections. Once developed, the weapons were tested on the Chinese population. It is thought that between 1938 and 1945, 300,000 Chinese civilians lost their lives. Astoundingly, following the War, America let the scientists involved cut a deal. They would not be tried for war crimes if they allowed the Americans but not the Russians access to their research. In recent years lawsuits have been brought by survivors and concerned Japanese citizens. Japan has rejected claims for compensation but a Japanese court has accepted the role of Japan in the spreading of disease in China.

During the Cold War it was the Soviet Union which, unbeknownst to the rest of the world, led biological weapons research despite being a signatory to the Biological Weapons Convention. The wider world learnt of the extensive programme (which had used a civilian pharmaceuticals firm, Biopreparat, as a cover) from defectors. Much of the research focused on weaponising especially virulent strains of smallpox. The global consequences of accidental or deliberate infection of the general population would have been truly apocalyptic.

DID U.S. USE BIO WEAPONS IN W.W.2?

When Peter Williams and David Wallace's book "Unit 731: The Japanese Army's Secret of Secrets" was published in the US, there was one chapter missing. The chapter focused on the persistent rumours that the US had used biological weapons in Korea. Stories are told about the US allegedly using "flea bombs" (developed originally by the Japanese in World War Two) to spread plagues and the curious attempts to bomb areas with voles and clams. The veracity of these rumours is still being questioned, but many people believe that, between the end of the Second World War and the signing of the Biological Weapons Convention, America was using biological warfare against its enemies.



After the Biological Weapons Convention what did the US and UK do? They were reluctant to abandon research entirely opting, instead, to continue research in order to be prepared if

they themselves were attacked. The research continues to this day, as global developments mean the threat of biological warfare is as great as ever.

Apart from the obvious threats from Axis of Evil-type states and their ilk, the 21st Century has seen a new slant on biological warfare: bioterrorism. The threat from bioterrorists comes from many quarters. Not only classic terrorist groups, but also from Unabomber-like rogue attackers. The chemicals and infections (as well as basic laboratory equipment) are frighteningly easy to get hold of, meaning that anyone could, theoretically, launch a biological attack. It is in the nature of such attacks that there is no way of ensuring that it is only a minor incident.

The instinctive revulsion most people feel towards biological warfare has never been enough to stop it. Even Roman jurists declared: "Arms Bella Non Venenis Geri" or "War I fought with weapons, not with poisons." For thousands of years, people have had to live with the threat of biological warfare and it looks like we'll always have to.



DAVE EVANS

My chemical romance ...

A What's What Guide to Some Common Chemical and Biological Weapons

Smallpox

Description

A serious airborne viral infection, smallpox last occurred naturally in 1977. Scientists concluded in 1980 that smallpox was no longer a natural threat to the global population.

Symptoms

7 to 17 days after infection symptoms begin to appear. A distinctive blistering rash accompanies flu-like symptoms. There is no treatment available but there are effective vaccines.

Used

During the French and Indian War (1754-1767) the British used smallpox against the Native American population.

Anthrax

Description

Anthrax is a bacterial infection originally found in animals. There are 3 types: cutaneous, inhalation and intestinal. Cutaneous and inhalation anthrax are the most common and are caused by contact with anthrax spores. Intestinal anthrax is rare and is caused by ingesting infected meat.

Symptoms

Cutaneous anthrax starts with a small lump like an insect bite which blisters and necrosises. If untreated cutaneous anthrax is fatal in around 20 per cent of cases. Inhalation anthrax causes the usual flu-like symptoms. In the later stages patients experience difficulty breathing, fever and shock. It appears that even with aggressive medical intervention inhalation anthrax is usually fatal.

Used

Japan used anthrax as a weapon during its occupation of China during the Second World War (1932-1945).

Sarin

Description

Also known as GB, sarin gas is nerve agent first developed in Germany in 1938. Nerve agents knock out their victims' nervous system by blocking nerve impulses.

Symptoms

Within twenty to thirty minutes of inhalation or skin contact sarin will cause the widespread symptoms of nervous system distress including convulsions and coma. The victim ultimately dies from suffocation.

Used

In 1988 Iraq used sarin as part of a bombardment of the Kurdish city of Halabja. It is thought that around 5000 died in the attack (approximately 7 per cent of the population).

Phosgene

Description

Phosgene is a potent poison gas that was a popular and effective chemical weapon before alternatives (such as nerve agents) were perfected.

Symptoms

Phosgene works as a choking agent. Victims experience a difficulty breathing accompanied by symptoms such as coughing, vomiting and eye-watering. Within 2 to 6 hours pulmonary edema may develop. The situation is complicated by the possibility of delayed effects. An exposed person may not develop symptoms until 48 hours later.



CONTACT

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BOOM BANG-A-

Or how I learned to stop worrying and love atomic cinema by **ED BERRIDGE**

"When not close enough to be killed, the atomic bomb is one of the most beautiful sights in the world."

US Army Training Film, featured in *Atomic Café* (1982)

Whether you covered at night in terror of Mushroom Cloud Nightmares, or found the whole prospect of Mutually Assured Destruction something of a rib tickler, you'll almost certainly have seen a film about the subject. Say what you like about the nuclear paranoia of the Cold War, but

it proved to be a fertile feeding ground for legions of filmmakers. For those feigning ignorance of radiological celluloid however, the films tend to handily fall into three distinct categories (as long as you ignore the 'Bad Guys with Nukes' plot device so beloved of Hollywood producers)



After the Bombs

Post-apocalypse films, ranging from the oblique mushroom cloud references of Hayao Miyazaki's *Nausicaä of the Valley of the Wind* (1984) to the overtly nuclear scarred landscape of 1977's *Damnation Alley*. Perhaps the most famous example are George Miller's *Mad Max* series, begun in 1979, although the atomic war was not made apparent until the third instalment, *Beyond Thunderdome*, in 1985. These films, such as Chris Marker's *La Jetée* (1962), *On the Beach* (1959), *Day the World Ended* (1956) and *Beneath the Planet of the Apes* (1970), either use the bomb as an excuse for their setting, or to make a comment about nuclear society itself. There is also a small, though potent vein of pseudo-documentary films, focusing on the immediate aftermath of a nuclear war, including the acclaimed *Threads* in 1985, the 1983 American TV-movie *The Day After*, and the controversial *The War Game*, which was filmed in 1965, but not screened by the BBC until 1985, despite winning an Academy Award for Best Documentary Feature in 1966.



Nuclear Nightmares

Films about the fear of nuclear war and its effects, like Robert Aldrich's 1965 nuclear-noir *Kiss Me Deadly*, which, though only having a single veiled reference in its mysterious briefcase, can be read as an allegory for the nuclear paranoia of Cold War society. Then there's Sidney Lumet's *Fail Safe* (1964), the Boulting Brothers' *Seven Days to Noon* in 1950, 1983's *WarGames* and *Barefoot Gen*, or Raymond Briggs' *When the Wind Blows* (1986), which point out both how easily a nuclear conflict could have occurred, and the realistic depiction of the consequences of such events. Also notable amongst the anti-nuclear films is Val



Above: Peter Sellers steals the show in *Dr Strangelove* © Columbia Pictures
Top: The cast of *Whoops Apocalypse* © MGM
Top right: *Nausicaä of the Valley of the Wind* © New

World Pictures
Opposite: the poster for *The Day the Earth Caught Fire* © Anchor Bay Entertainment

The **INCREDIBLE** becomes Real!
The **IMPOSSIBLE** becomes Fact!
The **UNBELIEVABLE** becomes True!



BANG!

Guest's Verite-style 1961 film **The Day the Earth Caught Fire**. Of course there's the always thorny issue of Toho's atomic-powered **Godzilla**, although Ishirō Honda's original, the 1954 **Gojira**, certainly contains a number of allegorical references to the bombings of Nagasaki and Hiroshima which were excised in the American cut. A BBC production, **Threads** (1984) also examined the effect of nuclear destruction on Britain. This bleak and seminal film filmed as social drama rather than straightforward apocalyptic movie, it traces the devastating effect of a nuclear strike on Sheffield, focusing on the fates of two families. It follows them before, during and long after the attack, unusual in a genre that usually overlooks the long-term effects. It concludes many years later as the main protagonist's daughter gives birth to a seriously deformed child in a Britain still struggling with the aftermath of the attack.



Hydrogen Humour

Films that treated the madness of a 'nuclear deterrent' as the black joke that it was. Richard Lester's 1969 film **The Bed-Sitting Room** (adapted from the play by John Antrobus and Spike Milligan) featured an all-star British comedy cast in a post apocalyptic setting in which Ralph Richardson mutates into the titular bedchamber. Also following the 'multiple British comedians' formula was the unsatisfactory film version of **Whoops Apocalypse** (1986), chiefly notable for Peter Cook's Harold Macmillan-like Prime Minister and his civil defence strategy for the issuing of umbrellas to protect against radioactive fallout. However, the defining nuclear comedy has to be Stanley Kubrick's 1964 release, **Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb** basically **Fail Safe** played for laughs (though **Red Alert**, the book that author Terry Southern loosely based his screenplay upon, is not actually a comedy). A black, caustic and immensely funny satire of the absurdities of the Cold War, this is probably the most long-lasting and influential of all atomic films. Laugh or die, the choice is yours.

THREADS: the film that showed nobody 'won'

GARY WILKINSON takes a look back at the seminal 1984 film

If *The War Game* was shocking *Threads* was utterly horrific. Set in Sheffield (coincidentally the city I would later attend university) this television film showed the two months leading up to, and the thirteen years after, of an overwhelming nuclear attack on the country.

A chilling mixture of domestic drama and documentary it made clever use of its low budget. The events are seen through the eyes of Ruth Beckett, the middle class, secretly pregnant, fiancée of working class Jimmy Kemp.

Cleverly at first the drama concentrates on how Ruth's pregnancy effects both families. The build up to war is kept in the background with news reports on pub televisions and military vehicles rumbling through the night. A coup in Iran gives the Soviets half a chance to invade and take the oil fields, the Americans respond and one incident leads to another... until World War Three erupts.

From a domestic drama of class conflict we slide into the soap opera from Hades. Against the hellish events seen on-screen, captions and narration calmly brings us the facts ("80 megatons rain down on the UK during the initial salvo, this is the equivalent to 80 million tons of TNT. Casualties from the nuclear blasts could be anywhere from 2.5 to 9 million.")

Threads finally put paid to the comfy romantic 'blitz' mentality that, yes a nuclear attack might mean some disruption but if we all pull together we could get through it. Certainly not with the inadequate civil defence precautions seen here ("Now two thirds of the housing in the UK are within possible fire zones, but fire fighting and rescue attempts are unlikely"), the riots over food stores and firing squads for looters as we become a police state before civilisation's collapse becomes complete in the rapid descent into a nuclear winter ("... temperatures falling by up to 25 degrees centigrade").

No, this film shows that the 'threads' that bind society together would be irreversibly snapped and we would be thrown back to a new pre-industrial dark age with little hope of recovery. The living really would envy the dead.

In creating *Threads*, writer Barry Hines and director Mick Jackson used a huge amount of scientific evidence freely available from the Home Office, The British Medical Association and the Home Defence College, and consulted a wide number of experts plus the survivors of Hiroshima and Nagasaki. Thus they ended up with certainly the most accurate and dramatic portrayal of full-scale nuclear war that had been made, and nothing has been made to match it since.



When the Wind Blows

MELINDA

At long last, September 2005 saw the first DVD of *When The Wind Blows* get its release in the UK and Europe.

The film, originally screened in 1986, is a chilling tale, inspired by the fearful days of the 1980s when the threat of nuclear war loomed heavy over the population.

Jimmy T Murakami's animation is based on the **Raymond Briggs** graphic novel and relates the movingly real story of two simple elderly people - the husband, Jim Bloggs (voiced by the late John Mills), eager to follow all the official advice and instruction of the government, and his wife, Hilda (Dame Peggy Ashcroft), who really doesn't want to know, hoping "it'll all blow over by Christmas".

Given extra momentum featuring a wonderfully atmospheric soundtrack by Roger Waters, the couple represent the common man, and in particular the British spirit - keep a stiff upper lip, do as you are told (doing "the correct thing", a mantra repeated by Jim) and everything should be alright. Talk of the impending war sends the couple on a nostalgia trip, looking fondly back on their childhood during World War Two - which they naively see as a taster of what the impending war will be like. In the days before digital animation, the producers of *When the Wind Blows* used a mix of traditional hand-drawn (including colour pencil work) animation, and model work

The former California-based artist **Melinda Gebbie**, well known for her comics work with writer **Alan Moore** and now relocated to Northampton, was one of the artists at production company TVC who were charged with bringing Briggs' vision to life.

She actually happened on it by accident: "I had read WTWB and thought it was a tremendous book, but then I heard somehow that there was somebody going to do a film of it.

"But I was in Soho I went to a lunch counter



and I happened to be sitting near two guys who happened to be talking about people being hired for it, I didn't even know at that point who was doing it. I just went up to one of them and asked about it."

When The Wind Blows still provides a chilling warning of the futility of war, and the human cost, told from an intensely personal perspective. With the help of misleading and contradictory government issued pamphlets Jim builds a shelter from wooden interior doors to protect the couple, and although they

survive a nuclear blast they are completely ignorant to the fact that the radiation from the fall out is slowly killing them. All the time they believe in the government and that, sooner rather than later, the status-quo will be restored.

"It was a tremendous experience," said Gebbie. "A really huge and important experience for me, socially, personally, artistically, in terms of film and also the mindset around problem-solving.

"I remember one day we were all sitting round talking about what colour people go when they get radiation poisoning? Nobody knew. Well, I said I'd read an article in the Saturday Evening Post called 'Nine Days to Die' and it was this horrible nightmarish story where this guy dies of radiation poisoning.

"His whole body just turned red from the inside, and I said this but they said 'Well, that won't look right' so they made people go a sort of green anyway," she laughs.

TVC had worked with Briggs on an adaptation of *The Snowman*, but animation in 1986 was painstaking work.

"We had to come up with special ways of dealing with the rendering of course this was all pre-digital, everything was done by hand. I was working in paint and trace initially, and they asked could I come up with some new system of rendering these little characters because we couldn't afford the frosted surfaces we needed, so we had to paint PVC onto the smooth cell and then do rendering over it, so there were a lot of problems involved with the film and also they'd run through almost all their money before they'd even started hiring any people to do paint and trace. There were 14 people in a room and it was all very feverish, I even remember sleeping on the floor.

The artist talks to **MIKE MOLCHER** about her work on the film of Raymond Briggs' seminal graphic novel ...

GEBBIE



Above: a frame from the finished film
Below: a frame from the original book

"But it was all very exciting and for me it was a dream come true, my one chance to put together my feelings about anti-nuclear stuff and work on an animated film."

Gebbie had worked on anti-nuclear newspapers in California and the film perfectly matched her own views on the issue.

"I think they were a perfect portrait of how absolutely defenceless and innocent the average person is in the face of this kind of thing," she said. "I mean, people didn't even know but Raymond Briggs did that when they said keep a big bag handy so you can step into it when you get ill, of course that's so they can clean you up and they don't have to look at you. But they don't say that in the pamphlet, do they?"

"We'd been raised with the Duck and Cover nonsense in the States, which they played everything down.

"Jimmy and Hilda are Everyman - we don't know what to do in a crisis. This thing in Louisiana that's happened, nobody knew what to do and nothing was organised because people don't want to organise for these things. To organise for them is to say they're going to happen, so we do everything we can not to think about it.

"The film was extremely personal and that's why it was so brilliant and so heart-breaking."

Crucially, the Libyan crisis took place right in the middle of production. President Reagan ordered major bombing raids against Tripoli and Benghazi that killed 60 people following claims of Libyan involvement in a bomb explosion in a German nightclub frequented by US servicemen, which had killed three.

"That really set everybody into a whirl because that was the first time I have ever heard huge warplanes taking off overhead, it scared the hell out of me and we all

thought we were going to die.

"By that point poor Jimmy and Hilda were coughing up horrible green stuff and the rendering department had been working on cars twirling in the wind and blackened trees, so it just seemed to underline this horror. We stood around listening to the radio, everyone was really scared."

The book and the subsequent film were seminal works, not just because of the issues they tackled but because of the medium they did it in.

"They wouldn't show primary school children a book like that these days," complains Gebbie. "Now more and more we just end up having to sit on a fence and you can't have an opinion on the future because there's too many variables, so all you can do is try and do the most sensible thing that you can and that you can get involved in doing. And try not to be like the Americans.

"You've got the neo-Conservative set who think they're going to be saved by their station wagons, they're all going bonkers rather than really look at the problem they don't have the courage to look at it the way the British can, like *When the Wind Blows* did."

When the Wind Blows was a reaction to the pressure of living during the Cold War, where death was but the touch of a button away. Gebbie claims a similarly-mature reaction has yet to develop in the wake of the 'War on Terror'.

"Artistically speaking, I think what is probably going on right now is a strong drive, and I don't mean Booker Prize and Turner Prize people because they don't have a soul," she laughs, "but I mean real artistic impulses in real writers and people who really want to paint about something, there's more of a desire to find the cohesion and coherence and the like-mindedness and the positive things we can get from cultures.

"The bomb blasts have exploded everything, we see catastrophe borne of greed and cruelty everywhere and I don't think anybody needs to state anymore how greedy and cruel those in power are, I think what we need to do is focus on what we can do about it. Although I haven't seen much of a response artistically in it yet, I can't help but think that all the tears people have cried looking at other people's suffering, all these programmes about Islam and about Sufism and about the wonderful contribution that Islamic culture has made are part of an immediate response to say 'but wait a minute, don't go crazy. You're missing the whole point'.

"And we have to have that because we're on the edge of tearing ourselves and everybody else apart."

The film, finally being re-released after almost 20 years, forms part of a canon of British literary reaction to the Cold War, joining films like *Threads* and Peter Watkins' *The War Game* in redressing the horror of nuclear conflict in an age that had become all too used to the idea. It boils huge, unfathomable issues over nuclear weapons down into a simple equation: the innocent will suffer, and suffer terribly.

But for Gebbie, her work on the film has left a lasting impression on her.

"I think it was a tremendous privilege and a huge adventure. There were a lot of personal things in it which were catastrophic and revelatory as well, so it was an immensely valuable experience, I'm really glad that my name's there on the end credits along with hundreds of others, but I think it's the most important artistic group experience I'd ever been involved in.

"I'm always really pleased when somebody says they've seen it."

EMMA McNEIL takes us on a whistlestop tour of other mediums influenced by apocalyptic war ...

atomic Entertainment

After Hiroshima, Nagasaki and Bikini Atoll and as the Cold War started to freeze popular culture began to explore the destruction of the world by nuclear war apocalypse. In books, film, TV and music nuclear apocalypses are semi-regular occurrences. If you're in the mood for some entertainment featuring nuclear destruction you might like to try the following sample of apocalypse pop culture.

Starting with literature, *On the Beach* (Nevil Shute, 1957) is one of the earliest, classiest and saddest of the books in the genre. As radiation creeps towards Australia the last survivors (including the crew of a nuclear submarine) prepare for the end. With government sanctioned suicide and a hopeless ending this is a story to avoid unless you're feeling particularly emotionally

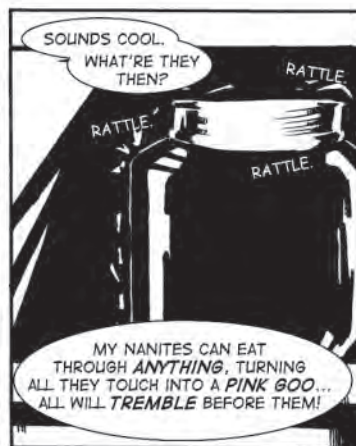
In *Z for Zachariah* (Robert C. O'Brien, 1975) a fifteen year-old girl attempts to survive alone in a valley that has apparently escaped the global destruction. Her surprisingly cosy existence as the last girl on earth is interrupted when the last man on Earth arrives. Unfortunately, he turns out to be a homicidal potential rapist determined to sire the future human race. Unusual in being aimed at younger readers; it still manages to be suitably depressing. I hated it when I read it at school but a quick glance at the reviews on Amazon show that lots of people love it (but then I often hated the books I was made to read in English).



When the Wind Blows (Raymond Briggs, 1982) is a melancholy graphic novel from the author of *The Snowman*. Telling the story of an elderly couple facing the end, it satirises the laughable Protect and Survive advice offered by the Government. Adapted for radio, film and stage it remains one of the most popular of the Eighties anti-nuclear stories.

Nuclear War has also featured in music. The Eighties German pacifist ballad 99 Red Balloons/99 Luftballons (Nena, 1984) is one of the most fondly remembered among children of the Eighties. As an anxious 8 year old I was devastated to discover from my older brother what it was really about. Remaining at number one in the charts for four weeks in the UK it features trigger-happy generals sparking World War Three by mistakenly firing on innocently released balloons.

SECRET AGENT SLOPPY



BY DAVE EIVENS & MARK WOODLAND

W.M.D. BY PETER NAGLE



FAILED GUESS(ES) #14: "Actually, you just didn't believe in it enough ..."

April 6, 2005

Warren Jeffs, prophet of the Fundamentalist Church of Jesus Christ of Latter day Saints, not to be put off by his three other failed predictions, goes all out for a fourth. When nothing happens, Jeffs explains that the apparent delay is caused by the unfaithfulness of his followers, who promptly left in droves ...

In 1965, one filmmaker created a piece of work so honest about the dangers of a nuclear war, that it was cancelled. It was ...

THE FILM THEY TRIED

BY DAVID X BRUNT

TO BAN



From his earliest days as a professional filmmaker at the BBC Peter Watkins had wanted to make a film about the potential after affects of a nuclear war. Initially wary the BBC turned down the idea and encouraged him to make another film in the same faux-documentary style. The resulting documentary 'Colludon' was deemed a critical hit and with that success under his belt Watkins tried once again to make 'The War Game'. This time Watkins was given the red light and production began on one of the most controversial programmes in the history of the British Broadcasting Corporation.

The filming and production of the programme went smoothly, with a mix of professional and amateur actors taking part in the filming and the then young Michael Aspull providing vocal talent. The film used the techniques and styles of contemporary documentaries to explore the aftermath of a limited nuclear strike against the South of England. Covering the crisis through to the following Christmas the film showed, in graphic detail, the horror and desperation that were likely to follow such an incident. The low-key performances and naturalistic film work successfully capture the sense of despair, the inevitable loss of life, and the irreprehensible breakdown of society that would seem unavoidable.

Watkins had learnt the conventions of documentary making well and with the practice gained from making 'Culludon', and his years of experience behind the camera working with amateur film making groups had the ability to draw naturalistic performances from professional and amateur actors alike. Amongst the sizeable cast there is a quality of

performance that is hard to beat.

What happened next is still unclear, but the film was withdrawn from screening by the BBC. Why exactly this should happen is unclear. Television making is an expensive process and examples of completed programmes remaining unused are rare. Although we may never know the truth of the matter guesses and inferences can be made as to why 'The War Game' was effectively cancelled at the last minute.

It was made in an election year, 1965, and although the BBC is supposedly an independent organisation they rely strongly on the governments favour. It seems that upon viewing 'The War Game' and realising its strength and potential affect on the viewing publics some high ranking BBC official passed the word to the government who strongly suggested the Beeb did not screen the film. The B.F.I.'s Patrick Murphy provides convincing information about the ban in a feature on the D.C.D. release of the film.



Despite the seeming conspiracy to bury the film it was later released at the cinema and in 1969 won best Documentary feature at the Oscars and was often used by the C.N.D. as a recruitment film. It's rumoured that when John Lennon saw a screening it converted him to the peace activist of his later years. The BBC finally screened 'The War Game' in 1985 as part of its Hiroshima day. Tasteful.

To this modern viewer watching The War Game was a distinctly unnerving experience. At over 40 years old the piece has naturally aged, though more gracefully than Threads perhaps, and the threat of assured mutual destruction

FACTFILE: The War Game

Written and directed by Peter Watkins

Released in UK: November 1, 1965

LOCATIONS: Filmed at locations in Canterbury and around the Kent countryside.

AWARDS: Watkins picked up Special Prize at 1966 Venice Film Festival before winning an Oscar for Best Documentary, Best Short Film and the UN Award from BAFTA and the Golden Mikeldi at the Bilbao International Festival of Documentary and Short Films Year, all in 1967.

TRIVIA: This is your life presenter Michael Aspel starred as the film's commentator, while Kathy Staff better known as Nora Batty from Last of the Summer Wine - is an uncredited interviewee.

by nuclear has faded from public consciousness to the point of being dismissed by most as being as much a part of the past as Witch trials and the Black Death. Initially I watched with a sense of curiosity and amusement at the old fashioned narration and style. Those stylings however are captured to perfection. As well thought out as the consequences of war are in this film, as well realised and acted as they are it's the attention to detail of form that impress and make it come alive. It's very easy to get suspend disbelief in the early section and become convinced that what you are seeing film of real people in their everyday lives. That conviction stays with you through out. It's as perfect a pastiche of the conventions of documentary as any that has been captured on film.

And then the bombs drop and this viewer became very uncomfortable. With todays eyes it's easy to see this as almost a piece of 'alternate history' a window into a world that has been devastated by atomic war. The mostly unsensationally presented scenes of society gradually breaking down, of people beginning to suffer the after effects of the bomb are played out with a painful honesty.

The later stages of the film, that take place around the Christmas season should be cloying and sentimental. In practice they are heartbreaking. I don't know what it must have been like to watch during the cold war but I became genuinely scared about the sheer scale of death that could be unleashed by a bomb. I suspect that the chances of nuclear death are minimal compared to the



odds that would have been placed in 1965 but it still filled me with a sense of fear. It's easy to see why the CND used the film for publicity purposes and why it gained the Oscar nod.

40 years on Peter Watkins has a fascinating back catalogue of films behind him, having worked on projects worldwide. His career path took an unexpected trajectory for having made this film, and whilst it remains perhaps his best known film it's just a small


part of a career that embraces the experimental and the unusual with open arms. He is perhaps one of Britains most innovative directors, certainly one who deserves a greater profile than many directors that spring to mind.

The film remains a powerful, uncomfortable piece and has perhaps aged better than the similarly-themed 1984 film, *Threads*. The documentary style and subtle acting performances are as affecting today as they ever were. Despite growing up in the latter years of the Cold War it was only a viewing of this film that really drove home the reality of a nuclear attack to me.

I recommend it whole-heartedly despite it's often discomfoting nature as viewing matter it deserves to be seen.

All images © BBC

DAVID X BRUNT writer



DAVID X BRUNT is a care worker in his late 20's living in the North West of England. He is currently writing a submission for Radio 5's Afternoon drama slot about identity, delusions, Cornish folk myths and the Victorian artist Richard Dadd.



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MAD MAX NIGHTMARE

WAR AND THE APOCALYPSE IN THE MAD MAX FILMS



"People don't believe in heroes anymore!"

The Mad Max trilogy



Director: George Miller
'Mad' Max Rockatansky: Mel Gibson

Mad Max (1979)
Budget: \$350,000

Trivia: Mel Gibson didn't go to the audition to read for a part, he went along with a friend who was auditioning. But because he had been in a bar fight the night before and his head looked like "a black and blue pumpkin" (his words), he was asked to return and read for a part.



Mad Max 2: The Road Warrior (1981)
Budget: AU\$4M
Gross: \$9M (USA)

Trivia: The logo on the tank truck is "7 Sisters Oil", reference to a conspiracy theory, popular before OPEC took over, that Standard Oil and six other companies controlled the world oil market, buying up and suppressing the 200-MPG carburetor to keep oil prices up.



Mad Max Beyond Thunderdome (1985)
Budget: AU\$ 12M
Gross: \$36.2M (USA)
Nominated for Golden Globe

Trivia: One of the restaurants in the post-apocalyptic city is The Atomic Cafe, a reference to **The Atomic Cafe**, a documentary about the Cold War, nuclear fear and propaganda films from the government.



I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones.

Albert Einstein



The Mad Max film series (*Mad Max* (1979), *Mad Max 2*, aka *The Road Warrior* (1981) and *Mad Max Beyond Thunderdome* (1985) are renowned as some of the best of cinema's post-nuclear apocalyptic sub-genre. However, this is somewhat ironic given that the fact that the films are set in a dystopia following a nuclear war is only made explicit in the third, rather poorer, film.

In the original *Mad Max*, set 'a few years' in to future we see a society that has only slightly disintegrated - the 'Halls of Justice' police station (see below) appears to be in a semi-abandoned building but there seems to be a reasonable supply of police cars to fight against road gangs. Later we see what seems to be a working farm and scrapyard, and there is the infrastructure to maintain a hospital with the resources to attend to Max's friend Goose after he is badly burnt. Max and his wife also live comfortably somewhere out in the countryside.

With the second film - *The Road Warrior* - things have moved on. This *could* be post-nuclear apocalypse - in the deep outback where the film is set and filmed it would be hard to tell the difference - and a war over fuel that leaves the world without oil is mentioned in the prologue but no direct references to nukes are made. In fact the director, Miller, has gone on record to say that it isn't post-nuclear as he thought nothing would survive such a conflict.

As an aside, it is an interesting scenario for a Third World War - major wars have been fought in the past over securing national resources and Japan's aggression that led to its involvement in the Second World War was largely to establish oil reserves denied them in the aftermath of the First World War. With dwindling oil reserves, it is worried that something similar could happen again. Indeed, some conspiracy theories suggest the Second Gulf War was all about the oil! Modern day strategists are now concerned that half-a-dozen well-placed bombs could knock out three-quarters of Saudi Arabia's oil production. It should also be remembered that *Mad Max* was conceived during the 1970s when the scarcity of oil during the OPEC crises had led to a three-day week, power cuts in the UK and 'fuel-rage' shootings at US gas stations. It was all too easy to imagine a war over 'the black fuel' with survivors still scrapping over it (even if water, surely, would be more important in the desert environment of film two). And it's not just oil... many think a war will soon be fought in an increasingly thirsty Africa over rival water rights.



One point worth exploring is could The Humungus (above, centre), the be-masked leader of the motorised punk gang, be some sort of post-nuclear war mutant or fall-out victim? Why does he wear a mask (that unusually, is never removed)? Does this cover burns? Is his sparse hair evidence of radiation damage?

Only in the third film *Beyond Thunderdome* are there direct inferences that the aforementioned oil war had gone nuclear. Towards the beginning, when Max is offered water for sale in Barter City he scans it with some sort of Geiger counter. "What's a little fallout, huh?" the seller exclaims when the counter goes off the scale. In fact Barter City has an 'Atomic Café'. The tribe of children that Max encounters after he has been expelled from Barter Town have established their own oral history that includes an atomic 'Pox-Eclipse' complete with mushroom cloud rock paintings. We now have an expanded Hollywood budget so we can see a devastated Sydney at the end of the film.

Beyond Thunderdome, despite the biggest budget and more complicated story, is the worst film of the three by a long way. However it does have some interesting points to make about war: the eponymous 'Thunderdome' was set up for personal gladiatorial combat ("two men enter; one man leaves") to solve disputes, to keep conflicts contained and stop future wars - only for Max to destroy the system! However, one wonders how Auntie Emily, the ruler of Barter Town, could have survived at the top for much longer. Surely some thug would have forced a dispute to

take her into the Thunderdome? Wouldn't it inevitably lead to 'might makes right'? The fighting on the end of bungee ropes is more than a bit silly (and try to forget the punkette cheerleaders and master of ceremonies straight from *Cabaret*).

With regards to war, another aspect that annoys is the use of guns, especially when compared to the previous films. In *The Road Warrior* it is established ammunition is very scarce. Max does not even have any shells for his shotgun until later in the film. The first shell he finds is a dud and only gets more as a special gift. The Humungus' gun and limited number of bullets are kept in a special box like precious jewels. So most of the protagonists have to fight with crossbows and bows and arrows, and home-made weapons like the Feral Kids' boomerang. This goes out of the window in *Thunderdome* where suddenly guns are readily available and shots are fired off willy-nilly from fully-automatic firearms.

Whilst the *Mad Max* films are rightly most famous for their kinetic action sequences (the final fifteen-or-so minutes of the second film is probably the greatest action sequence ever committed to celluloid) they do explore interesting other avenues, at least as far as war is concerned. Hopefully this will continue if the series is continued with the proposed *Mad Max 4: Fury Road*.



by Gary Wilkinson



Could you survive the apocalypse? WILL DAVIS reviews the apocalyptic equivalent of One Man and his Dog ...

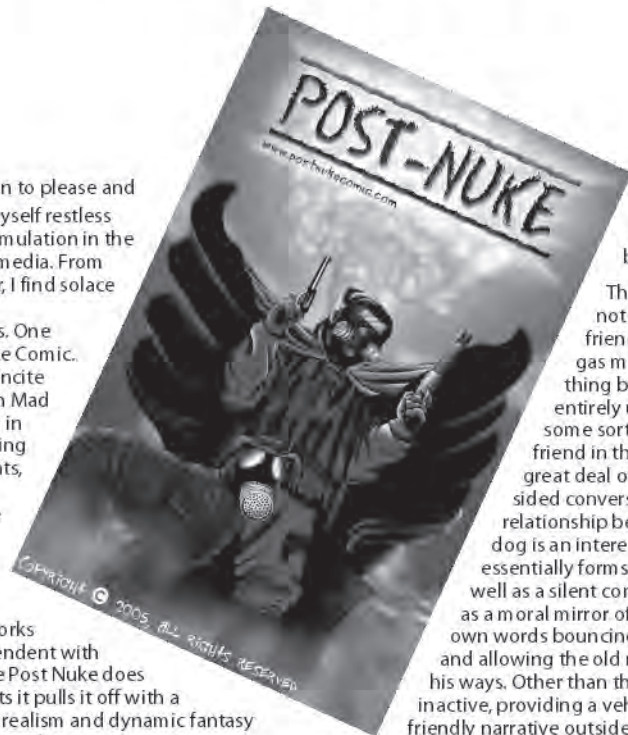
THE DAY AFTER



I am a difficult person to please and as such I often find myself restless upon finding little stimulation in the vast body of today's media. From time to time however, I find solace in sparkling gems of unadulterated genius. One such gem is Post Nuke Comic. Those words should incite images coherent with Mad Max or any other film in the same vein, throwing up radioactive mutants, desperate bids for survival and desolate lands laid waste by nuclear assault. Perhaps something to akin to the debauched, trashy works of the eighties, resplendent with ridiculous gore. While Post Nuke does contain such elements it pulls it off with a clever mix of sombre realism and dynamic fantasy creating a tantalising read.

The creator of the comic, a one Andreas Duller, has constructed a faulted universe with flawed characters. This is by no means to say that this is a bad thing, far from it these imperfections are what lends this work its realism thus removing it from the superficial perfection of Hollywood. This is best demonstrated in the art. The characters are not good looking people in any sense of the word and the world around them seems built on practicality rather than the whimsical and impossible fantasies of a movie director with a multi million dollar budget for special effects alone. Instead it creates the impression of a real world, rough around the edges with plenty of grey areas such as ours. The central character, Christopher Manic apparently, for example, when unmasked in the most recent chapter is revealed a haggard, scrawny old man with poor hygiene. Even when he's fully dressed up in his survival gear he's no peach then either.

Mr Duller isn't just arty, he's a dab hand at the old writing lark too. The vast majority of the dialogue is authentic, some of it sometimes seeming somewhat almost abrupt or clumsy on rare occasions. The vast majority of the speech comes from the central character. Although it might seem a limiting factor the isolation of the protagonist and the lack of anyone else for that matter builds empathy between the reader and the character, a feat actually rarely accomplished in my case without at least the equivalent of two or more novels having gone by and to have constructed an interest in a



character over the course of approximately eighty pages is not something to be scoffed at.

That being said, our hero is not entirely alone. Man's best friend is right there with him, gas mask and all. It's a scruffy thing by the name of Aries, not entirely unlike a greyhound of some sort, and it's Manic's only friend in the world and he spends a great deal of time engaging in a one sided conversation with it. The relationship between Manic and his dog is an interesting one. Aries essentially forms Manic's conscience as well as a silent companion, perhaps acting as a moral mirror of some sort with Manic's own words bouncing off the oblivious canine and allowing the old man to see the error of his ways. Other than that Aries is relatively inactive, providing a vehicle for a more reader friendly narrative outside of a continual stream of captions, and on occasion providing the odd joke once trying to steal an arm and on another talking deep philosophy in a dream sequence. The whole Aries thing is pulled off rather well and you never once feel that the dog is merely an excuse or a gimmick. Plus that gas mask is hella cool.

The plot in Post Nuke is a little hard to pin down, initially all you get is circumstance and individual events over each of the virtual issues some with some connection to the last, yet there is no defined story. Yet. The beginnings of one seem to be collecting in the most recent issue but at the moment its all mere build up. Two new characters have been introduced with proximity to Manic. This produces the interesting scenario of having three very different characters in the same place. One a young, recently orphaned girl more afraid than anything, the other a well endowed, mysterious survivor and the last being Manic in all his borderline crazy glory. There's a lot of potential in this comic and there's already a hell of a lot there already. Believe me when I say that you need to read this comic. Don't moan that its in black and white. Just enjoy the vision of Mr Duller with his interesting sense of humour and his visually impressive action art work. I command you.

If a direct order and my word isn't quite enough have some statistics. At time of writing Post Nuke was at number two in the BuzzComix web comic chart. Eat that.

Post Nuke can be found at www.postnukecomic.com

WILL DAVIES writer



WILL DAVIES; the only living human to be successfully grafted to his coat.

GB PERT writer



GB PERT; works for the government everything else is need to know ...

BOO COOK artist



BOO COOK; works for the Vatican everything else is lies ...

SMS artist



SMS was lucky enough not to be born in Vietnam, Cambodia, Nicaragua, Checknya, Angola, Iraq or any number of other places. He was too young to be in a pub in Birmingham on 21 Nov 1974 or dodging fares at Stockwell Tube station on 22 July 2005. After all this good fortune, he's beginning to feel his luck's running out.

CRAIG HEAP writer



CRAIG HEAP is an evil soviet ninja android spy doppelganger sent from the future and as soon as he finds himself he is going to kill him and eat all of his battenburg.

AL EWING writer



AL EWING was genetically engineered to fight the ultimate battle. With his three bio-chip buddies - Vodkor, Ginno and Kahluan who talk to him endlessly from their tempting bottles, he wages deadly guerilla war by writing Terror Tales for 2000AD

ALAN BROWN artist



ALAN BROWN is an illustrator pretending to be a graphic designer who needs all the work he can get to buy a house with his future wife! For commissions or a good time please e-mail spykeyal@aol.com

JOHN KIRCOUGH artist



JAMES KIRCOUGH, 32, Welsh. Draws a bit in his spare time. Would love to draw professionally someday.

That will be all.

JOHN KIRKHAM artist



JOHN would wander into the post-apocalyptic wasteland, liberating surviving human beings from the rampaging mutant hordes. Only there isn't a late bus back and he has to get up early in the morning for work.

MATT TIMSON artist



MATT TIMSON draws stuff for a living and reckons he could take Gary Wilkinson in a fight to the death "without any bother". He's not nearly as ugly or mad as his picture suggests.

www.mattdimson.com

ANDREW BARTLETT writer



Andrew laments the fact that his material existence is bound to the fourth dimension, giving him too little time. Where is the time to play rugby, drink, paint and write? Or even update his blog <http://bartlettsbizarrebazaar.blogspot.com>?

EDWARD BERRIDGE writer



Writer of the infamous Pony School and one of the many co-editors of FutureQuake, Lance Corporal **EDWARD J BERRIDGE** (VC and Bar) died in the War for the likes of you. Flowers, cards and erotic pictograms to www.futurequake.co.uk

GARY WILKINSON writer



GARY WILKINSON aims to become rich via writing, art or antiques dealing ...

www.quirkaflieg.freererve.co.uk

CAV SCOTT writer



CAV SCOTT has written for Doctor Who, Judge Dredd and Muffin the Mule. It takes all sorts.

BRYAN COYLE artist



With crimes against humanity including Pony School, Futurequake and Mangaquake, **BRYAN COYLE** was last seen in the vicinity of the Soho massacre. Today, still wanted by the government, he survives as a soldier of fortune.

JAMIE CAMPBELL artist



JAMIE CAMPBELL Jamie is a 22 year old artist living in Southern Ontario who has comics of her own developing as you read this. Her work can be found at jamie.uniformgrey.net

THE EMPEROR writer



When not ruling the known Universe **THE EMPEROR** is a Thanatologist without Portfolio and Mirade Hunter. A trained geologist and archaeologist, he occasionally writes, takes pictures and designs websites.

TIM PERKINS artist



TIM PERKINS has worked for most of the major players in the comics world. He has also worked in Children's Books, Animation & Graphics as both artist and writer. He teaches a course on Fantasy Art at Blackburn College of Art & Design and is writing and illustrating a graphic novel series, called World's End.

PETER NAGLE artist



PETER NAGLE is in his bunker with 10,000 rounds, and he ain't coming out, y'hear?

PAUL CARTER artist



Living in the deep south of England, **PAUL CARTER**'s been around a long time in a number of guises ... some day people will wise up. Art: www.getpaulcarter.com Music: www.soundclick.com/thebeatless

DAVE EVANS artist



BOLT-01 can be contacted on whistlerstip@gmail.com.

He is one of the editors of FQP and also produces the collection *Last Property*.

LYNDON WEBB artist



LYNDON WEBB - Professional Illustrator with a wife and two cats to support. Willing to give Tharg a blow job for a spot in 2000ad. Old.

www.freeantz.com

BARRY RENSHAW artist



Writer, artist, editor and Liverpoolian **BARRY RENSHAW** is behind ENGINE COMICS line of publications and a founder of the ACCENT UK collective, makers of among other things, REDEYE MAGAZINE, a quarterly for the UK comics scene.

ROBERT TIMMINS artist



Identical twins, self-taught artists. We have only recently become involved in comic book art. Being previously into fine art (landscapes etc) and fantasy art. Apart for art our main interest is Karate. We live Birmingham.

MARTIN TIMMINS artist



Identical twins, self-taught artists. We have only recently become involved in comic book art. Being previously into fine art (landscapes etc) and fantasy art. Apart for art our main interest is Karate. We live Birmingham.

JOHNNY McMONAGLE artist



JOHNNY MCMONAGLE is a freelance illustrator and rock phenomenon.

FRAZER IRVING artist



FRAZER IRVING is an Award-winning Essex boy and proud of it. He has worked as an artist (mainly in comics) for the past five or so years, doing stuff for DC, Marvel, 2000AD, Dark Horse and others. He specialises in horror, but also does quasi-erotic pix and a bit of sci-fi if the fee is there. He also has a habit of agreeing to do work for free for those he deems so pathetic they merit some sort of pity. He plays bass in a band in & around London and likes cute women.

JOHN REPPION AND LEAH MOORE

The editor freely admits that he lost the biographies and photos of **JOHN REPPION** and **LEAH MOORE** that they wanted using. He fears for his life ... and that of his unborn child ...

VALERIE BUNDY artist



VALERIE BUNDY is a professional actress living in Manchester who draws freelance with her very own hands.

DAVID ELIOT writer



DAVID ELIOT is eternally grateful for the invention of keyboard typing as he writes like a butterfly and sings like a bee.

He has been banned from 57 Karaoke bars.

LIZ MARSH writer



A beautiful, intelligent and above all, forgiving, woman, **LIZ MARSH** is the epitome of sophistication and wit. An RE teacher in Leeds, allegations that she just happens to be sleeping with the editor are untrue and libellous ...

MICHAEL MOLCHER editor



MICHAEL MOLCHER is the editor and designer of *The End is Nigh*. Now that every issue is accompanied by a state of near total immunity collapse, he's thinking that perhaps it's time for a break. He's a journalist turned press officer who now spookily works exactly 150 yards from where he was born. He very, very tall, y'know ...

JAMES FLETCHER artist



While visiting his local newsagents, a young **JAMES FLETCHER** James Fletcher picked up a comic-book accidentally exposed to RADIOACTIVE INK. Through a miracle of SCIENCE, James found he had GAINED artistic prowess ... and had, in effect, become a comic-book artist.

J EDWARD TREMLETT writer



Warmonger **J EDWARD TREMLETT** relocated to Michigan from Dubai, has written for Pyramid Magazine and Nocturne & is the Wraith Project's webmaster: www.cattail.nu/wraithproject

MARK WOODLAND writer



MARK (WoD) WOODLAND: Husband to Sara, dad to James, no longer does this stuff in works time (honest!) Also tends to be Writer and Communications Editor for FutureQuake www.futurequake.co.uk

MYRON LAUZON writer



"...I'll Still be Rockin' when the Walls Come Tumblin' Down!" - **MYRON LAUZON**: artist, writer, musician in Upstate New York.

LAWRENCE BAILEY artist



When not stealing images from the web **LAWRENCE BAILEY** would like to give classes in how not to be seen.

IN THE NEXT ISSUE OF THE END IS NIGH ...

CHICKEN LICKIN WASN'T KIDDING ...

**KEEP WATCHING
THE SKIES!**

**ASTERIODS, BLACK HOLES, ALIEN INVASIONS, SOLAR FLARES
PLANETARY DEVIATION, GALACTIC COLLISIONS, SUPERNOVA**