

"If one contrasts the movement for peace of 20 years ago and today, there is one very important gain — today's movement is really doing its research very thoroughly and the level of analysis and information is very much higher than 20 years ago.

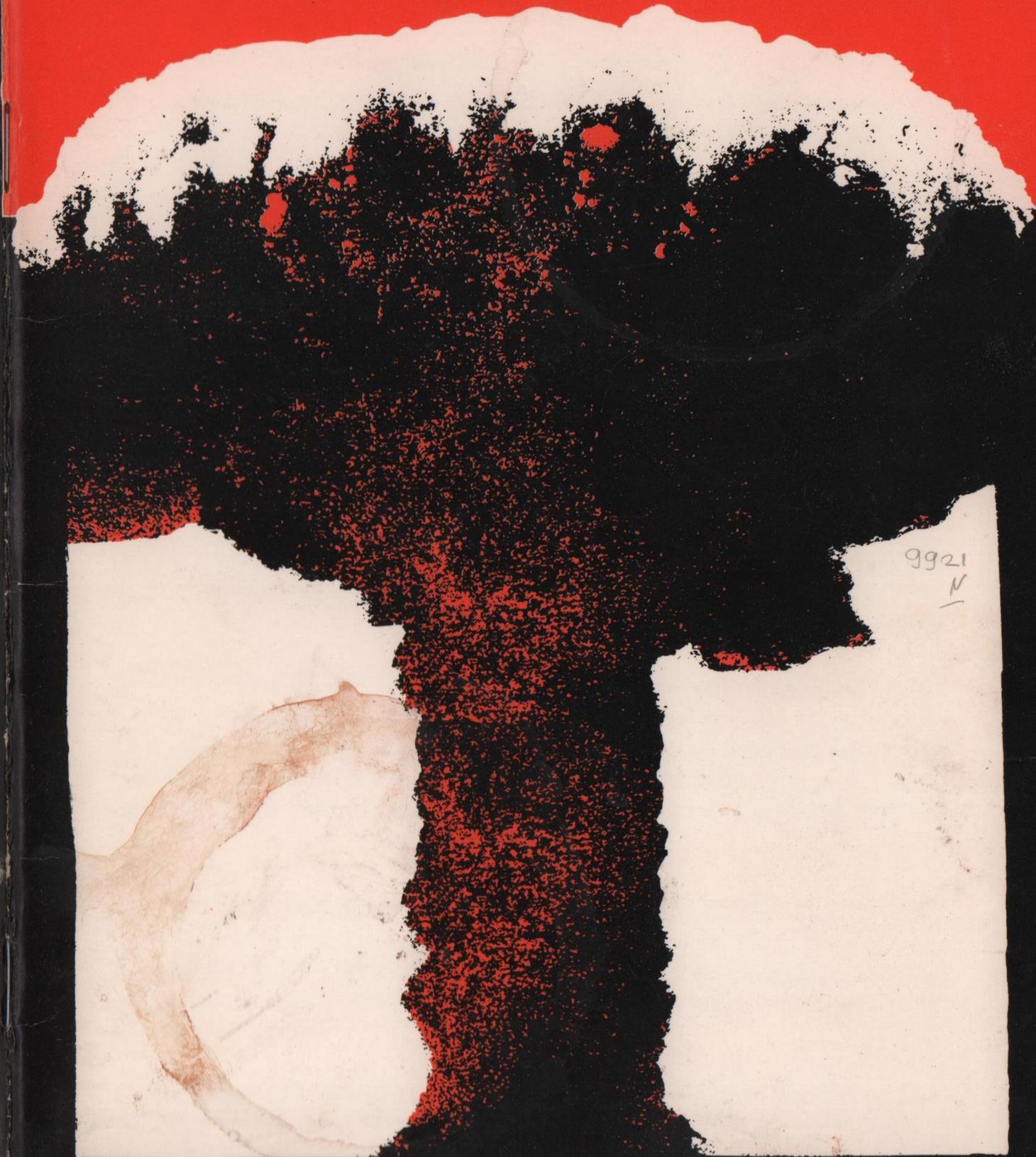
Facts Against the Bomb is an excellent example of this kind of solid and analytical work."

E.P. Thompson

Price: 75p



**HAVE YOU EVER WISHED
YOU WERE BETTER INFORMED?**



FACTS AGAINST THE BOMB

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Our thanks to the authors of *The Dark Side of Paradise — Hawaii in a Nuclear World* for use of their illustrations.

Introduction

THE BOMB is aimed at YOU!

FIRST and foremost, we have produced *Facts Against the Bomb* for ordinary people who want to know more about the most urgent issue of our times.

We have tried to use understandable language throughout, although some technical terms are unavoidable, and these we have put into an index to enable you readily to find out what they mean.

Facts Against the Bomb is divided into sections, each of which can be read and digested separately. (For this reason, there is some repetition between them.)

SECONDLY, we hope that people already familiar with some of the facts will find it helpful to have them brought together in this pamphlet. Our aim has been to make a large amount of material accessible in a concise form.

THIRDLY, we have produced this as an aid to campaigners in the tasks of preparing talks and leaflets.

FOURTHLY, we hope that *Facts Against the Bomb* will provide a much-needed resource for secondary schools, colleges and adult education.

Damned Lies and Statistics

We have found it difficult to obtain precise and reliable statistics on many aspects of nuclear weapons. We have tried to draw on reputable sources (see Further Reading), but these are not always compatible and there are some variations among the figures quoted in this Briefing.

Quart into a pint pot

This pamphlet tries to deal with many aspects of a difficult and complex issue, but there has not been space for all of them. If *Facts Against the Bomb* is successful, we may publish a second volume, including sections on the disarmament movement, campaign techniques and alternative defence strategies.

Facts Against the Bomb has been written by members of the Resources Group of Nottingham for Nuclear Disarmament (NND).

Nuclear Bombs and their Effects

There are two types of nuclear reaction during which large amounts of energy are released. The first of these is the FISSION process which involves the disintegration of a heavy atomic nucleus into smaller particles. The second reaction is the FUSION process in which lighter particles combine to form a heavier nucleus.

Fission

The main fuel for the fission process is either uranium or plutonium. Bombarding these atoms with neutrons will cause them to split giving out energy and more neutrons. A chain reaction can therefore be triggered which can be controlled (in a reactor) or uncontrolled (as in a bomb).

By-products of fission are radiation in the form of alpha particles, beta particles, gamma rays and neutrons which are all dangerous to life. Also many of the smaller atoms formed from fission are themselves radioactive and dangerous in some cases for as long as several thousand years.

Enrichment, Reprocessing and Breeding

There are two types (isotopes) of naturally occurring uranium — U235 and U238. It is the U235 which occurs in very small quantities (0.7%) of mined uranium which is the fissionable material. A uranium enrichment plant, such as Capenhurst in Cheshire, is needed to make bomb-grade uranium.

Plutonium does not occur naturally, but is made in a reactor in the process of “burning” uranium and is separated out in a reprocessing plant such as Windscale in Cumbria. Future Fast-Breeder Reactors will convert the non-fissionable U238 into the fissionable plutonium thus making full use of all natural uranium.

Fission (“Atomic”) Bombs and Fusion (“Hydrogen”) Bombs

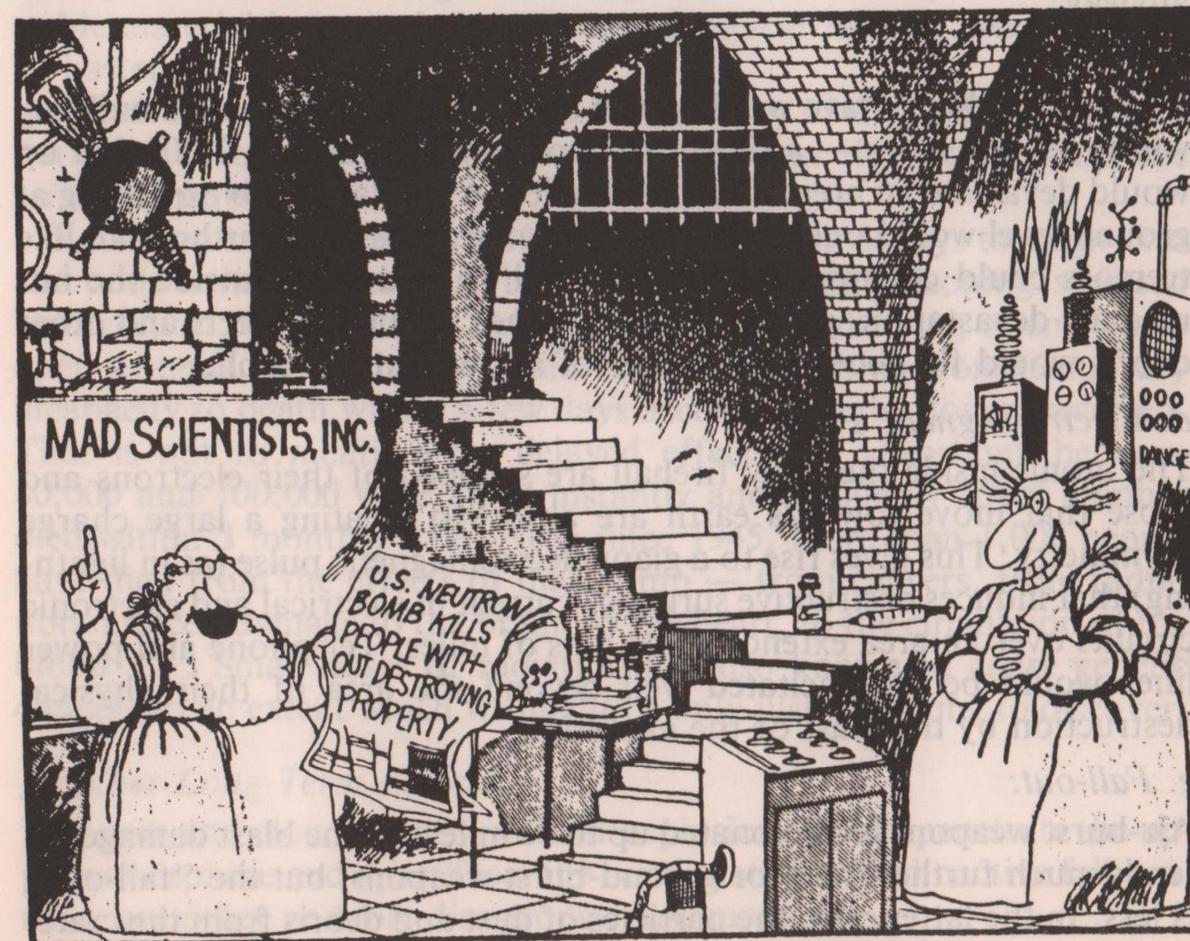
The first nuclear bombs exploded over Hiroshima and Nagasaki in 1945 were fission, or “Atomic” bombs. The Hiroshima bomb used uranium and the Nagasaki bomb plutonium.

Since then, weapons technology has ‘advanced’ and we now have the “Hydrogen” bomb, which uses FUSION and is much more powerful.

During fusion, hydrogen atoms are slammed together to form larger atoms and enormous amounts of energy are again released. It is ironic that, by this same process, the sun produces the heat and light that enables the earth to support life.

In order to trigger the H-bomb fusion process, a temperature of more than one million degrees Centigrade must be provided. This is done by exploding an atom bomb. The result of this technology is the fission-fusion-fission bomb, in which a core of uranium 235 explodes causing a surrounding shell of hydrogen to fuse. The immense amount of heat given off causes a third, outer coat of natural uranium also to explode. Being unenriched, this outer layer is relatively cheap and, as one US politician put it, “You get more bangs per buck”.

The power of the Hiroshima bomb was equivalent to 12½ thousand tons of TNT. Many of the USA’s and USSR’s weapons are now equivalent to at least one million tons (a megaton). Some are as big as 50 million tons! A megaton of TNT would fill a goods train 200 miles long — and would release an explosive force more than 50 times that of Hiroshima!



Robert Gray-Smith in *The San Francisco Chronicle*.

“Now we can destroy the world without destroying the world!”

The Effects of Nuclear Bombs

a. Thermal Radiation:

The heat flash from the white hot fireball lasts for up to 20 seconds, burning people caught in the open many miles away. People in Nottingham looking at the fireball of a 15 megaton bomb on London would be blinded. All flammable materials within a certain area would ignite. Each one megaton burst could ignite fires as much as 10 miles away.

Fires would burn out of control and a firestorm like the one which raged in Hiroshima for 6 hours, or that which killed 100,000 people in Dresden in 1945 could burn for days. Firestorms are caused by very high temperatures which cause the air to rise making cooler air rush in at great speed from the sides. This inrush of air fans the flames like a bellows and the resulting fires exhaust the oxygen supply, suffocating people in bomb shelters, turning those shelters into ovens and killing everyone within reach of the flames.

b. Immediate Nuclear Radiation:

Lethal doses of gamma rays and neutrons are given out within a minute of detonation. Most of the people affected by the immediate radiation (as opposed to later "fall-out") would be killed by heat and blast anyway.

c. Blast:

A powerful shock wave would crush all but the most hardened building within several miles — a single megaton bomb exploding 3,000 feet up would devastate an area of radius 4 miles. A similar bomb exploding at ground level would open up a crater $\frac{1}{4}$ mile across and earthquake-like tremors could collapse buildings several miles away. Outside the immediate devastation, pieces of glass, stones, metallic objects and other debris would fly about with speeds of more than 100 mph.

d. Electromagnetic Pulse:

The atoms inside the early fireball are stripped of their electrons and those that move towards earth are absorbed creating a large charge asymmetry. This gives rise to a giant electromagnetic pulse (as in lightning) that induces destructive surges of current in electrical and electronic circuits over an area extending for tens of miles. Telephone and power lines would be incapacitated well beyond the area of their physical destruction by the blast of the explosion.

e. Fall-out:

Air-burst weapons are detonated up to $\frac{1}{2}$ mile up. The blast damage extends much further than for ground-burst weapons, but the "fall-out" is less. In the latter case, the particles of dust and debris from the crater — containing radioactive by-products of the explosion — would rise in-

to the air and slowly fall to earth. Wherever they touched down they would expose victims to dangerous and often lethal doses of radiation. It has been conservatively estimated that a one megaton ground-burst would produce lethal fallout over something like 1,000 square miles.

Where the fall-out would go would depend on the speed and direction of the wind. But even a 20 mph breeze would carry lethal fall-out hundreds of miles and make vast areas hazardously radio-active for weeks, months or even years. The radioactive fall-out resulting from a nuclear war in which several hundred megaton bombs have been dropped would cover the entire hemisphere in which the war took place with long term effects lasting several years.

It is important to note that the "counterforce" attacks envisaged in modern strategies of fighting nuclear war necessarily use ground-burst bombs, so there is no question of only damaging military targets, even if all these were well away from civilian populations, which of course they are not.

f. Radiation and the Body:

Radioactive decay is the process by which radioactive materials go through a series of changes emitting radiation as they do so until a stable material is formed. In the case of nuclear fall-out, decay cannot be hastened.

The dose received depends upon the intensity of the radioactivity, the duration of exposure, the distance away from the fall-out and the screening in between.

Radiation sickness is caused by the direct action of rays through skin and body tissue attacking red blood cells. Radiation poisoning is caused by ingestion of radioactive dust by breathing, swallowing or entry into open wounds. Both display similar symptoms varying from temporary incapacity to death within a few days according to the dosage received. That is not to mention the delayed effects: In Hiroshima between 80,000 and 100,000 were killed instantly and a roughly equal number died within 3 months. Every year since 1945, more than 1,000 people have died from the effects of that bomb — from cancers, from radiation induced damage to the brain, to the heart, to the circulation of the blood . . . Small doses of radiation are also known to cause genetic damage to an extent which we might be only just beginning to discover.

g. Other Long Term Effects:

The stem and cloud of most nuclear explosions would penetrate the upper atmosphere and apart from the continuation of radioactive fall-out, there are other possibly disastrous consequences:

i. Ozone in the upper atmosphere absorbs ultraviolet radiation which

would otherwise cause skin burns and blindness among the Earth's animals. Ozone is depleted by nitrogen oxides that are formed during a nuclear explosion and the use of many nuclear weapons could reduce its concentration to the point where it could not provide that protection. The ozone layer would take 25 years to reform during which time every creature living on land would probably die.

- ii. The projection of large amounts of dust into the upper atmosphere could absorb, reflect and scatter radiation arriving from the sun or reflected from the earth and lead to unpredictable changes of climate. Other side-effects such as the ignition of vast forest fires could exacerbate these effects.

The Neutron Bomb

The Neutron Bomb, or "Enhanced Radiation Weapon" is a refinement of the H-bomb which when exploded in the air would produce relatively more radiation and less blast and heat. Designed to kill 120 times the number of people for 1/4 the damage to property, yield for yield, it is meant to be a battlefield weapon which would knock out tank crews and halt the advance of a conventional army.

As such, it makes the use of nuclear weapons on the conventional battlefield much more tempting to military commanders and lowers the threshold at which a nuclear exchange might be initiated.

Nuclear Accidents

On 24th January 1961, a crashing B-52 bomber jettisoned two nuclear bombs over North Carolina. One bomb was jolted when its parachute cords caught in a tree, releasing 5 of its 6 interlocking safety switches. Only one switch prevented the explosion of a 24 megaton bomb — 1,800 times more powerful than the one dropped on Hiroshima.

This was perhaps the most spectacular and disturbing of a number of incidents which have come to light recently, but the Stockholm International Peace Research Institute have concluded from available evidence that there have been about 3 dozen major accidents involving the loss or destruction of nuclear weapons and well over 100 less serious ones.

The director of the Centre for Defence Information in Washington said in December 1980, "We can expect to have a nuclear accident of a very severe nature in the not-too-distant future".

The actual detonation of a nuclear bomb by accident is possible but not very likely. It is much more likely that an accident involving nuclear weapons could scatter radioactive debris over a large area. And with the advent of a computerised "launch on warning" system, even the remotest possibility of the interpretation of an accident as a nuclear attack becomes a frightening reality.

Britain and The Bomb

Within ten years, Britain may be bristling with more nuclear weapons than ever before. In a war, these weapons could kill tens of millions of children, women and men whose needs, hopes and fears are probably much the same as ours.

What we have now

POLARIS — Britain possesses 4 Polaris submarines, each with a fire-power greater than all the bombs dropped during World War II. The submarines were built in the 1960s and are assigned to NATO except "where supreme national interests are at stake". The warheads were 'improved' in the 1970s in a programme code-named "Chevaline" that was surreptitiously carried out under the Heath, Wilson and Callaghan governments, the cost of which was deliberately concealed (£1,000 million).

VULCAN — Vulcan bombers were replaced as Britain's main nuclear force by Polaris in the 1960s, but many are still in service. The major nuclear strike force is at Scampton in Lincolnshire. The RAF will soon be acquiring Tornado aircraft which will take over the Vulcans' role. Britain also possesses Buccaneer and Jaguar strike aircraft that can carry nuclear bombs.

Also, 2 British Army regiments in West Germany are equipped with nuclear missiles and artillery, and the British Navy has nuclear depth charges for use against submarines.

The US in Britain

In addition to our own nuclear weapons, there is a large American force based in Britain, including 14 nuclear submarines operating out of Holy Loch and several Air Force bases in East Anglia and Oxfordshire, where the number of nuclear bombers has been increased in recent years.

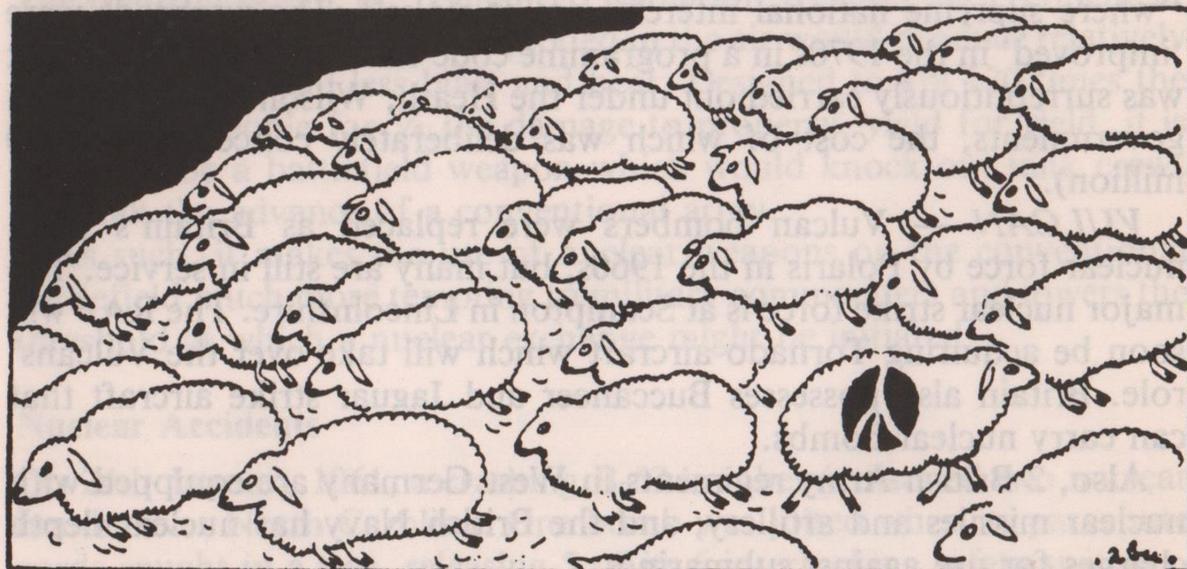
Britain's 'Independent Deterrent' and NATO

The British Government seems quite unconcerned about the morality of possessing and using nuclear weapons; rather, its concern is that Britain should have an 'independent nuclear deterrent' and play its full part in the NATO Alliance.

But why do we need an 'independent deterrent'?

The conventional view is that Britain needs nuclear weapons to deter

any threat by the Soviet Union. This, so it is claimed, could take the form of the threat of *invasion*. However, explanations as to how the Soviet Union would benefit from invading Britain are not entirely convincing. A threat directed solely at Britain, which her nuclear force might deter, seems credible only if Britain were to find herself unprotected by NATO, which itself seems likely only if American nuclear bases were to be removed from British soil. Yet the absence of US forces would make Britain a much less valuable target, having little strategic significance for the USSR. (By contrast, Britain is, at present, a forward base of great importance to the USA, as a gateway into the European theatre.) None of Britain's West European neighbours, with the exception of France, possesses an independent deterrent, and yet the Soviet Union has taken no steps to invade any of them.



An alternative version of the conventional argument for the British Bomb contends that Britain needs nuclear weapons to deter a *nuclear attack* against it. Again, it is difficult to see the point of a Soviet nuclear attack on a Britain freed of nuclear weapons and bases. Of course, it is always possible to imagine all kinds of situations in which one state or another might attack Britain at some time in the future. By recourse to scenarios of varying probability, strategists can find justification for the development and deployment of every weapon invented, or yet to be invented. But this style of thinking is dangerous; it makes devil's advocates of us all and permits our worst fears of the future to dictate our present policies, so making our most terrifying prophecies come true.

Many other countries could argue, like Britain, that it is in their individual interests to acquire nuclear weapons for deterrent purposes. As a consequence, the world would become an even more dangerous place. The shortsighted preoccupation with individual security could greatly increase the danger of collective suicide.

What use is Britain's Contribution to NATO?

In 1976, the USA had 8,530 strategic (long-range) nuclear warheads and Britain had 192. So, we contributed less than 3% to the total NATO strategic force. The USSR had 3,250 similar warheads.

The intention, voiced by successive British governments, that Britain's nuclear weapons are to be assigned to NATO but, in extreme circumstances, are to be used for (unspecified) national purposes, is full of inherent contradictions. NATO's interests and Britain's interests may well conflict in times of instability and tension such that, for example, NATO might urge Britain to use her nuclear weapons at an early stage whilst British preferences might be to exercise restraint.

The long-standing ambivalence of British strategists and politicians towards this question arises largely because Britain's role in matters of nuclear 'defence' is residual; what Britain can effectively do seems largely determined by the predispositions of the USA and USSR. Britain's continued possession of 'superpower' type weapons, far from increasing her freedom of action and her influence in international affairs, actually limits her self-determination in the military and foreign policy spheres.

What use is NATO's contribution to Britain?

The conventional view is that Britain's membership of NATO strengthens her security; that this security is increased by the presence of American nuclear weapons in Britain and that, in any case, it is our responsibility to act as host to weapons meant to protect the Alliance as a whole. But America's adoption of counterforce strategy and its deployment of weapons that could be used to fight a nuclear war in Europe (which policies seem to have the full support of the British government) throw doubt upon the validity of the conventional view. It is now possible to see Britain emerging as part of America's nuclear front line, defending US interests in a nuclear war, rather than enjoying protection under the NATO/US 'umbrella'. In wartime, millions of NATO troops and weapons would pass through Britain into the European battlefield. Even if British cities were devastated, Britain would still provide a useful 'aircraft carrier' for the USAF. American military independence is such that the USAF could actually initiate a nuclear war against the USSR from British soil, without the involvement of Parliament. Richard Nixon, when President of the United States, commented "I can go into my office and pick up the telephone, and in 25 minutes, 70 million people will be dead".

What we are going to get (unless we stop it)

TRIDENT — Trident submarines and missiles are planned to replace Polaris in the early 1990s, at a cost of at least £5,000,000,000. Trident can launch 3 times as many warheads as Polaris (perhaps more) against Soviet or other cities, and a British Trident fleet could kill 70 million people.

But Trident is a highly accurate missile, its warheads being guided to their targets by satellite. For the purposes of 'deterrence', such accuracy is quite unnecessary, since cities present very big targets. Rather, Trident's accuracy makes it suitable for destroying 'hardened' Soviet missile sites *before* their missiles have been launched. This is not a policy of deterrence, but one of counterforce. It could involve us in being the first side to use nuclear weapons (which is, in fact, a prospect that forms part of current NATO strategy). The US is deploying a vast range of highly accurate weapons that may give it the capability to strike first by 1990. The USSR may not reach this point until the year 2000.

CRUISE — Cruise missiles are small, pilotless planes which fly close to the ground, evading radar detection, and have great accuracy (when they work properly), striking within 100 feet of their targets after flights up to 1,500 miles. Cruise carries a warhead as powerful as 15 Hiroshima bombs. The Government has agreed to a NATO plan to deploy 160 Cruise missiles in Britain by 1983/84. They will be stationed at Greenham Common in Berkshire and at Molesworth, in Cambridgeshire. In times of international crisis, the missile launchers will be moved out of these bases and dispersed around the country within a radius of up to 100 miles. The accuracy of Cruise makes it ideal for destroying military targets; it is a weapon not for deterring a nuclear attack, but for actually fighting a war — in Europe.

Who decides?

Officially, "supreme responsibility for national defence rests with the Government as a whole, which is responsible to Parliament", but the government did not consult Parliament or its own MPs, or even the full Cabinet, on the decisions to buy Trident and accept Cruise. The decision to buy Trident was made by a select handful of ministers and presented to Parliament as a foregone conclusion. And the decision to base Cruise in Britain was taken by NATO heads in December 1979, and announced in Parliament the next day, also as a foregone conclusion. By cruel irony, the people who took these decisions are the ones most likely to survive a nuclear war, deep down in their shelters. Those of us who played no part in these decisions would die — in our millions. No doubt the same is true in the USSR.

NATO and NATO Strategy

The North Atlantic Treaty was signed on the 4th April 1949 by the following twelve states: Belgium, Canada, Denmark, France, Great Britain, Iceland, Italy, Luxemburg, the Netherlands, Norway, Portugal and the USA.

In 1952 the signatures of Greece and Turkey were added to the treaty and in 1955 that of West Germany. In 1966 France withdraw its military forces from NATO control, as did Greece in 1974.

NATO's Internal Politics

The history of NATO has not been without internal strife. The most dramatic example of this was the armed conflict between Greece and Turkey in 1974. The most common cause of conflict, however, has been fears about a lack of American commitment to the defence of Europe and American domination of NATO. (It is the latter which largely led to the French withdrawal.)

These concerns about the American role date from the inception of NATO. The European signatories to the treaty had wished it to guarantee that, in the event of an attack on any of the NATO member states, intervention by the American forces would be automatic. This was the first of many disputes within NATO that the Europeans were to lose. The all-important article 5 of the charter states that, when one of the member states is attacked, the other signatories "will assist the party or parties so attacked by taking forthwith, individually and in concert with the other parties, such action as it deems necessary, including the use of armed forces". Thus the North Atlantic Treaty does not guarantee were Western Europe or part of it attacked, that America would come to its aid.

The European worries about American commitment and domination are, of course, connected. Uncertainty about the USA's commitment to the defence of Europe has often made the European nations cautious about criticising or upsetting the Americans. This in turn increases the ability of the Americans to dominate the European allies. According to a German, Professor Benson, "The fact that America protects us costs us the price of obedience". This seems to be particularly true in the case of Britain and Germany. This is partly because Britain has attempted to keep its special relationship with America, while Germany has tried to develop one. Yet the history of America's foreign policy since the last war shows that it has more often been concerned with the wishes of those countries whose support it might lose, rather than those whose

support it is guaranteed.

Concern about the extent and nature of US commitment to the defence of Europe has often come to the fore in debates about the type of strategy NATO should adopt in relation to nuclear weapons. From the mid-fifties onwards, the Americans tended to argue for a reduction of their own troops and conventional weapons in Europe, and an increase in their European-based nuclear forces. A prime motive for this policy has been cutting the cost to America of its defence commitments and placing more of the cost of the defence of Europe on the Europeans. Such strategies have been strongly opposed by the European signatories. They have been particularly concerned that US dependence on a nuclear strategy might cause the Americans to withhold military assistance to Western Europe if there were a possibility of Russian nuclear retaliation against the USA. There have been two distinct types of European response to this fear. The first, typified by the West Germans, has been to argue for the retention of large numbers of American personnel in Europe. These Americans are seen as hostages, so that America would be forced to intervene to protect its own citizens. The second response has been that of the British and French. They have developed independent or semi-independent nuclear deterrents to provide an alternative centre of decision-making in Europe concerning the use of nuclear weapons.

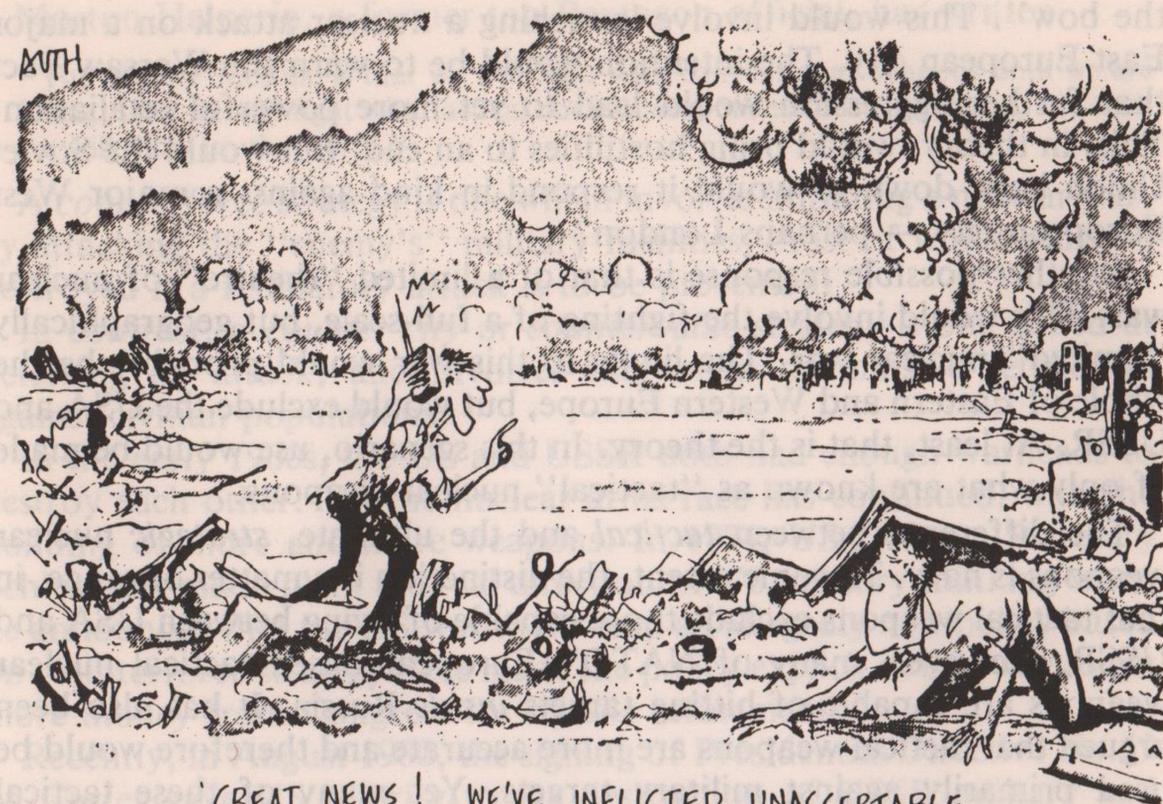
NATO then, cannot be understood as a totally united force for the defence of Europe. Rather it is a conglomeration of separate states with differing aims, fears and resources which has nonetheless often been dominated by the interests of the United States.

One of NATO's claims is that it is a defender of democracy. Yet this seems hard to reconcile with some of its practices. The membership of Greece and Portugal before the overthrow of their dictatorial regimes in the mid-seventies hardly supports this claim. Nor does the military support of NATO for the dictatorial government of Turkey, and its collaboration with Franco's Spain, the Shah's Iran and South Africa.

NATO cannot be understood as a force whose prime concern is the defence of democracy, as NATO has consistently shown that it is willing to ignore the interests of democracy to gain or keep strategic strongholds, whose importance can only be seen in terms of opposing the Soviet bloc.

NATO's Nuclear Strategy

The original nuclear strategy of NATO was that of deterrence through mutual assured destruction. This was intended to deter any aggressor from attacking NATO countries by leaving them in no doubt that his own country would be destroyed by nuclear retaliation. There were,



'GREAT NEWS! WE'VE INFLICTED UNACCEPTABLE
DAMAGE ON THE OTHER SIDE.'

however, doubts about the credibility of such a deterrent.

New developments have further undermined the concept of deterrence, making Europe seem even more insecure. In December 1967 NATO adopted a strategy of "flexible response". The most frightening aspect of this new strategy is the abandoning of the belief that nuclear weapons should only be used in the last resort. Now, NATO's philosophy is in favour of the early use of tactical nuclear weapons, whether or not the other side has already used them.

Discussing NATO's current nuclear strategy is no easy matter. This is not just because of secrecy and the possible elements of bluff that it contains, but because it seems to consist of a number of ill thought out and overlapping tactics. These are described by such phrases as 'limited' and 'theatre nuclear wars', 'flexible response', 'counterforce strategies' and 'first and second strike capabilities'. All of these have frightening implications. For many years, some military hawks appear to have felt frustrated by the idea of Mutual Assured Destruction. Such a strategy meant that nuclear weapons were not usable except in a final act of almost certain suicide. However, the newer strategy of flexible response provides a way out of this dilemma. It was argued that the American President, if faced with losing a conventional war, needed to have more options open to him than just full scale nuclear attack or surrender. What was needed was a whole range of possible responses. The first of these possible responses to be revealed was the idea of a "shot across

the bow". This would involve launching a nuclear attack on a major East European city. The intention would be to warn the Warsaw Pact that further aggression would lead to yet more powerful retaliation. This, in theory, would bring hostilities to an end. But would the Soviet Union back down or would it respond in kind against a major West European city — perhaps London?

Another possible response is that of a limited "theatre" of nuclear war. This would involve the fighting of a full-scale, but geographically "limited" nuclear war. The limits to this war would probably be the whole of Eastern and Western Europe, but would exclude the USA and USSR. At least, that is the theory. In this scenario, use would be made of only what are known as "tactical" nuclear weapons.

The difference between *tactical* and the ultimate, *strategic* nuclear weapons is hazy. To some extent, the distinction is a matter of range, in that tactical weapons exclude those capable of flying between USA and USSR. However, many of NATO's European-based tactical nuclear weapons are capable of hitting targets *inside* Russia. It has also been argued that tactical weapons are more accurate and therefore would be used primarily against military targets. Yet many of these tactical weapons are twenty times as powerful as the bomb dropped on Hiroshima, and thus would inevitably kill millions of innocent civilians. Also the 7,500 tactical nuclear weapons possessed by NATO and the approximately 5,000 owned by the Warsaw Pact, are between them more than capable of destroying civilised life in the whole of Europe.

That is, of course, worrying enough for those of us living in Europe, but would it be possible to keep the war limited even to this extent? There is no evidence that Russia accepts the doctrine of a limited nuclear war. There must also be doubts as to whether the Americans would keep to this "restriction".

The danger and insanity of this new philosophy and the development of the weapons to support it are nowhere more clearly expressed than in a speech made by Lord Mountbatten in May 1979:

"The Western powers and the USSR started by producing and stockpiling nuclear weapons as a deterrent to general war . . . It was not long, however, before smaller nuclear weapons of various designs were produced and deployed for use in what was assumed to be a tactical or 'theatre' war. The belief was that, were hostilities ever to break out in Western Europe, such weapons would be used in field warfare without triggering an all-out nuclear exchange leading to the final holocaust.

I have never found this idea credible. I have never been able to accept the reasons for the belief that any class of nuclear weapons can be categorised in terms of their tactical or strategic purposes."

The reality is that these tactical nuclear weapons reduce the "nuclear threshold" and thus greatly increase the chance of nuclear weapons being used in any confrontation.

Morton Halperin, a former top Pentagon official, has written

"The NATO doctrine is that we will fight with conventional weapons until we are losing, then we will fight with tactical nuclear weapons until we are losing, and then we will blow up the world."

A *counterforce* strategy is one which involves initiating a nuclear war, by attacking the "enemy's" military facilities, most of which must be destroyed if a retaliatory attack is to be prevented.

In contrast, a *counter-city* or *countervalue* strategy is one aimed at deterring an attack, and involves the threat of massive retaliation against civilian populations.

In the early 1960s, the US and USSR both had enough warheads to destroy each other. Yet the nuclear arms race has continued, with the building of more and more weapons. In 1974, US Defence Secretary Schlesinger made plain the real direction of US military thinking when he announced that the US was to develop an allegedly new policy based on counterforce strategy. (He made the policy explicit in this way to get more money from Congress for missile refinements.)

Recently, in August 1980, the signing of Presidential Directive No.59 by Carter gave US priority to the destruction of USSR military and governmental targets, rather than cities. On the surface, this may seem to indicate a less inhumane approach to nuclear war, but, in fact, it provides further public acknowledgement of US counterforce strategy and, thereby, of the Americans' preparedness not only to *fight* a nuclear war, but actually to *start* one. The effect of the Directive will be to increase the US "defence" budget and give the go-ahead to the development of a new generation of high precision weapons.

In August 1980, US Defence Secretary Brown justified the MX, Cruise and Trident programmes by referring to USSR counterforce capability: "The Soviets are now deploying thousands of ICBM warheads accurate enough to threaten our fixed Minuteman silos". He claimed the US "modernisation" programme would maintain "essential equivalence". It is true that, in the late 1970s, the USSR greatly increased its counterforce capability, but the US programme which is being continued by the Pentagon will substantially increase the United States' lead in this regard.

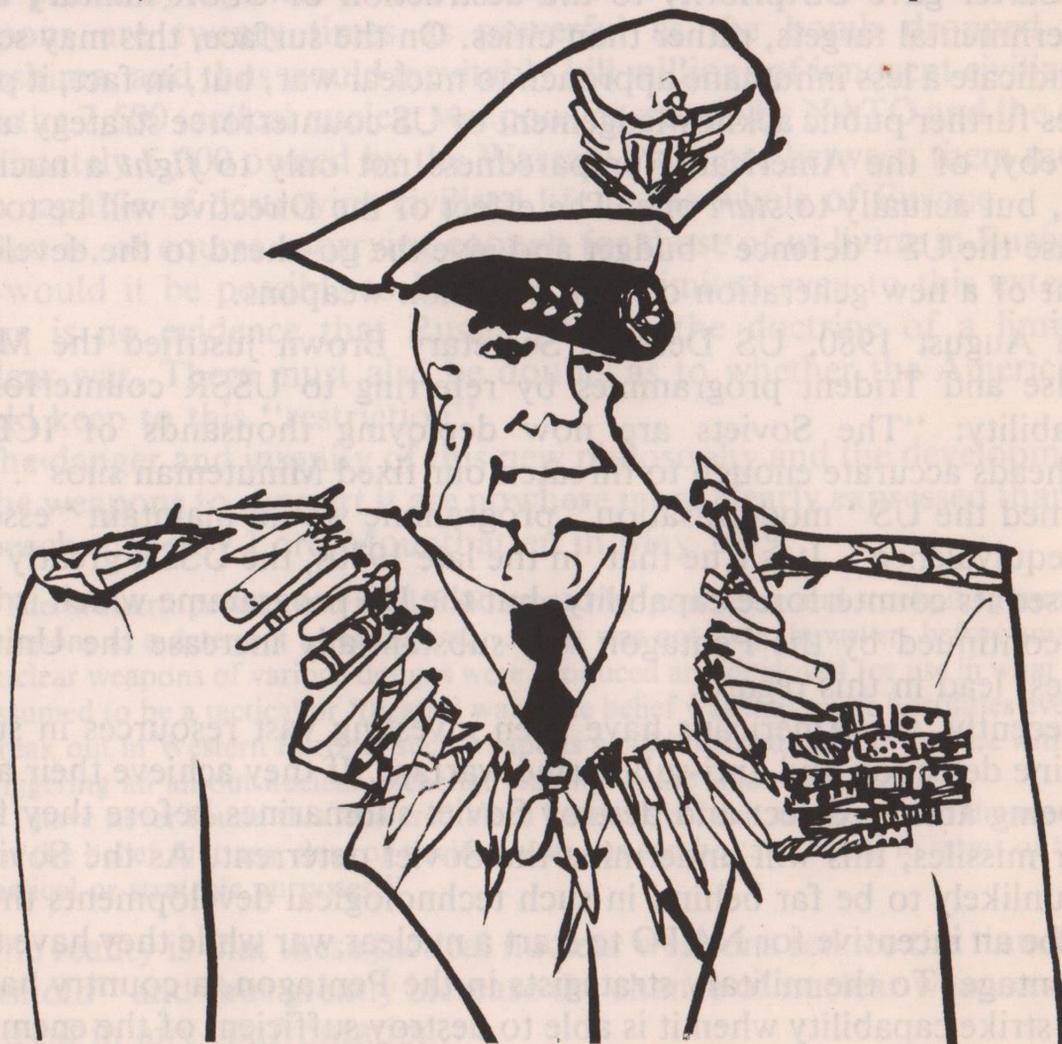
Recently, the Americans have been investing vast resources in submarine detection and anti-submarine warfare. If they achieve their aim of being able to detect and destroy Soviet submarines before they fire their missiles, this will undermine the Soviet deterrent. As the Soviets are unlikely to be far behind in such technological developments there will be an incentive for NATO to start a nuclear war while they have the advantage. To the military strategists in the Pentagon, a country has a first strike capability when it is able to destroy sufficient of the enemy's

nuclear delivery capability so that it is only able to retaliate sufficiently to ensure "acceptable damage". Some military strategists seem to regard "acceptable damage" as involving the death of up to *one third* of their own country's population!

As soon as one or both sides are believed to have a first strike capability, considerable pressure will exist for both sides to adopt a "fire on warning" system. This would mean that, as soon as there was a probability that one side had launched a nuclear attack, the other would immediately launch one to avoid its missiles being destroyed before they were fired. An even greater danger is that the decision to fire will be made by computers alone. We know that, in 1980, the Americans had at least three false alarms due to computer errors. We do not know how many the Russians had.

NATO and the USA

How likely is it that the Americans would start a nuclear war? In July 1975 US Defence Secretary Schlesinger stated that: "Under no circumstances, could we disavow the first use of nuclear weapons". Since



then, despite his earlier doubts, President Carter adopted the doctrine that a limited nuclear war could be fought. This change of view was contained in his Presidential Directive No.59. Now we have the far more hawkish President Reagan, who stated in his election speeches that he wished to make America a country *to be feared*. It would certainly seem that, under his leadership, we have much more reason to fear America.

Britain and NATO

Britain spends approximately 6 per cent of its gross national product on defence and 90 per cent of this goes on its commitment to NATO. Despite this, Britain's nuclear warheads comprise less than 3 per cent of the NATO total. These weapons are deployed in accordance with NATO's plans. This was stipulated in the Nassau Agreement between Britain and the USA, under which Britain was able to obtain the missiles. It would, then, be extremely difficult for Britain to use these independently of the USA.

Enoch Powell, speaking in the House of Commons on March 3rd 1981, posed the question why the Americans are so well disposed towards this small British contribution to NATO's nuclear arms. He answered the question by saying: "It is because thereby the United States binds us, and we are bound, to its strategy, to its view of the world and to its concept of the world as a whole". He describes this American view which divides the world into the "goodies" of the west and the "baddies" of the east as "a nightmarish distortion of reality. Indeed to call it a distortion is too complimentary to it. It is a view of the world which this country cannot share, or can only share at its own greatest peril".

Speeches by Francis Pym (the former British Secretary of State for Defence), explaining why we are buying the new generation of Trident missiles, make it clear that even our present Conservative leaders do not believe we can completely trust the Americans to defend us in the case of a nuclear attack. Perhaps we should be even more worried, in the light of current NATO strategies and recent events, as to how far we can trust the Americans not to lead us against our wishes into nuclear war and obliteration.

Britain is already more densely packed with nuclear targets than any other country. There are already about 100 top priority targets here. If Cruise missiles are deployed in this country the situation will worsen.

According to a former Pentagon strategic planner, Rear-Admiral La Rocque, "We fought World War I in Europe, we fought World War II in Europe and if you dummies will let us we'll fight World War III in Europe".

The Soviet Threat

The news media have carried many warnings recently of a new Soviet threat. NATO officials, the US President, the British Defence Secretary and others have claimed that the Soviet Union is, or soon will be, in a position of superiority to the West in terms of numbers of troops, power of weapons, size of 'defence' budget and other respects.

But the position is not as straightforward as these claims would have us think. And we should remember that, in the 1950s and 1960s, US officials insisted that the USSR was ahead, first in numbers of nuclear bombers and second in numbers of missiles, and only later did it become clear that neither claim had been accurate; the Soviet Union had not really been ahead after all. Meanwhile, these assertions had provided the basis for a speeding-up of arms production in the West.

History repeats itself. The new claims about Soviet superiority come at a time when several new weapons have been awaiting approval from western governments. These include the replacement of the Polaris fleet of nuclear submarines and missiles by Trident (UK), the siting of US Cruise missiles in Europe (UK, West Germany and elsewhere), the 'modernisation' of nuclear forces in Europe (NATO), the construction of a vast complex for the MX missile (USA), the development of a new radar-proof bomber (USA) and much more.

The adoption of all these yet more awesome and devastating weapons is justified, in every case, by reference to the new 'Soviet threat'. But what does this threat consist of?

Have the Soviets more soldiers than us?

The most reliable figures for armed forces under the control of the North Atlantic Treaty Organisation (NATO — whose member states are drawn from North America and Western Europe, including UK) and the Warsaw Pact (WP — consisting of USSR and Eastern Europe) are:

	WP	NATO
Armed Forces (1978)	4,732,000	4,825,900

(Source: Dan Smith.)

Of course, most of both alliances' troops are stationed outside Europe (in USA and USSR). Taking armed forces stationed *in* Europe, the figures are:

	WP	NATO
Armed Forces in Europe (1978)	1,331,000	1,176,000

So the Warsaw Pact has 13% more troops in Europe than NATO. But this numerical advantage is misleading because NATO has a larger proportion of regular troops whilst many Warsaw Pact soldiers are conscripts from East European countries, whose enthusiasm for fighting a war in Europe is in some doubt.

There is no evidence of a recent Soviet build-up of men under arms. Between 1969 and 1978, WP troops in Europe were increased by 2% and NATO's by 4%.

However, in a war the effectiveness of armies depends upon their weapons, so we must ask:

Have the Soviets more weapons than us?

a) Conventional (non-nuclear) Weapons

TANKS AND AIRCRAFT:

	WP	NATO
Tanks	27,900	11,300
Tactical aircraft	5,700	3,313

Here, the Warsaw Pact has a substantial lead. But numbers alone do not give a complete picture; the *quality* of equipment is also important. NATO scraps its tanks and updates them much more frequently than the WP. In fact, half of WP's tanks consist of models introduced in 1949! Also, NATO tanks are thought to be generally more efficient and destructive. So Soviet superiority in numbers of weapons is often attributable to their inferior quality.

Also, NATO has fewer tanks partly through choice. NATO's policy has been to acquire not tanks, but anti-tank missiles, of which it now possesses about 200,000. They are extremely accurate.

WP's lead in numbers of aircraft is largely accounted for by its much larger number of interceptors, which are used for defence against attack aircraft and so do not threaten NATO directly.

The facts do *not* demonstrate a big Soviet build-up in recent years. Between 1969 and 1978, WP tanks increased by 63% and NATO's by 60%. WP tactical aircraft increased by 14% and NATO's by 10%; most of the WP increase consisted of reconnaissance aircraft whilst most of NATO's consisted of light bombers.

NAVAL POWER: Whereas the Warsaw Pact has more submarines, NATO has more aircraft carriers, more destroyers and more frigates, and has overall superiority. Admiral Gene La Roque, former Commander of the US Pacific Fleet, has written: "Whilst the US navy has 5

million tons, the USSR navy has only 2¼ million tons. The supposed Soviet naval superiority is a complete and total bogey”.

b) Nuclear Weapons

TACTICAL NUCLEAR WEAPONS: These are intended for use ‘on the battlefield’ against enemy troops. Accurate figures are not available, but the generally accepted numbers are:

	WP	NATO
Tactical nuclear warheads	5,000	7,500

NATO retains a clear advantage.

STRATEGIC NUCLEAR WEAPONS: These are intended for use, over long distances, against cities and large installations. The figures for 1979 were:

	USSR	USA	
Intercontinental ballistic missiles	1,398	1,054	
Bombers	140	300	
Submarine-launched missiles	979	656	(Source: SIPRI Brochure,
Total number of warheads on bombers and missiles	5,000	9,200	1979.)

The first thing to note is that each side has enough bombs and warheads to destroy the other *many times over*. This is the inhuman absurdity of ‘overkill’.

It is likely that the USA’s lead in numbers of bombs and warheads, plus their greater accuracy, would enable them to destroy many more targets than the USSR’s.

The above figures show that overall, the Soviets possess no clear lead in the quantity and quality of weapons.

In fact, NATO and the USA have the advantage in many crucial respects.

Senator Nino Pasti, former Deputy Supreme Allied Commander for NATO Nuclear Affairs, has written: “NATO forces, both conventional and nuclear, are stronger than those of the Warsaw Pact”.

It is clear that the USSR is increasing and extending its nuclear arsenal with, for example, the deployment of the Backfire bomber, SS-20 medium range missiles, SS-21 and 23 short-range missiles, and SS-N-12 and 18 submarine-launched missiles. But there is no evidence of a “massive” increase in Soviet weaponry in recent years, compared to that of the USA.

Do the Soviets spend more on ‘Defence’ than us?

It is extremely difficult to assess Soviet expenditure on defence. The CIA’s estimate is typically greater than the Soviet government’s official estimate by a factor of *ten!*

On balance, it appears that the USSR’s military budget currently accounts for about 12% of its GNP (Gross National Product), whereas the USA’s is 5½%. But, since the Soviet GNP is only half the American’s, the actual amount spent annually by each country is roughly the same (USSR: 130 billion dollars; USA 113 billion dollars). Military spending by both governments is likely to rise substantially over the next few years.

Also, although the Soviets get more soldiers for their money than the Americans (military rates of pay are lower in USSR) they get less equipment because the Soviet ‘defence’ industry is less advanced and considerably less efficient. A proportion of the Soviet budget also goes towards defending the border with China and towards internal security.

Taking the two alliances, it would seem that NATO outspends Warsaw Pact by roughly 174 billion dollars to 139 billion. No clear Soviet lead emerges.

Do the Soviets lead in weapons technology?

The answer is clearly “no”. The USA and NATO have more advanced equipment in almost every field. Typically, new weapons technology is



developed and applied first in the US and then, after a few years' time lag, by the USSR.

It is sometimes claimed that the Soviet Union leads in terms of the total explosive power of its nuclear warheads, but if we take total bombs *plus warheads*, the USSR possesses explosive power equivalent to 4,143 million tons of TNT ('megatons') and the USA has 6,314. In any case, the damage that warheads can inflict depends, in particular, upon their accuracy and here the US is acknowledged to have the advantage, although USSR is catching up.

A lot has been heard recently about a 'death ray' weapon said to have been developed by the USSR. This is the 'charged particle beam' weapon which, if it existed, could destroy incoming American missiles and so undermine the US 'deterrent'. But the construction of such a weapon poses enormous problems, probably incapable of being solved by even today's military technology. In addition, it would be virtually impossible to use against thousands of incoming missiles, each moving at 5 miles per second. Moreover, such a weapon could be easily 'fooled' by the release of electronic chaff decoys, and so be rendered much less effective.

Probably more crucial and potentially dangerous is the attempt being made by both sides to attain 'first strike capability'. This would involve developing weapons that can destroy enemy missiles on the ground, before they have been launched. The new generation of extremely accurate missiles (including Trident, being bought by the British government) developed in the USA is reckoned to put them ahead in this field.

Claims have been made that the USSR is building up its stocks of chemical and biological weapons. No evidence has been provided to clearly substantiate these claims, but they are being used by American and British governments to justify an increase in their own stocks of these weapons.

Could the Soviets defend themselves better than us?

To put it bluntly, there is no real defence against nuclear weapons. However, some people believe the USSR has much more comprehensive plans for the evacuation and protection of its citizens in the event of war.

But no evacuation drill has been held in any major Soviet city. The Russian people are very sceptical about the effectiveness of civil defence (as well they might be) and treat it as a joke. And evacuation in USSR would be much more difficult than in Britain, because of poor roads and transportation. Tens of millions would have to *walk* from their home cities and build their own makeshift shelters. Under these cir-

cumstances, tens of millions of Soviet people might die in a nuclear attack from the West.

Does the Soviet Union have plans to invade Western Europe?

The average Soviet citizen is probably just as concerned to live a peaceful life and avoid a nuclear war as we are. *Governments* make military policy and, no doubt, there are doves and hawks in the Soviet military machine just as there are in NATO's. It is ironic that the prevalence of hawkish attitudes in the US is likely to strengthen the position of hardliners in the USSR, to the extent that one side becomes a mirror-image of the other.

Since the last War, the USSR has used force largely to strengthen its hold on countries effectively within its existing sphere of influence (Afghanistan) and to preserve a buffer zone in Eastern Europe (Hungary, Czechoslovakia). However, the USA has used force not only to retain its sphere of influence (Korea), but actively to extend it (Vietnam, Cambodia). On this basis, the Soviet Union appears the less imperialistic of the two superpowers; this does not, however, excuse the violence and oppression it has employed.

Both the USSR and USA have recently proposed disarmament negotiations at the United Nations, but usually in terms that are unacceptable to the other side. Following events in Afghanistan, the USA refused to sign the SALT-2 Agreement, which would limit numbers of nuclear weapons. It is official Warsaw Pact policy to work for the creation of nuclear weapons-free zones, including one in Europe. Action, however, speaks louder than words and in terms of active progress towards disarmament, both sides have little of which to be proud and much of which to be ashamed.

The Mutual Threat

With their massive and growing arsenals, the USA and USSR pose a mutual threat to each other and to world peace. It takes little imagination to realise that the Soviets must feel at least as threatened by the USA and NATO as we feel threatened by the USSR and Warsaw Pact.

Both sides are locked in an arms race that, sooner or later, may lead to catastrophe, and Britain plays its part in this through its membership of NATO and possession of its own nuclear weapons. In a Europe armed to the point of overkill and beyond, disengagement from military alliances, linked with a policy of active neutrality, begins to make good sense for many states, including Britain.

The Nuclear Arms Race between the Superpowers

What are the origins of the Arms Race?

The atomic bomb was developed during World War II and was used in August 1945 to secure a more speedy Japanese surrender, primarily in order to ensure a US rather than a Soviet occupation of that country.

P.M.S. Blackett wrote: "The dropping of the atomic bomb was not so much the last military act of the Second World War, as the first act of the cold diplomatic war with Russia". The political tensions of the Cold War generated an arms race between the USA and USSR, which in the US has been fuelled by commercial interests, and in the USSR by a militarism deeply embedded in the structure of the State itself.

The Cruise missile is now a ten billion dollar programme, for example, and the Soviet military effort has not been merely a reaction to Western initiatives, but has been characterised by stable production in the defence sector. In both countries, the arms industry has developed a momentum of its own: new technology in offensive weaponry stimulates further developments in defensive systems, and vice versa.

The arms race between the Superpowers is self-fuelling; the development of a new weapons system by one side has, almost without fail, been followed by a similar development by the other. Thus, the arms race has continued despite the fact that both countries possessed 'minimum deterrence' (400 nuclear warheads each) before 1960. The objective is not to achieve a position of parity, but what might be termed 'security through nuclear advantage'.

Who has developed what?

Both the United States and the Soviet Union have had their 'firsts', but in general the USA has held a technological lead of several years.

US 1945 ATOMIC BOMB USSR 1949

On 6th August 1945, an atomic bomb of 12½ kilotons (i.e. with an explosive power equivalent to 12,500 tons of TNT) was dropped on Hiroshima by the USA. Within 4 years the Soviet Union held its first atomic test.

US 1948 INTERCONTINENTAL BOMBER USSR 1955

Jet bombers, capable of carrying atomic bombs over long distances (usually between 6,000 and 8,000 miles).

US 1954 HYDROGEN BOMB USSR 1955

The H-Bomb is, weight for weight, three times more powerful than the A-Bomb, and can be made much bigger, so increasing again its destructive effect.

USSR 1957 INTERCONTINENTAL BALLISTIC MISSILE US 1958

(ICBM) Land-based missiles having a long range (between 5,000 and 8,000 miles).

USSR 1957 SATELLITE IN ORBIT US 1958

Space satellites have since been used for surveillance and the targeting of nuclear warheads.

US 1960 SUBMARINE-LAUNCHED BALLISTIC MISSILE USSR 1968

(SLBM) Submarines could now fire long-range missiles from under water. Whilst USA currently has fewer such submarines than USSR, they collectively carry many more nuclear warheads.

US 1964 MULTIPLE WARHEAD USSR 1968

(MRV) Missiles, each carrying several nuclear warheads that could be dropped in a cluster, so increasing the target area.

USSR 1968 ANTI-BALLISTIC MISSILES US 1972

(ABM) Defensive missile, designed to knock out incoming enemy missiles. Generally judged to be ineffective. Restricted to one site in each country in 1974. US site later closed.

US 1968 MULTIPLE, INDEPENDENTLY-TARGETTED WARHEAD USSR 1975

(MIRV) One missile with separate warheads, each independently targetted, could now hit between 3 and 10 targets up to 100 miles apart.

US 1980 NEW MEDIUM AND LONG-RANGE CRUISE MISSILE USSR When?

Small, low-flying highly accurate missile which can be launched from land, sea or air. Flies beneath radar and is navigated by on-board 'terrain-computer matching system' (TERCOM). USA is working on a long-range version, to add to the medium-range arsenal which is planned for deployment in Europe (including UK) by 1983-84.

US Under development MX SYSTEM USSR When ?

Highly accurate, mobile ICBM's will be situated in a vast complex of underground roads along which they will be constantly shuttled, and from within which they can be fired.

Deployment advocated by US NEUTRON BOMB Opposition expressed by USSR

'Small' hydrogen bomb, devised to emit particularly large quantities of lethal neutron radiation to incapacitate enemy troops in battle (and possibly civilians).

The above list includes only a small sample of weapons systems. For ex-



ample, both sides are expanding resources on Anti-Submarine Warfare (ASW) approaching those devoted to the space race. Advances in the field of micro-electronics have made submarines more vulnerable to tracking, location and destruction. Developments include sowing ocean beds with permanent devices to detect submarine noise and vibrations. A highly ambitious programme is under way to undermine the "invulnerable deterrent" of the nuclear submarine force.

What has each superpower got?

US and Soviet strategic delivery systems and delivery capability 1979

(Source: SIPRI brochure 1979.)

	USA	USSR
Heavy ICBMs	54	308
Other ICBMs	1,000	1,090
SLBMs	656	979
Strategic bombers	300	140
Total strategic nuclear delivery systems	2,279	2,517
MIRVed ICBMs	550	524
MIRVed SLBMs	496	64
Total MIRVed missiles	1,046	588
Total number of warheads on bombers and missiles	9,200	5,000

SALT-2 (yet to be ratified) allows both sides to add further to their *strategic nuclear weapons* up to a certain ceiling, and allows the development of new mobile missile systems, such as MX and long-range Cruise missile, which may then be deployed after SALT 2 has expired.

Even if SALT-2 is ratified, it is expected that the high limits it sets on the number of MIRVed delivery systems that the USA and USSR may deploy, together with the deployment of Cruise missiles on heavy bombers, will result in an increase of 50 to 70% in the total number of warheads in the combined strategic arsenal by 1985.

In addition to these strategic weapons, there are about 30,000 *tactical nuclear weapons* stockpiled by the USA and USSR, of which over 12,000 are in Europe (approximately 7,500 controlled by USA and 5,000 by USSR). These are meant to be for use against ground forces (tanks, etc.). They have an average explosive power of 50 kilotons (four times as powerful as the Hiroshima bomb). There have, so far, been no talks about limiting these weapons.

Similarly, the so-called 'Eurostrategic' weapons are not included in any of the recent arms control negotiations. These are nuclear weapons located in, or targeted on Europe, with a range longer than that of tactical weapons designed for battlefield use, and shorter than that of intercontinental strategic weapons.

Major Eurostrategic Nuclear Weapons, 1979

	USSR	USA	UK	France
Missiles	680	180	64	82
Aircraft	368	222	48	33

(Source: SIPRI Brochure 1980)

What is the direction of the arms race between the superpowers?

The continued pursuit of counterforce strategy means the continued upward spiralling of the arms race.

A comparison of the counterforce capability of the US and USSR can be made by calculating the *lethality* of their nuclear warheads. Lethality is a measure of the likelihood that a nuclear weapon will destroy its target. This depends on the accuracy and the explosive yield of the weapon, and the degree of protection of the target (by installation underground, protected by layers of concrete, etc.).

Counterforce capability against ICBMs:

	USA		USSR	
	1975	1979	1975	1979
Total lethality strategic missile force (excluding bombers)	27,000	29,000	10,000	42,000
Lethality needed to destroy all 'enemy' ICBM silos with 97% probability	40,000	50,000?	82,000	120,000?
Percentage capability	68	58?	12	35?

(These figures underestimate the US lead in capability, as they exclude bomber aircraft, which carry 25% of the total number of US strategic warheads. As far as is known, the USSR does not assign many of its long-range bombers to an intercontinental role.) (Source: Pentz.)

Counterforce strategy and SLBMs:

54% of US strategic nuclear warheads are carried on Submarine-launched ballistic missiles, as are 21% of the USSR's.

Submarines are becoming increasingly vulnerable to attack, and there is much doubt as to whether 'C3' links (command, control and communication) to submarines could function in conditions of nuclear war. If the invulnerability of submarines cannot be guaranteed, their deterrent role is endangered (assuming that deterrence is a valid concept) and there may be an increasing tendency to deploy them in a counterforce role. The USA is now developing, for example, the Trident II SLBM (to be deployed on Trident submarines) which will probably be able to destroy hardened targets.

What does the future hold?

The USA has a lead over the USSR in counterforce capability, although the Soviet military programme resulted in a large increase in that country's capability in the late 1970s. Anticipating the possibility of being overtaken, the USA already has three programmes under way which are designed to maintain and enhance its lead. These are:

- increasing the accuracy and doubling the power of Minuteman III ICBM warheads;
- increasing the accuracy of Poseidon submarine-launched missiles;
- deploying new Trident missiles.

But a *fourth* American programme is far more important. This is the decision to arm B52G bombers and some submarines with *Cruise* missiles. More than a hundred bombers may each be armed with 20 long-range Cruise missiles by 1985, tackling the total lethality of US strategic forces to a projected figure of about 3,000,000.

There is little doubt that the USSR will respond to this programme, probably by making some of its land-based ICBMs mobile. The Soviet effort to increase its counterforce capability, apparent in the deployment of SS17, SS18 and SS19 ICBM's will similarly continue.

Two particular dangers seem imminent:

- the possibility that the development of ASW techniques may substantially further undermine the viability of the nuclear submarine 'deterrent';
- the likelihood that the deployment of Cruise missiles may lead to an irreversible escalation of the arms race, since its capability of carrying either nuclear or conventional warheads makes it very difficult to monitor under any future arms control agreement.

Nuclear Arms Control and Disarmament

Early disarmament talks which followed the Second World War attempted to bring nuclear weapons under international control but foundered on the mutual distrust of the superpowers. On the one hand was the USA's resistance to sharing its military know-how, even with an international body. On the other was Soviet suspicions about the very independence of that body and of US demands for inspections.

Since then, negotiations between the two may well be seen as a game with each seeking to dramatise the other's negative response to offers which are in fact hedged about with conditions they know will not be accepted.

When the United Nations was set up in the wake of Hiroshima and Nagasaki, it was the brief of the Security Council to work towards disarmament. But, because of the presence of the superpowers within it, the council has been politically paralysed and the onus has moved to the General Assembly and its subsidiary bodies.

A number of attempts have been made to control the nuclear arms race through what is now the Geneva Disarmament Committee and in the past 20 years of Detente, with tension between East and West comparatively relaxed, there have been some limited achievements. But these, such as they are, have involved agreements on arms *control*. There have been no moves toward actual nuclear *disarmament*.

The objectives of the main arms control negotiations have been (a) prevention of the militarisation, or military nuclearisation, of certain areas or environments; (b) freeze or limitation on the numbers and characteristics of nuclear delivery vehicles; (c) restrictions on weapon tests; (d) prevention of the spread of specified weapons among nations; (e) prohibition of the production as well as elimination of stocks of certain types of weapon; (f) prohibition of certain methods of warfare; (g) observance of the rules of conduct in war; and (h) notification of certain military activities.

Main Agreements

1961 The Antarctic Treaty declared Antarctica a demilitarized zone.

But territorial sovereignty in the area is unresolved.

1963 The Partial Test Ban Treaty — Following demands by non-aligned nations and protest within nuclear powers, this treaty resulted,

after a sudden switch from multilateral to bilateral talks, in a prohibition of all but underground nuclear tests. It has helped to curb radioactive pollution but was probably never intended to curtail the development of nuclear weapons. It contained a commitment to seek a total test ban but the UN General Assembly has continuously voted for the latter to no avail and tripartite USA-USSR-UK talks on such a treaty started in 1977 have failed to reach agreement.

The **Threshold Test Ban Treaty** of 1974 limited the size of UK and Soviet underground explosions to 150 kilotons, but this is a threshold much higher than the needs of most weapons development programmes.

1967 **The Outer Space Treaty** prohibited the placing of nuclear or other weapons of mass destruction in orbit around the earth or in outer space. But outer space is open for the passage of ballistic missiles carrying nuclear weapons and for the deployment of weapons not capable of mass destruction.

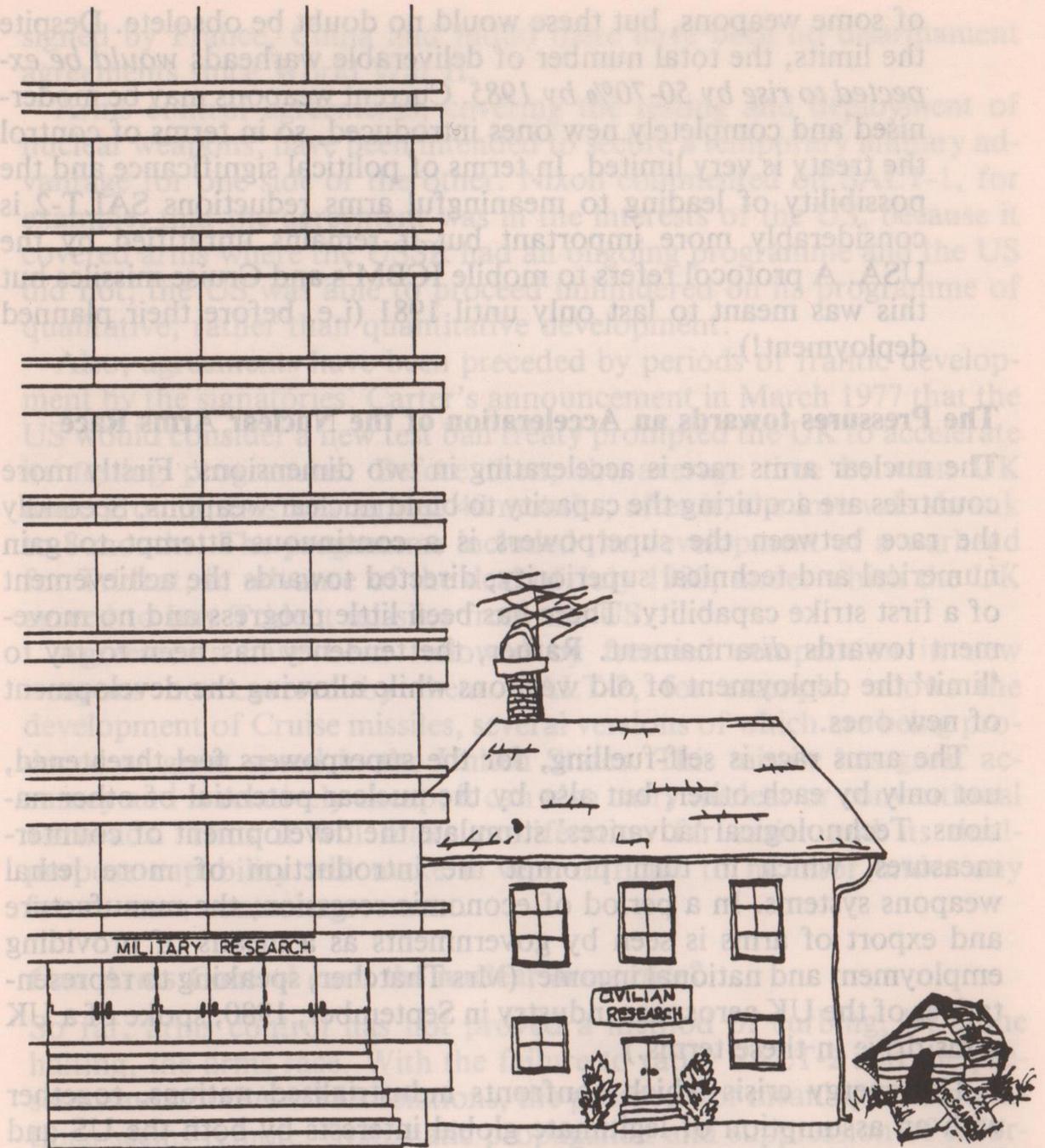
1968 **The Treaty of Tlateloco** established an internationally recognised nuclear weapons free zone in Latin America, the nuclear powers undertaking not to threaten use of nuclear weapons against any L.A. state. But Brazil and Argentina, the only countries in the area with any nuclear potential, are not bound by the treaty. Other initiatives aimed at the establishment of nuclear weapons free zones have been unsuccessful. In Europe, a series of proposals originating in Poland, Romania and Sweden have sought to establish zones in particular regions of the continent. All have failed in the face of NATO insistence that only proposals for "general and complete" disarmament were appropriate.

1968 **The Non Proliferation Treaty** prohibited the transfer of nuclear weapons to non nuclear weapon states. The latter are subject to international safeguards to prevent the diversion of nuclear energy from peaceful uses to explosive devices. But the policies of nuclear material suppliers have been inconsistent and the nuclear weapon states have failed to fulfill their disarmament obligations under the treaty. Over 50 nations have not signed. These include France, China and Israel.

1971 **The Sea-Bed Treaty** prohibited the placing of nuclear weapons on the sea-bed beyond a 12 mile zone. But the treaty permits use of the sea-bed to service free-swimming nuclear weapons systems such as submarines, so has little military significance.

1972 **SALT-1** (Strategic Arms Limitation Talks — first round).

a. The **Anti-Ballistic Missile Treaty** limited each side to two ABM sites, one to defend the capital, one to defend an ICBM launching



site — it permitted 100 launchers and 100 interceptor missiles which was a quantitative *expansion*. In 1974 the sites were reduced to one each.

b. The **Interim Agreement** (5 years to 1977) limited the *increase* in ballistic missile launchers on each side but there were no restrictions on qualitative improvements or on the number of warheads carried by each missile.

1979 **SALT-2** agreed ceilings for strategic nuclear missile launchers and bombers plus sub-limits on certain categories of strategic arms. There would also be limits on the number of warheads per missile. This would be the first agreement to involve the actual dismantling

of some weapons, but these would no doubt be obsolete. Despite the limits, the total number of deliverable warheads *would be expected to rise by 50-70% by 1985*. Current weapons may be modernised and completely new ones introduced, so in terms of control the treaty is very limited. In terms of political significance and the possibility of leading to meaningful arms reductions SALT-2 is considerably more important but it remains unratified by the USA. A protocol refers to mobile ICBM's and Cruise missiles but this was meant to last only until 1981 (i.e. before their planned deployment!).

The Pressures towards an Acceleration of the Nuclear Arms Race

The nuclear arms race is accelerating in two dimensions. Firstly more countries are acquiring the capacity to build nuclear weapons. Secondly the race between the superpowers is a continuous attempt to gain numerical and technical superiority, directed towards the achievement of a first strike capability. There has been little progress and no movement towards *disarmament*. Rather, the tendency has been to try to 'limit' the deployment of old weapons while allowing the development of new ones.

The arms race is self-fuelling, for the superpowers feel threatened, not only by each other, but also by the nuclear potential of other nations. Technological 'advances' stimulate the development of counter-measures, which in turn prompt the introduction of more lethal weapons systems. In a period of economic recession, the manufacture and export of arms is seen by governments as a means of providing employment and national income. (Mrs Thatcher, speaking to representatives of the UK aerospace industry in September, 1980, spoke of a UK arms drive in these terms.)

The energy crisis which confronts industrialised nations, together with an assumption of legitimate global interests by both the US and USSR, makes a superpower conflict over fuel resources more likely. Third World countries increasingly see nuclear power as a solution to their energy problems, while nuclear power stations produce the material for the manufacture of nuclear weapons. (Colonel Abdullah of Iraq stated, on 17th August 1980, that nothing would stop Iraq gaining nuclear power, which she required for industrial and agricultural development. In the same month, Iraq accused the UK of supplying radio-active uranium to "the Zionist racist entity".)

A History of Failure

With the exception of the Biological Warfare Convention of 1972 (not

signed by France, China and India) there have been no disarmament agreements since World War II.

Arms control agreements, covering the testing and deployment of nuclear weapons, have been intended to secure a temporary military advantage for one side or the other. Nixon commented on SALT-1, for example, that the agreement was in the interests of the US, because it covered arms where the USSR had an ongoing programme and the US did not; the US was able to proceed unhindered on its programme of qualitative, rather than quantitative development.

Also, agreements have been preceded by periods of frantic development by the signatories. Carter's announcement in March 1977 that the US would consider a new test ban treaty prompted the UK to accelerate its testing programme. Before then, the average time between UK underground tests was almost 40 months; after it, the intervals shrank to 8 months. The programme included the development of a warhead for Trident, in advance of the deal of July 1980, under which the UK agreed to buy Trident missiles from the US.

Agreements have been followed by frenzied competition in new weapons not covered by them. SALT-2, for example, allows the development of Cruise missiles, several versions of which are being produced at great speed in the United States. This missile has great accuracy and is relatively cheap; it can also carry nuclear or conventional warheads. Thus it will make proliferation far easier and its dual-purpose capability will make it very difficult to monitor under any future arms control agreement.

Can Arms Control curb the nuclear arms race?

So far, arms control has not proved a method of curbing, let alone halting, the arms race. With the failure to ratify SALT-2 and the present state of USA-USSR relations, the prospect for meaningful negotiations seems remote. Systematic propaganda and suppression of information has kept public opinion in tune with the action of political leaders and, until very recently in the West, disarmament interests have been too weak to affect government negotiations. Stated in their very simplest terms, the sort of measures that would have to be agreed in order to move the world on the path to nuclear disarmament might be as follows: (a) a "no-first use" pledge given by all nuclear weapons powers combined with (b) a pledge not to attack any nuclear weapons free country with nuclear weapons; (c) *quantitative* curtailment of nuclear arsenals with the aim of de-escalating towards a minimum deterrent; (d) a ban on the further spread of nuclear weapons to additional countries and (e) *qualitative* disarmament by a total ban on the further development of such weapons.

Home Defence 1: Some Points of View

Clearly, Government feels obliged to offer at least the semblance of protection for citizens against nuclear war. Rather than tackle this problem at source, by devoting themselves to international reconciliation, confidence-building and disarmament, successive British governments have instead taken an entirely superficial view and have merely treated the symptoms. Rather than seriously and urgently seeking to remove the causes and the means of nuclear conflict, they have opted for 'civil' or 'home' defence.

For ordinary people, home defence measures would consist of taking shelter in cellars, under stairs, or even beneath doors (taken off their hinges and leant against a wall) or tables. For the more affluent, the government has recently published a booklet giving advice on fallout shelter design, and a larger number of entrepreneurs have entered the shelter-building market in the hope of making a lot of money fast out of people's fears of a nuclear holocaust.

For selected government and military personnel, deep shelters have been constructed and supplies laid in to ensure that, should two-thirds of the British population be killed and the environment contaminated, at least the survivors will retain their slender hold on life and sanity under a regime pledged to maintain an appropriate degree of discipline.

Home Defence and Deterrence

The starting point for any examination of the likely effectiveness of home defence for the mass of the population must be the realisation that, to put it bluntly, *there is no defence against nuclear weapons*. There are no means yet available of limiting their destructive effects. A defender cannot reduce the area of total destruction or the zone over which lethal radioactive fallout would be scattered. He cannot save the houses, the hospitals, the schools . . .

Probably the majority of those who support home defence also support our continued possession of nuclear weapons as a deterrent, and yet these two positions are contradictory. The concept of deterrence assumes that nuclear weapons are so destructive that no government in its right mind would attack a country possessing them, for the retaliation would be devastating. Indeed, to provoke such retaliation would be virtually *suicidal*. But the case for home defence assumes that, for a

substantial proportion of the population, nuclear war would be *survivable*. Whatever the facts of the issue, it hardly seems reasonable to hold both views simultaneously, unless other, perhaps unstated, motives persist.

Probably the major argument against home defence is precisely that it propagates the misconceptions that we can survive a nuclear war and that we should be prepared to engage in one. It transforms the unthinkable into a real prospect and, even worse, into a facet of government policy.

The Prospects of Survival

Sir Leslie Mavor, who is in charge of home defence planning in Britain, has said, "Contrary to popular belief and to the unscientific, irrational and intemperate views that assail us from day to day, millions of people will live through" a nuclear attack.

Apparently, he has failed to read, or has dismissed, the following



warning issued by doctors and scientists attending the 30th Pugwash Conference (from at least 14 countries, including UK, USA and USSR):

“Medical disaster planning for a nuclear war is futile

There is no possible effective medical response after a nuclear attack — in one major city alone, in addition to the hundreds of thousands of sudden deaths, there would be hundreds of thousands of people with severe burns, trauma and radiation sickness — all demanding intensive care. Even if all medical resources were intact, the care of these immediate survivors would be next to impossible. In fact, most hospitals would be destroyed, medical personnel among the dead and injured, most transportation, communication and energy systems inoperable and most medical supplies unavailable. As a result, most of the people requiring medical attention would die.

Effective civil defence against a nuclear attack is impossible

Bomb shelters in cities under nuclear attack would be useless owing to the blast, heat and radiation effects. Shelters as far as ten kilometres from the centre of even a one megaton surface nuclear explosion would become ovens for their occupants — the great surface fires would cook and asphyxiate them.

In sum, there are no defences against the lethal effects of nuclear weapons. As doctors and scientists in health-related fields, we conclude that nuclear weapons are so destructive to human health and life that they must never be used. Prevention of nuclear war offers the only possibility for protecting people from its medical consequences. There is no alternative.”

In general, people in favour of home defence tend to concentrate upon the *survivors* and attempt to make provisions of some kind that might increase their chances of physical survival against impossible odds. This approach can easily involve absurd romanticisation of the plight of survivors, casting them in the role of heroic rebuilders of civilisation, rather than shocked, hungry, bewildered, mentally or physically ill and perhaps desperate inheritors of a nightmare environment, in which “water would be undrinkable, food contaminated, and the economic, ecologic and social fabric on which human life depends, destroyed”.

Critics of home defence are more concerned about the *victims* of a nuclear war. Given the undeniable destructive power of nuclear weapons, it is extremely unlikely that a large-scale attack upon Britain would kill less than 15 million people. It is probable that the figure would be more than twice as large. Whatever ameliorative effects home defence might have, fatalities on this scale would represent utter catastrophe. Devising plans to ‘cope’ with catastrophe is lunatic. Our first and only priority must be to ensure that it never happens.

Defence against a ‘limited’ attack

Home defence is frequently advocated on the grounds that it would be effective against a small-scale attack. It is argued that, if a few bombs were to be exploded over key targets in Britain, large numbers of people

outside these areas would benefit from protective measures, particularly those against fallout.

Again, critics point out that a ‘limited’ nuclear attack, even against a single city, would be a major disaster, in which hundreds of thousands would instantly be killed and as many seriously injured. Preventing such a disaster should be our prime concern, rather than providing for it.

Also, it seems unlikely that a ‘limited’ exchange would actually take place. Britain contains so many nuclear targets that a saturation-level attack, aimed at destroying as many of them as practicable, would seem more probable.

The location of Cruise missiles in Britain would increase the chances that an attack would be of the saturation type, since, in an international emergency, the mobile launcher vehicles would disperse from their proposed bases at Molesworth and Greenham Common into an area covering most of the country (from York to Portsmouth and from Swansea to Ipswich). It has been estimated that 360 megatons would be required for an attacker to cover this area with sufficient bombs to destroy all Cruise missiles located anywhere within it.

The Targets

Britain is crowded with sites that would be potential targets in a nuclear war. These include American and British air force bases, naval bases, weapons stores, command posts, radar and communications posts, military and administrative underground bunkers, nuclear power stations and, of course, towns and cities.

It has been estimated that there are about 400 nuclear warheads aimed at targets in Britain. Home defence plans generally assume that an all-out attack would involve the use of nuclear weapons totalling 220 megatons.

The home defence ‘war game’ codenamed Square Leg, which was conducted in September 1980, assumed the explosion of some 100 nuclear warheads over cities and military installations in England and Wales. Many millions would have died in the event of such an attack and radioactive fallout would have covered most of the country. Given the high density of population in Britain, and the proximity of military targets to each other, the bombs were assumed to have exploded so close together that the areas affected by fallout overlapped. Thus, one vast band of radioactivity was assumed to stretch from Newcastle to Southampton and from Wales to East Anglia.

It hardly seems credible that any form of home defence could substantially reduce the scale of such a disaster.

Home Defence and Democracy

The ultimate purpose of Britain's nuclear weapons is said to be the protection of our democratic way of life. Yet not only would the advent of nuclear war mean the physical obliteration of our society; it would also be preceded by a period, lasting perhaps weeks or months, during which Parliament and all the other institutions of democracy would be dissolved, and the country run in accordance with emergency powers. In effect, this would mean the establishment of a totalitarian form of government.

According to the *New Statesman* (10th October 1980), official plans for dealing with such an emergency include the "control of selfish and disgruntled minorities", internment of government critics, and the formation of special courts possessing powers to have offenders executed. Other military responsibilities would include the provision of "personal protection for VIPs".

Expenditure on Home Defence

By 1983 the British Government intends to increase its expenditure on home defence from £27 million (in 1980) to £45 million a year. This extra spending is not intended to provide additional protection for the public (indeed, the Government seems to concede that this would probably be ineffective), but rather to strengthen the position of the administration following a nuclear war.

The expenditure will be to complete the provision of sub-regional headquarters, from which decentralised government would operate, improve the Wartime Broadcasting system, improve the system that would give warning of air attack and fallout conditions, extend the Home Defence College at Easingwold and co-ordinate the volunteer effort.

None of these measures is likely to reduce the risk of war in any way whatsoever and, announcing them in the House of Commons in August 1980, the Home Secretary William Whitelaw admitted that "the only way through the frightful problem of nuclear war . . . is for us to work for the disarmament of the great Powers".

But there is no indication that the Government has any real intention of working for disarmament; on the contrary, its decisions on defence matters overwhelmingly favour rearmament. If home defence were to be acknowledged as the irrelevance it really is, and if the money and effort spent on it were to be redirected to public education and practical action for disarmament, our prospects of survival would be much enhanced.

Home Defence 2: The Government's Plans

The Aims of Home Defence

These are as set out by the Home Office in 1973:

- a. To secure the United Kingdom against internal threat;
- b. To mitigate as far as is practicable the effects of any direct attack on the United Kingdom involving the use of conventional, nuclear, biological or chemical weapons;
- c. To provide an alternative machinery of government at all levels to increase the prospects of and to direct national survival; and
- d. To enhance the basis for national recovery in the post-attack period.

The first priority reflects a growing preoccupation with planning for 'law and order' and 'internal security' since the 1970s. However, function (a) is outside the scope of this paper. It is mainly an area of police and military activity, whereas these notes concentrate on local government preparations.

Planning concerned with nuclear attack assumes three phases. Firstly, a preparatory *period of alert* which commences when international tension rises above a certain threshold. Following an attack, the short term *life saving period* would commence. Little would happen then — limited firefighting, rescue, feeding and primitive first aid for a few on the fringes of areas of destruction; there would be no movement at all during the first 3 or 4 days of high radiation. Thirdly, the long term *survival and restoration* phase would unfold, involving survivors in a nightmare task of reconstruction with minimal resources. "During the survival phase, shelter, food, water, warmth and sanitation would be urgent problems, together with the task of maintaining law and order" (Home Office). It is with this third stage that Home Defence is predominantly concerned.

Note the assumption that any attack will be limited in duration. Home Defence planning does not seem to allow for the possibility of a nuclear war that is sporadic or sustained.

The Structure of Government in War

Region:

Britain would be split into ten mini-states called Home Defence Regions. Each would be headed by a Regional Commissioner (ostensibly a senior government minister, although both of the known ex-

amples are senior bureaucrats) given absolute powers of government over the Region by emergency legislation passed by Parliament towards the final stages of a deteriorating international situation. This legislation, which is drafted and ready, has not been published. Nominally under the Regional Commissioner would be the three heads of a regional triumvirate — civil, police and military. These would be designated Regional Controller, Regional Police Commander and Regional Military Commander.

Sub-Region:

According to the Home Office, regional government would not be established until at least two weeks *after* a nuclear attack. Regions would be split into two Sub-Regions, except the North, Yorkshire and London Regions. Each Sub-Region would have a Sub-Regional Commissioner, again exercising sweeping powers. The Commissioner's pre-selected staff would take over after attack, having assembled previously in a well-protected Sub-Regional Headquarters. These have their own generators, water pumps, sewage disposal, teleprinters, telephones, radio links, broadcasting studios and several months of supplies. Each might accommodate two hundred or more civil servants, soldiers, policemen and engineers.

Sub-Regional Commissioners would be concerned with "the administration of justice, with the maintenance by the police of law and order, and with the general behaviour and morale of the survivors" (Annex to Home Office Circular ES7/1973).

County:

The next tier down in the hierarchical structure is at County level. County Councils have statutory responsibilities to make plans for war, including drawing up a 'War Book' of plans for action. These responsibilities are discharged by *Emergency Planning Teams* set up in 1972-3 under a Home Office recommendation following a period of bitter industrial conflict. The Home Office urged greater overlapping between plans for war emergencies and those for peacetime emergencies (strikes or natural disasters). The teams are headed by Emergency Planning Officers, formerly titled Civil Defence Officers.

County Councils are required to construct emergency HQs, the County Main Headquarters or County Controls. Many are in strengthened basements beneath County Halls, equipped with standby generator, air filtering equipment and food and water for perhaps 70 people for at least 21 days. County Controllers (Designate) have already been appointed; they are the Chief Executives of County Councils. Each would be advised by an Emergency Committee of three or more pre-selected councillors.

Official pronouncements that this Committee would exercise actual control of government are misleading. It is clear that the Controller's word would be final. The Annex to Home Office Circular ES7/1973 states: "The urgent decisions of the Controller would be arbitrary and, to some people, would appear harsh and inequitable". Such statements seem likely to immunise Chief Executives undergoing training exercises now to the effects of likely protests.

If communications to Sub-Regional HQ were blocked, the County Controller would exercise "the full powers of internal government within the County until further notice". If necessary, Regional Commissioners would, by ordinance, sanction *post-facto* (after the event) the actions of the County Controller in this short term situation.

District:

The County structure would be duplicated at District level. The powers of District Controllers would also be very wide, including the ordering of executions if required. Most District wartime HQs are in the basements of Town Halls or council offices. District Emergency Committees would have the same advisory relationship to District Controllers (Chief Executives of District Councils) as County EC's would have to County Controllers. They would comprise a small number of District councillors.

Sub-District:

Below District Controls are District Sub-Controls. They are usually housed in less central locations. Nearer Parish level, certain premises would be set up as Group Report Centres and, below them, Report Posts. Group Centres would collect and distribute information up and down the hierarchy. Parish and Small Community Controllers and Parish Emergency Committees might be based there and exercise limited emergency powers. Over 100 such committees of "reliable" vicars, doctors, etc., are known to exist in the county of Nottinghamshire alone. They have been gradually formed over a steady period without prominent publicity.

Communications:

Telephones have been assigned to three categories since 1971. Only those lines essential to the conduct of government in war would be able to dial out. It would be made impossible for ordinary citizens to communicate by telephone. This is a joint scheme between the Post Office, the local Emergency Planning Departments and the police.

The military and police would have joint command with the civil government, the triumvirate being "a joint and integrated organisation from the highest to the lowest levels". This aspect would not be made

more visible than necessary. It now appears that in aspects of the Home Defence system, the military would have effective supremacy, despite cultivated images to the contrary. For example, civilian Regional Seats of Government (RSG) seem to have been replaced by Regional Armed Forces Headquarters (AFHQ) at military locations.

The Period of Alert

The activation of emergency plans would be done as covertly as possible until the measures still to be implemented could not be concealed.



Local authority measures would be implemented in three stages:

Initial Review:

The County Controller, Emergency Committee and designated 'key officers' would meet to list priorities for action. They would review arrangements for liaison with voluntary organisations and District Food Officers, consider what would need to be done to prepare rest centres, homeless and billeting arrangements, emergency water and essential works plans, review the telephone preference scheme and sanitation and health plans.

Preparatory Measures:

The instigation of these would reflect a serious intention to place the country on a war footing. Ordinary local authority staff would be briefed to fill war posts. Equipment (such as Green Goddesses and radiac measuring equipment, but also items such as CS gas) would be collected from Home Office stores and distributed. This would be the state of affairs immediately before actual activation of wartime control centres, with provision for control of the public under fallout conditions being made and first aid services prepared.

Activation:

Wartime HQs would be manned fulltime at the commencement of this stage. Advice and information would be issued to the public. Initially, there would be no public sign of anything untoward but "continuous guidance" would be given by government to the media. In the *low level crisis* "government broadcasts would give the first indication that war might not be averted" and there would be "references to the effectiveness of the nuclear deterrent"; the *preparatory period* might last three to four weeks while the country was placed on a war footing; and in the *immediate pre-attack period* commencing 72 hours before anticipated attack there would be "saturation coverage by all the media . . . repeating basic advice on the warning system, and measures to be taken for survival". (Home Office Circular ES2/1975). Immediately before expected attack all broadcasting would be replaced by the single, government-controlled Wartime Broadcasting Service (WTBS) run by pre-selected "suitable persons" from studios in the bunkers.

Other activation measures would include the assumption of emergency powers by Controllers and Emergency Committees, requisitioning of premises and stores.

Evacuation

The Government does not have a policy to evacuate large numbers of civilians should a nuclear attack seem likely. Prior to 1969, there was a policy for the evacuation of people in 6 priority classes from certain urban areas; effectively, provision was made for those under 18, accompanied by mothers if children were still at school. Some Emergency Planners had doubts about the practicalities of evacuation, and with the steady closure of rural railway lines, the policy became increasingly difficult to maintain. Advice given in the government booklet *Protect and Survive* is to stay in your home area. Those who move will be denied local authority assistance and their homes may well be requisitioned.

Homeless Persons

An up-to-date policy for dealing with refugees has not been published. Most of the information available dates from the 1960s, when civil defence was a more open subject. County Councils were then asked to earmark suitable buildings (for example, cinemas, schools and church halls) as emergency rest centres. After an attack, people could be brought back to them if the situation allowed. Here, health checks could take place and some would be vetted for billeting. In *The Third World War*, a supposedly realistic fictional account by General Sir John Hackett riots at casualty centres are described. Plans for the homeless

anticipated "very difficult problems . . . they should be collected into groups only for as short a period as possible . . . every effort should be made to avoid large groups". The (restricted) *Police Manual of Home Defence* is more direct: "These principles are dictated by the need to lessen the dangers of epidemics, to keep up morale (!) and to avoid the ingredients of law and order problems".

Medical Treatment

A paper prepared for one of the Annual Seminars for Local Authority representatives (Home Defence College, Easingwold) states that it would "clearly be unsound to leave the full quota of skilled medical and nursing staff and all vital equipment in likely target areas" but it would also "be unacceptable on the grounds of public morale to carry out the present full scheme of hospital evacuation at a time when the Government was exhorting the public to stay put. The credibility of the Government's advice would be gravely jeopardised".

It is suggested that a set of auxiliary hospitals be established with just one doctor and one nurse per hundred patients, plus volunteer support and a team of Forward Medical Aid Units (FMAU) whose task it would be to classify those victims worth trying to save, and those not. The latter would be retained in the 'holding unit' of the FMAU and denied treatment.

An idea of the sort of classification envisaged is provided by a civil defence exercise held in the East Midlands on 2nd October 1960. It was stated in the papers that "Professional medical attention will not (normally) be available forward of the limit of vehicle penetration" and "Hospitals must be screened from being overwhelmed". The duties of those persons operating the Forward Medical Aid Units were to:

- i. screen the casualties;
- ii. give emergency treatment to the seriously injured prior to evacuation to hospital;
- iii. treat the lightly injured;
- iv. *hold* those serious cases which should not at once be removed to hospital even following supportive treatment.

Labels for casualties:

- RED — immediate evacuation with treatment;
GREEN — immediate treatment prior to evacuation;
BLUE — Minor dressings;
YELLOW — Holding section (i.e. denied hospital treatment).

DHSS Circular (77)1 says: "Trained health service staff should not be wasted by allowing them to enter areas of high contamination, where

casualties would, in any case, have small chance of long term recovery". Hospitals should only accept those casualties likely to be alive after seven days, with a fair chance of eventual recovery. "People suffering from radiation sickness only should not be admitted".

Environmental Health

An Annexe to Home Office Circular ES 8/1976 says: "The breakdown of services on which most of the public unquestionably rely would be inevitable over much of the country. Water would not flow from the tap or in the sewage system; electricity would be cut off; refuse collection would cease; large numbers of casualties would lie where they had died. In such conditions, disease would spread rapidly. In choosing sites for mass graves, it would be important to avoid additional contamination of water supplies".

A document issued at the government's Home Defence College states: "There would be overcrowding in the remaining habitable accommodation with an increase in fleas, lice, bedbugs and the diseases they spread, and an increase in airborne respiratory diseases. It would be difficult to maintain satisfactory food hygiene".

Food

The Ministry of Agriculture has a network of 100 buffer depots with certain food supplies stockpiled against an attack. But problems of distribution and contamination remain. An Annexe to Home Office Circular ES 1/1979 states: "After nuclear attack food would be scarce . . . no significant food imports would be received for some time, and peacetime systems of food processing would cease to function . . . no arrangements could ensure 14 days' food supply for every surviving household".

Although county councils are legally required to make plans for storage and distribution of food, in practice much of this work would be undertaken by voluntary bodies, such as the WRVS. An indication of real civil defence priorities was provided by *Panorama* in March 1980. Faced by the news that a group of desperate civilians were marching to his bunker demanding food, the Humberside Controller called in military assistance and authorised that they be shot. Those who surrendered peacefully would be tried by special summary courts and, the Controller admitted under questioning, probably shot as well. On *Brass Tacks*, in March 1978, the Nottingham City Controller was shown lecturing officials on dealing with food riots. Feeding civilians would receive much less priority than controlling them, and the main Home Office Circular on the subject of food concerns itself with "Food Control".

Democracy

The hierarchical dictatorship described above would mean the elimination of all aspects of democracy. All broadcasting would be taken over by the state and WTBS would be an essential part of maintaining government. Propaganda would be issued through a hierarchy of Information Officers. The broadcasting system would be regional, so that different versions of reports could be given to people in different areas.

At the same time, the capacity for ordinary people to communicate with each other would be minimised. The roads would be sealed off by the police assisting the military — another high priority task for them. Those civilian telephones not put out of order by the bombing would be switched off centrally and such things as ham radio stations would have been confiscated previously.

A system of summary courts of justice, already rehearsed, would be instituted for offences connected with the war, such as disobeying orders, public order offences, etc. Forced labour, applicable in many situations, would be one of the punishments, together with starvation rations and the death penalty. Other, corporal punishments, would be subject to periodic review.

The very first responsibility of the police, that is given a much higher priority than giving advice to the public, is the implementation of "special measures to maintain internal security, with particular reference to the detention or restriction of movement of (undefined) subversive or potentially subversive people". The second most important task is "the guarding of key points and the maintenance of protected areas" (*Police Manual of Home Defence*). This refers to such measures as preventing people with certain types of injuries from obtaining medical treatment, by physical force if necessary; guarding 'food control depots' from the public and providing security for special courts. "Protection of the public against radioactivity" is not on the main list of tasks, but is listed elsewhere.

Nowhere is the obsession of civil defence with control, command, law and order and the maintenance of government clearer than in the provisions to deal with anticipated public disorder. Some 25,000 police (assuming their survival) would be organised into 36-strong Police Support Units (PSUs), all armed and acting independently, based at police divisions. These already receive riot and firearms training at regular intervals. They would also round up, at the start of the emergency, those deemed 'subversive' by the police Special Branch for fates unspecified.

There is also an elaborate system of Military Aid to the Civil Power (MACP), should it be required, involving both the regular and the Territorial Army, furnished with weaponry from CS gas to sub-machine guns.

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Further Reading

Introductory reading (pamphlets and basic books)

Protest and Survive by E.P. Thompson and Dan Smith (editors), Penguin Books, 1980.

Overkill by John Cox, Penguin Books, 1977.

Apocalypse Now? by Mountbatten and others, Spokesman Books, 1980.

European Nuclear Disarmament by Ken Coates, Spokesman Books, 1981.

Civil Defence — The Cruellest Confidence Trick by Phil Bolsover, CND, 1980.

NATO rules OK? by John Cox and Dan Smith, CND, 1978.

More advanced reading

The Defence of the Realm in the 1980's by Dan Smith, Croom Helm, 1980.

The Game of Disarmament by Alva Myrdal, Spokesman Books, 1980.

The Counterforce Syndrome by Robert C. Aldridge, Transnational Institute, Washington DC, 1978.

Dubious Specter — A Second Look at the 'Soviet Threat' by Fred M. Kaplan, Transnational Institute, Washington DC, 1977.

The Western Alliance by A. Grosser, Papermac, 1980.

The Disintegrating West by Mary Kaldor, Penguin Books, 1979.

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Towards the Final Abyss by Professor Michael Pentz, J.D. Bernal Peace Library, 1980.

The Military Balance 1980, International Institute for Strategic Studies, London.

Facts and opinions on nuclear weapons and disarmament appear regularly in the following periodicals:

Sanity (the bi-monthly magazine of CND).

END Bulletins of Work in Progress (bi-monthly from the Bertrand Russell Peace Foundation).

ADIU Report (bi-monthly from the Armament and Disarmament Information Unit, Mantell Building, University of Sussex, Falmer, Brighton, BN1 9RF).

Peace News (fortnightly from 8 Elm Avenue, Nottingham).

New Statesman.

The Guardian.

The campaign for nuclear disarmament is co-ordinated nationally and internationally by:

— CND, 11 Goodwin Street, London, N4.

— END (European Nuclear Disarmament), Bertrand Russell Peace Foundation, Gamble Street, Nottingham NG7 4ET and END London Office, 6 Endsleigh Street, London WC1H ODX.

Nottingham for Nuclear Disarmament also publishes ACTION NOTES for individuals, groups and larger organisations. Available from NND, Environmental Information Centre, 15 Goose Gate, Nottingham.