

The risk of nuclear war is growing. This opinion is shared by people of many different beliefs and outlooks. The Government has told local authorities to step up their civil defence planning, provide control centres and take part in civil defence exercises. The Government says these preparations will help us survive a nuclear attack.

Some groups say that Government plans are not enough, that we need to spend more money to build deep shelters.

Other groups believe that these civil defence preparations are ineffective and

agree with Lord Zuckerman, formerly Chief Scientific Adviser to the Ministry of Defence: "As the British Government's White Paper on Defence put it as long ago as 1957, there are no means of protecting the population against the consequences of nuclear attack. There are none today, when the scale of attack that could be envisaged is at least a hundred times greater than it was 20 years ago."

Camden Council is publishing this booklet to provide some basic facts about the effects of nuclear war and to encourage discussion of the issues.

TARGET BRITAIN

The map of Britain is dotted with targets which an enemy nation would want to knock out in the first hours of a war. They are everywhere from Cornwall to the Scottish Highlands. The Government says that an enemy's first aim would probably be "to destroy or diminish NATO's capability to wage both conventional and nuclear war". So military targets would be top priority but it also says, "there are very many places in the country that would have some military significance". These are some places which make us a target:

- Over 100 US military bases and facilities in Britain, with some in central London. These sites include bases for nuclear weapons such as Cruise missiles.
- Key UK and NATO
 military command centres in and near London, including
 UK Polaris Control.
 Other sites such as the centres of government, industry and

THE BIG BANG

The explosive power of a bomb is measured as the equivalent of tons of TNT.

A kiloton equals a thousand tons of TNT. The atomic bomb dropped on Hiroshima in 1945 carried 20 kilotons. It destroyed almost every building and caused the deaths of 350,000 people.

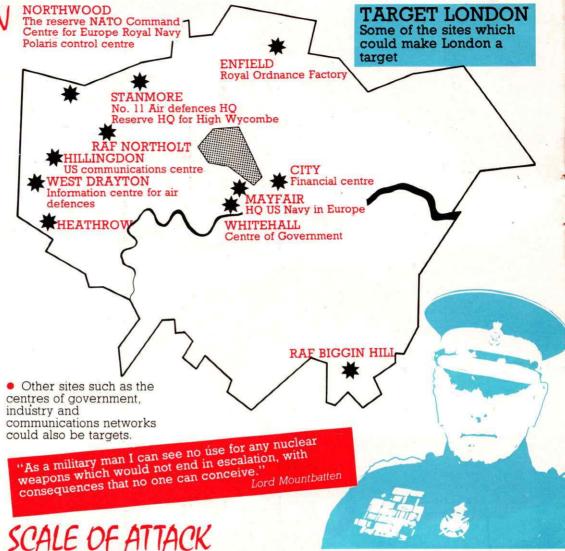
A megaton equals a million tons of TNT. Bombs with a power of 50 megatons have been made and tested although such colossal bombs might not be used in war.

Government sources suggest that a bomb on a city like London could be five-megatons, the equivalent of 500 heavy air raids on London in World War II.

Government and independent estimates agree that several hundred warheads could be used on Britain, totalling 200 or more megatons.

"No other country in the world has so many people and so many potential targets concentrated in so small a land area"

British Medical Association (BMA) report



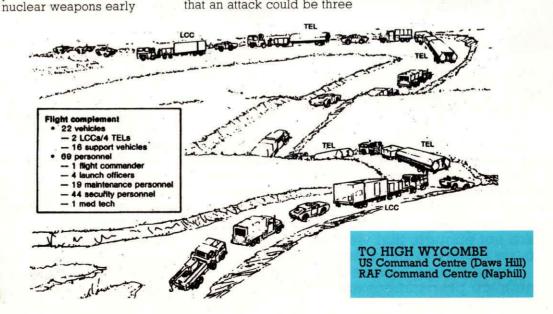
The Government says that conventional bombing of military targets is more likely than an initial nuclear attack. It does not expect "blitz" type raids on cities. Once a war has started, each side would be under pressure to use their

before they could be destroyed — the use them or lose them dilemma. Even if just one small battlefield nuclear weapon was used the dangers of escalation would be enormous.

Strategists have suggested that an attack could be three

or four times as large now that Cruise missiles have been brought here.

"More than 1,000 megatons would be needed to destroy the ground-launched Cruise missiles once they were dispersed". Geoffrey Pattie, Airforce Minister, 1981.



The Government says that the risk of war is low while we maintain the "nuclear deterrent". However, there is always a risk of nuclear attack and therefore it is prudent to make plans for the continuation of Government and to issue quidance to the public on simple measures which can help protect them. It advises the public to stay at home because "no place in the UK is safer than anywhere else

Since 1980 the Government has placed more emphasis on civil defence. It has issued Protect and Survive and other booklets and told local councils, the fire service and health service to step up their involvement in civil defence. Originally the overwhelming emphasis was placed on dealing with the effects of nuclear war. The Government maintains that many millions could survive in any nuclear attack. Recently, it has begun to stress conventional attack or the possibility of single 'demonstration' attacks.

Current civil defence costs £69.4 million (£1.23 per person, per year). The Government says the enormous cost of a public shelter programme (£60-80,000 million at 1980 prices) would not be

justified.

GROUPS SUPPORTING MORE CIVIL DEFENCE

Organisations such as the Nuclear Protection Advisory Group (NuPAG) and the National Council for Civil Defence strongly believe in the need for civil defence and say that the Government plans are not enough. They support the establishment of a public shelter programme on the lines of those in Switzerland or Sweden. Some groups stress that city residents would be safer moving out to the country at a time of tension. Publications offer advice on different types of private shelters, essential supplies to store and survival techniques for the post-attack period.



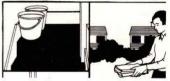
nutes, go immediately to the nearest building. If th Iding nearby and you cannot reach one within a c nutes, use any kind of cover, or lie flat (in a di er the exposed skin of the head and hands.



25. Have you replenished your water supplies 26. Have you taped up the handle, or removed the chain from the lavatory?

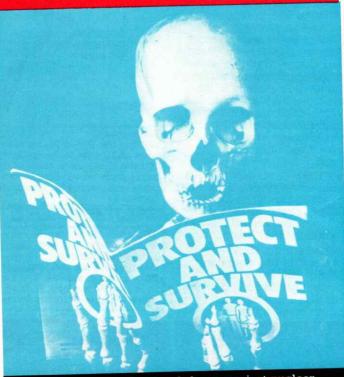
27. Have you turned off the water supply at the mains?

28. Have you checked your survival kit?



decision to go to war will be made when "leaders feel the objectives they are seeking are important enough to over-ride the inevitability of a punishing response (Civil defence) could stiffen the resolve of leaders to meet the challenge

Civil Defence Committee



There can be no effective defence against nuclear attack whilst this country retains nuclear weapons bases and is a prime nuclear target . . . It is pointless to attempt to plan for survival from nuclear holocaust. Indeed to do so would only serve to increase the risk of nuclear war by giving credibility to the myth that it is possible to survive. possible to survive . . .

Camden Council 9 May 1984

OPPOSITION GOVERNMENT CIVIL DEFENCE PLANNING

Nuclear-free zone councils. medical groups, scientific groups and the wider peace movement argue that:

- medical and scientific studies show that there can be no effective civil defence against nuclear attack;
- preparations are a waste of resources and can only serve to mislead people about their chances of survival:
- Switzerland and Sweden can attempt to provide civil defence because, as neutral non-nuclear states, they would not be the target for direct attack;
- Government plans use civil defence to bolster nuclear strategy and make the threat to use nuclear weapons more "credible".

North End and Cricklewood Broadway People outside receive severe burns. Trees are blown down. Doors and windows of houses are blown in, inner partitions cracked, and roofs damaged.

Hospitals Principle Council

Wartime Centres Fire Stations

ZONE D 25% injured by blast with many others suffering from extensive burns.

ZONE C

5% die from

injured, most from flying glass. Other

suffer terrible

blast, 45%

Hampstead People in the open receive very severe burns. Grass and shrubs on Hampstead Heath catch fire.

> Kentish Town and Gospel Oak Houses are damaged beyond repair. Painted surfaces explode. Clothes and upholstery burst into flames.

Let's imagine that an attack comes in early morning when most people are still at home.

6.44am Missiles appear on the screens of Fylingdales early warning station in Yorkshire. Sirens sound in London. We have six minutes left.

• 6.50am A one megaton bomb explodes on Whitehall. There is an intense flash of light strong enough to blind people looking in that direction.

It's the end of central London in less than a minute. Within three seconds, a fireball hotter than the surface of the sun grows to over a mile wide sucking up soil and debris, consuming or vaporising trees, panes of glass, and human bodies. An intense heat flash scorches and burns people over a wide area. Within twelve seconds, a blast wave faster than the speed of sound smashes tower blocks to the ground. Winds up to 200mph toss cars around like toys.

raging. •7.10am Gradually the Birmingham or Bristol

These are the stark effects of a single one-megaton bomb. The Government estimates that for a city like London a five-megaton bomb is more likely.

Camden Town and Somerstown Trees in Regents Park burst into flames. Gas mains are cracked open. Brick houses are destroyed and furniture inside ignites. People in the open are picked up by the blast and blown long distances. Many buildings are on fire.

6.51 am The blast wave has smashed roofs, shattered windows and torn off doors, demolishing houses in Somers Town and severely damaging houses in Kilburn and Gospel Oak.

• 7.00am A mushroom cloud 12 miles high looms over central London. In Whitehall there is a vast crater, large enough to hold ten Wemblev Stadiums. All over London fires are

radioactive debris of London descends to the ground as fallout. Eventually it could fall in places as far away as

Whitehall People are vapourised, the Houses of Parliament destroyed. Cars and lorries are blown long distances. The lakes in St James Park boil. A deep crater 1/4 miles across is formed

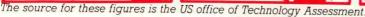
A fire zone could stretch as far as Greenwich, Crystal Palace and Chiswick, just from the effects of this single bomb.











depend on many variable factors. burns, many blast dying from shock. casualties from Only ca ZONE B 50% die and

45% are

injured from

blast alone.

shown here as casualties from

are:

Bloomsbury Outside the British Museum car tyres and petrol tanks ignite and the sheet metal sides of the buses melt. Tower blocks and other multi-storey buildings are

ZONE A

the blast

98% die from

HAMPSTEAD LANE

ON THE 'FRINGES'?

What if Central London was not directly hit? What would happen if Camden was on the fringes of an attack? To answer these questions we can look at the scenario used in the Government exercise Operation Square Leg in 1980. Inner London was not hit directly but bombs fell on Heathrow, Brentford, Ongar, Potters Bar and Croydon. The likely effects of this attack have been published in the London After the Bomb study.

The Potters Bar attack devastates a wide area. Camden is on the fringes. Only 3% of Camden residents are killed by the effects of blast but 39% are injured — mainly by flying glass. Houses are damaged, windows and doors blown in, reducing their protection

value against radioactive fallout. The blast wave which sweeps through Camden is strong enough to cause *Protect and Survive*-style shelters to, collapse. There could also be widespread fires.

Within half an hour of Croydon's destruction, fallout begins to rain on Camden. Radioactive dust blows into homes through broken windows, roofs, doors and cracked walls. Most people receive a lethal dose of radiation within days, although they may not die for weeks or months later.

Two months after the attack the blast and fallout alone would have left between 97% and 100% of Camden people dead or dying.

Source: London After the Bomb "Ask yourself what help could the Fire Brigade give to any survivors of a nuclear attack? Massive fires would be raging out of control through Camden. Most fire engines would be knocked out and their crews dead or dying. Civil defence? The whole thing's just a cruel hoax."

Geoff Lee, fire-fighter at West Hampstead Station



Time and materials will be very short for building a Protect and Survive-style shelter. Even then many parts of the country would suffer blast pressures high enough to destroy such shelters. Windows, roofs and doors of houses would be damaged, reducing the protection against fallout. People sheltering in the centre of a house could be buried if the building collapsed.

Some commercial private shelters offer a degree of protection from blast and heat as well as fallout but the British Medical Association Inquiry found no design which would cope with the "dangerous combustion products" of fires outside the shelter.

Deep public shelters would be very costly. They might be effective in reducing casualities in the short-term if there was enough warning for the public to reach them. In London tube lines could be tried but there would be a high risk of suffocation as fires raged overhead. Nor would there be a filter system to deal with radioactive fall-out, and would there be time to stock up with focd? Shelter conditions would be like to cause psychological as well as physical stress. When the occupants emerged into the outside world they would face overwhelming problems.

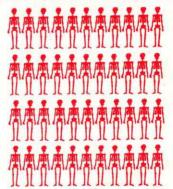
Evacuation

Panic-stricken people caught on crowded and blocked roads would be even more vulnerable to an attack. And where to go?

Evacuation could suggest to an enemy that this country was making preparations to launch a nuclear strike. This might encourage it to launch its own attack first. Even if evacuees survive in the short-term, they would face severe long-term problems.

PREDICTED CASUALTIES FROM AN ATTACK ON BRITAIN OF 222 MEGATONS

From Scientists Against Nuclear Arms Statistics Operation Hard Luck



Dead or Seriously injured

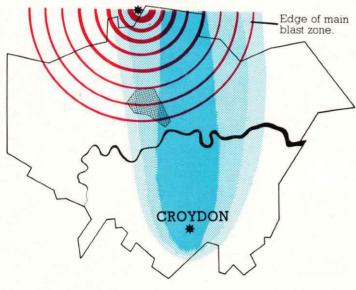
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Survivors
* Each figure represents one
million people

Nuclear language has an even grimmer word than 'megaton' — megadeath, the death of a million people. A recent report from Newcastle University estimates that 44 million out of Britain's population of 55 million would be killed or injured by the 219-megaton attack.

That estimate only includes those who would be dead or dying within the first two weeks after attack.

POTTERS BAR



5,000 rads

2,500 rads

1,200 rads

RADIATION

Contours show the radiation dose (rads) accumulated over 2 weeks by an unprotected person.

"Millions of Londoners, who sheltered and followed Government advice... receive a lethal dose more slowly than those who took no precautions at all. In this case taking Government advice would be worse taking none at all because one would simply be delaying the inevitable for a few miserable weeks."

London After the Bomb



LONG-TERM EFFECTS

Suppose that somehow or other you did survive the immediate effects of a nuclear attack and could shelter for a few weeks from fallout — what sort of world would you face afterwards?

The services we rely on lighting, piped water and sewerage, telephones, gas and electricity, rubbish collection and transport — would have broken down. There would be social disorder as people searched for their families, looted for food, medicine and drugs and discovered that their money had no value.

WATER: This would be a priority. People affected by radiation sickness need double the normal amount. The water supply depends on regular maintenance and is likely to stop. Water which was available might be contaminated by bacteria or water-soluble radioactive elements.

FOOD: Even if there was time before the attack shops and warehouses might have been emptied by panic-buying. Stocks in cold-stores would rot when the power failed. Normal distribution would stop. Regional Government would control some stocks of food. Some food could be salvaged although much could be contaminated.

In the long-term, imports and British agriculture would be the only sources of food. Farm animals and crops would have been destroyed in the attack and land contaminated by fallout. Farming would lose skilled workers, fertilisers and fuel for farm machinery.

"It is inaccurate and misleading to suggest that after a nuclear attack on the United Kingdom there would be a return to a rural civilisation of two centuries ago The UK no longer possesses the skills or primitive technologies which allowed our predecessors an existence with some measure of comfort."

SHELTER: Many homes would have been damaged beyond repair. Building materials and fuel would be scarce. For survivors weakened by famine or disease, lack of warmth and shelter could kill.

HEALTH: Radiation reduces our bodies' ability to fight disease. Children are especially vulnerable Insects and rats, which spread disease, are not so badly affected by radiation and could flourish in the unhygenic conditions after attack. Epidemics of half-forgotten diseases would be inevitable. Medical services would soon break down from shortages of staff and medicines. The few doctors and nurses who survived uninjured could only treat a fraction of those needing help and they would face terrible moral dilemmas.

RADIATION DOSE — SHORT EXPOSURE TO WHOLE BODY

Effect on young fit adult. Injured people would be much more susceptible — also elderly people and children.

SYMPTOMS

SURVIVAL IMPOSSIBLE Central Nervous System affected. Lethargy, unsteadiness, convulsions, coma, and death within days.

SURVIVAL IMPROBABLE

Gut affected
Day 1: Generally unwell,
nauseau and vomiting.
Weeks 1-2: Fever, profuse
bloody diarrhoea.
Weeks 3: If still alive, bone
marrow affected.
50% mortality for young
fit adults.

SURVIVAL PROBABLE Bone

marrow affected:
Days 1-2: Generally unwell,
nausea and vomiting.
Weeks 2-3: Fever, skin
haemorrhages, mouth ulcers,
loss of hair with more than 300
rads.

Day 30: Maximum bone marrow suppression, lowered resistance to disease.

SURVIVAL CERTAIN

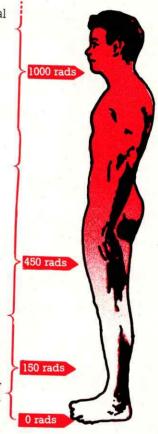
Either no symptoms or generally unwell and nausea. Fall in blood lymphocyte count.

From "The Nuclear Casebook" by Members of the Medical Campaign Against Nuclear Weapons

"After a nuclear attack
the psychological
problems of a bombed
population may create as
many problems as the
physical injuries."
British Medical Journal 1981

Exposure to radiation would also lead to an increase in the number of cancers, especially leukaemia. Genetic mutations may also increase.

Perhaps those who die in the first minute would be the lucky ones after all.





"The inescapable fact is that in the context of a nuclear attack, the skills and training of any surviving nurse would be rendered virtually irrelevant. In the absence of fundamental essentials, such as a radiologically clean environment, uncontaminated water supplies, energy, public utilities, basic drugs, dressings and equipment, nursing as it is generally understood would be impracticable."

Royal College of Nursing Report.

THE NUCLEAR WINTER AND THE NUCLEAR SUMMER

The cold & the dark

Any survivors of a nuclear war between the superpowers would face many terrible long term problems. Now, recent studies suggest that they might also face months of darkness and deep cold even after a "limited" nuclear war. Daylight could turn to deepest night and summer to "nuclear winter"

This devastation could be caused by the huge amount of soot, smoke and poisonous fumes rising from burning cities, forests and oilfields.

The resulting black cloud would absorb almost all of the sunlight before it could reach the earth's surface.

Ten days after an attack, any survivors could find that the midday sun was no brighter than moonlight.

Scientists predict that beneath this cloud of darkness temperatures could plummet. In some areas it could be colder than the Arctic. The temperature in this country could drop by 10°C to 15°C or less. Imagine Camden as a desolate wintery wasteland for month after month. The temperature would begin to rise as the dust and smoke began to clear but it might take a year to return to normal.

The effect on plants, including food crops, could be drastic. At reduced light level plant growth is cut and plants begin to die. Normally plants have months or weeks to harden before winter but sudden. cold is more serious - as even an overnight frost can show. Animals too, need time to prepare for winter — to hibernate, store food and so on — many would be killed by the sudden onset of cold; others would search for the sparse plantlife that remained, adding overgrazing to the threats to plantlife

The scorching sun

A nuclear war could disrupt he complex chemical reactions that maintain the ozone layer in the atmosphere. This normally protects us from dangerous levels of ultraviolet radiation in sunlight. The ultraviolet radiation that does reach the earth's surface is the reason why people tan or get sunburnt.

As the dust and smoke in the atmosphere gradually cleared and the nuclear winter receded, the effects of the damage to the ozone layer would become clear.

Increased ultraviolet light would scorch plants and animals. Photosynthesis, the way in which plants produce their energy, would be cut back. Animals, including humans, could suffer from severe sunburn to their skin and eyes, causing cataracts and skin cancers. Hampstead Heath could become an arid desert.

Nature's web

Nature is a delicate web. The effects of a nuclear winter, followed by a nuclear summer would break that web. Plankton, for example, the basis of the sea foodchain are especially sensitive to ultraviolet light. If damaged the results would cascade through the foodchains, affecting all forms of marine life. Studies suggest that the effects of nuclear winter could spread to the tropics, to areas which had not been directly involved in the nuclear war. If this happened the sensitive tropical rainforests could largely disappear and with them the majority of plant and animal species on the earth.

"There is no hole big enough to hide all of nature in". Schell. The Fate of the Earth

The predictions of a nuclear winter are controversial. By their very nature the effects cannot be "proved" except by the catastrophe itself. The original studies were checked and refined by 100 eminent scientists from different countries. Since then the US National Academy of Sciences and the Soviet Academy of Sciences have arrived at similar results. The US Government has recently agreed to spend \$40 million

on further studies.

The risk, no matter how small, that nuclear exchange could destroy not only Europe, or the superpowers, but most living things on this planet, should mean that the use of nuclear weapons — either first, or in retaliation — becomes absolutely unthinkable. Unfortunately some world leaders do not appear to agree. World nuclear arsenals stand at 15,000 mogrators. As little as



IT MAY NEVER HAPPEN?

Thankfully, nuclear war is not inevitable. But the very existence of nuclear weapons creates new dangers. The spark for a nuclear holocaust could come from many sources.

Political miscalculation. In 1962 the Soviet Union and the USA brought the world to the brink of nuclear war during the Cuba Missile crisis. In 1982 Britain sent a Polaris submarine to the South Atlantic during its conflict with a non-nuclear adversary, Argentina.

Accident. In June 1980, USA military computers registered an incoming nuclear attack. Nuclear bomber crews were in their planes, engines running and missile bases alerted before the controllers judged it was a computer fault. A tiny silicon chip had

malfunctioned. There have been at least 40 potentially serious accidents involving US nuclear weapons since

1951. The Russians haven't said how many they've had. Human failure. Unpredictable human errors account for 50 to 70 per cent of all failures of major weapons. Over 9000 US military personnel were removed from jobs with access to part of the nuclear weapons programme between 1975

and 1977 because of drug

"Fellow Americans, I am pleased to tell you I have signed legislation to outlaw Russia forever We begin bombing in five minutes".

Ve minutes . Ronald Reagan, President of the USA, in a "joke" test broadcast, August 1984.

abuse, alcohol abuse or prejudicial mental, physical or behavioural traits.

Proliferation. As the numbers of nuclear weapons' stocks increase, there is a growing risk that nuclear weapons could be used in a regional conflict.

First strike technology. By the 1990s the USA is likely to have weapons which are fast and accurate enough for them to possibly attempt a nuclear first strike to wipe out Soviet nuclear forces. The Sovient Union should develop a similar capability not long after. It will become tempting for one of the superpowers to strike first, relying on missile defences and civil defence to cut down casualties resulting from missiles launched in response

No time to think. In the past, Governments had a little time to think things over before acting. Now, there could only be minutes for a decision

WHAT CAN WE DO?

Everyone agrees that the consequences of a nuclear attack would be horrible. Prevention is the only real cure. The question is, how do we prevent it? At the moment many of us do nothing. We are busy with our own worries and can only hope the holocaust never happens - the problem seems too large to solve by ourselves. But acting together we can make it possible for future generations to live.

FOR MORE INFORMATION

- About Council policy and Camden groups contact the Nuclear Free Zone Co-ordinator, Chief Executive's Department, Town Hall, Euston Road London NW1.
- About organisations active in the civil defence debate contact: Campaign for Nuclear Disarmament, 11 Goodwin Street, London N4 3HQ; Home Office, Queen Anne's Gate, London SW1H 9AT Medical Campaign Against Nuclear Weapons, 7 Tenisor Rd, Cambridge CB1 2DO National Council for Civil Defence, Cayzer House, 2 S Mary Ave, London E3 8BP Nuclear Protection Advisory Group, Rock Street Wellingborough, Northants NN8 4LW Scientists Against Nuclear Arms, 112 Newport Rd, New Bradwell, Milton Keynes, MK13 0AA

· Further reading on the

issues: The Cruellest Confidence Trick - Bolsover (CND) Domestic Nuclear Shelters (HMSO Doomsday - Openshow The Effects of Nuclear War US Office of Technology Assessment (Croom Helm) London After the Bomb (Oxford University Press); The Medical Effects of Nuclear War — Report of the British Medical Association's Board of Science and Education (publisher John Wiley); Protect and Survive (HMSO); Report of the Royal College of Nursing; Nuclear War The facts - Goodwin (Papermac); The Survival Option yrrell (Jonathan Cape); War Plan UK — Campbell

CAN CAMDEN SURVIVE A NUCLEAR WAR? WHAT DO YOU THINK?

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Editing, graphics and design: Camden Public Relations.



"Peace is not to be had by merely desiring it. Too many obstacles stand in the way. But if all nations and peoples will...work steadily and with all their might... peace is by no means beyond our reach... Peace will not be granted by someone else; we must secure it with our own hands." with our own hands. Statement by the Mayors of Hiroshima and Nagasaki