

THE BOMBING OF BRITAIN 1940-1945 EXHIBITION

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THE GERMAN BLITZ ON BRITAIN

The British Isles were subjected to bombing attack by German aircraft from May 1940 to March 1945. For most of this time the bombing was light and intermittent. The German Air Force conducted a sustained bombing offensive only between August 1940 and June 1941. During this period most bombs fell on the major ports and shipbuilding centres around Britain's coastline, including London, which sustained the heaviest and most continuous attacks. Raids on industrial centres were limited chiefly to towns where aircraft production was based. In the last year of the war the German high command also ordered attacks by missiles, the V1 flying bomb and the V2 rocket, the first deliberately indiscriminate campaign waged against British targets.

The pattern of bombing

The German bombing of Britain went through a number of distinct phases. After the defeat of France in June 1940, German Air Fleets 2 and 3 were based in northern France and the Low Countries to prepare for action against Britain. In the summer of 1940 small probing attacks were made to test the defences and to give German aircrew experience in both day and night bombing. In August 1940 the German Air Force was ordered to destroy the RAF as a fighting force and to attack its sources of supply. By late August, believing the RAF to be close to defeat, the German Air Force switched to military and industrial targets around London and in other parts of Britain. On 7 September came the first heavy raid on the London dock area; almost four months of continuous bombing of the capital followed.

The bombing in September coincided with the realization by German leaders that it would not be possible to invade southern England in the autumn of 1940 with the RAF still undefeated and the Royal Navy an ever-present threat to a cross-Channel operation. In mid-September Hitler postponed invasion indefinitely and the air force was left to conduct the world's first major independent bombing offensive. Because of high losses, the campaign was conducted almost entirely at night, a trend already evident from August onwards. The main focus of attacks was London but from November onwards heavy raids were made against cities in the Midlands – Birmingham and Coventry in particular – and against major port cities, including Manchester, Liverpool, Plymouth, Southampton and Portsmouth. During the winter months poor weather slowed down the offensive, which was renewed again in the spring of 1941.



An advertisement for the Dornier Do17 medium-bomber, first designed in 1935 and a mainstay of the German bombing force in 1940. Its slender lines earned it the nickname the 'flying pencil'.



The 'Battle of Britain' pamphlet prepared and marketed by the Ministry of Information in 1941 became an overnight best-seller, recording more than one million sales.

The campaign from March to June 1941 was directed mainly at the port areas with heavy attacks on Liverpool, Belfast, Clydebank, Hull and Plymouth. Two major attacks on London on 16/17 April and 10/11 May did extensive damage and produced high casualties, but the nightly bombing carried out between September and December 1940 was not repeated. In March 1941 the German Air Fleets were informed that most aircraft were to be moved east for the Barbarossa campaign against the Soviet Union and in early June the bulk of German air forces were transferred. A residual force was kept in northern France to obstruct British attacks on Germany and German-occupied Europe and to carry out small raids on southern and eastern ports and occasional inland targets. The numbers used for each raid were small, sometimes only two or three aircraft, flying in low under the radar screen, sometimes 50-70 bombers. The German hope was for a quick victory in Russia and a return to the heavy bombing of Britain. The pattern of German bombing can be seen in the figures for the annual tonnage dropped on British targets:

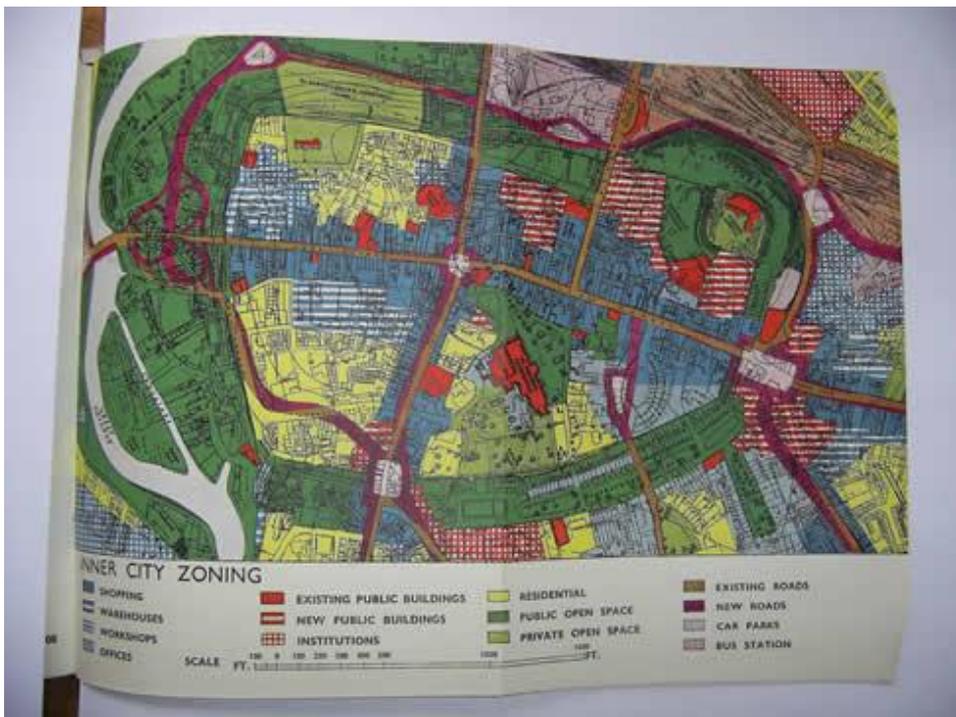
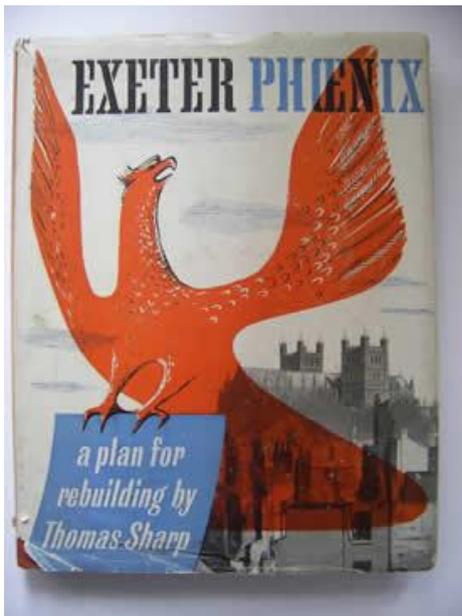
Tonnage of Bombs on British Targets 1940-1945*

1940	1941	1942	1943	1944	1945
36,844	21,858	3,260	2,298	9,151	761

*includes V-weapons

The war in the East and the air defence of the Reich took up a high proportion of German air resources and the offensive against Britain was never seriously renewed. In spring 1942, as an act of

retaliation against the British bombing of Paris in March and of Lübeck and Rostock in April, Hitler ordered a series of small raids against British cities of cultural and historic significance. Over the following two months there were attacks against Exeter , York , Bath , Norwich and Canterbury and in June two raids on the seaside resort of Weston-super Mare. After that the German Air Force had too many tasks to perform at the fighting fronts to be able to do anything against Britain . Plans were laid in 1943 to try to restart the Blitz and in January 1944, under the command of General Peltz, a series of larger raids, codenamed 'Operation Steinbock', were carried out against London and a number of other cities. Poor training and navigation, a shortage of aircraft, heavy and effective anti-aircraft defences and small bombloads made what the British called the 'Baby Blitz' relatively ineffective. By June the attempt had been abandoned.





Three illustrations from the book Exeter Phoenix produced by the municipal authorities in 1945 to illustrate the plans for the rebuilding of the city after the “Baedeker bombing” of April 1942. The elaborate plans included parks and landscaping, but much of it failed to materialize.

The final phase of bombing was not strictly speaking a strategic air attack. Hitler ordered the use of missiles (the so-called vengeance weapons or V-Weapons) to be fired continuously if possible against south-eastern England. The weapons were inaccurate and carried a small payload and did little damage to Britain's war effort. Out of 10,492 flying bombs only 2,419 reached London; only 517 rockets fell on the capital instead of the 10,000 a month Hitler wanted. Heavy bombing of the launch sites (Operation Crossbow), effective counter defences (anti-aircraft artillery using proximity fuses, for example), and slow production in Germany all limited the impact of the V1. Against the V2 rocket there was no defence except to capture and destroy the rocket silos, but slow production and the constant need to retreat in the face of the Anglo-American advance through north-western Europe once again placed limits on what could be achieved. Small air raids were still conducted through to late March 1945, when the last rocket, the last flying bomb and the last conventional air raid hit British targets.

The Strategic Purpose

The German bombing of Britain served different purposes at different times. The campaign launched in the summer of 1940 was designed to prepare the ground for the planned invasion of Britain, Operation Sea Lion, authorized by Hitler on 16 July 1940. This was to be essentially a form of long-range tactical bombing against RAF and military targets to eliminate British air defences and offensive capability. At the same time the German Air Force was ordered to help with the blockade of Britain, carried out partly by the German Navy using submarines and naval aviation and mining, and partly by the German Air Force with attacks on ports, dockyards, shipping and stores. The result was to pull the air force in two different directions, one in support of combined operations, one in

support of a longer-term strategy of blockade to cut Britain off from essential overseas supplies and to force a food crisis.

With the decision to postpone Sea Lion, taken on 17 September 1940, the air offensive entered a new phase. There were now four strategic objectives: the first was to continue the blockade in the hope that this would demoralize the population and put pressure on the British government to seek an armistice; the second was to undermine the British war production effort by a concentrated attack on the aircraft and aero-engine industries; the third was to continue bombing to prevent the British military from engaging in major campaigns elsewhere by tying down large resources in mainland Britain; finally, bombing was designed to persuade Stalin that Germany was serious about finishing Britain off before doing anything else, when in fact Hitler had ordered initial planning for an attack on the Soviet Union, which was confirmed in Directive 21 on 18 December 1940 as 'Operation Barbarossa'. This long list showed an absence of clear strategic thinking. The air force remained uncertain of the primary purpose of the offensive and was forced to scatter attacks over too wide a range of targets. Hitler had little confidence that Britain would sue for peace, and doubted the capacity to damage the war economy heavily. He hoped to return to defeat Britain in 1942. Bombing suited his strategy only because it forced Britain onto the defensive and inhibited Britain's war effort. Most of the RAF's squadrons of modern fighters were kept in Britain while almost 2 million people worked in some capacity in civil defence or anti-aircraft organisations.

When the bombing ended in June 1941, the few remaining German bomber forces could only hope to contribute to the Battle of the Atlantic by using aircraft to attack shipping, ports and stores. This became difficult to do because of the more sophisticated anti-aircraft defences created in 1941 in Britain, using radar controlled artillery and night-fighters equipped with radar to locate incoming bombers. Most of the subsequent attacks in spring 1942, spring 1944 and the V-Weapon attacks were retaliatory raids, designed to appease German public opinion, which wanted evidence that something was being done to limit Anglo-American raids on Europe. The V-Weapons were supposed to be fired at the rate of 10,000 a month to force the Allies to abandon bombing, but the small numbers actually available for operations never caused an insupportable level of damage in Britain. From 1942 it was Germany that found itself on the defensive in the air.

Terror bombing?

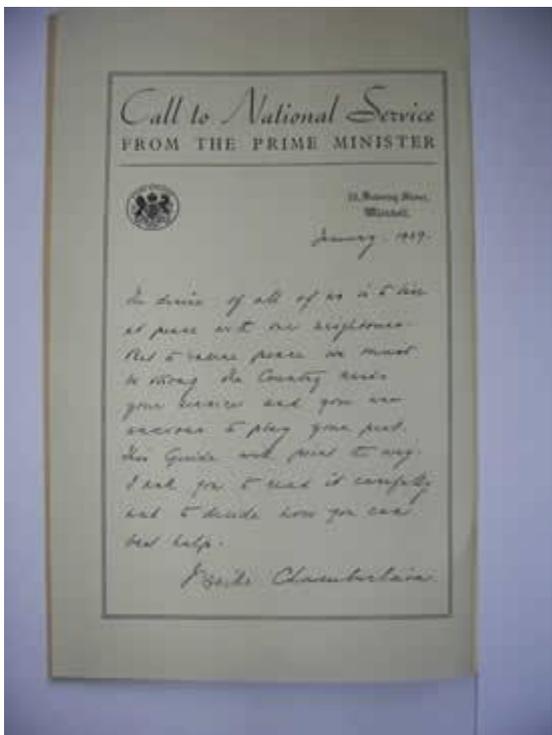
It has often been suggested that the German Air Force engaged in 'terror' bombing, the deliberate and indiscriminate targeting of civilians. Although civilians were killed in large numbers as a result of the bombing offensive, the air force was under instructions to use the bombs as efficiently as possible by seeking out and destroying key military and economic targets. When Hitler was asked to approve civilian bombing during the Blitz he refused. The raids in 1942 were supposed to be retaliatory terror, but the commander-in-chief of the air force, Reich Marshal Hermann Göring still insisted that militarily useful targets should have priority in the cities chosen for the raids. The desire to retaliate against British civilian targets, finally achieved with the V-Weapons, followed three years in which British bombers had inflicted high levels of destruction on civilian targets in Germany.

The chief explanation for the British assumption that the Blitz was a deliberate terror offensive lies in the growing inaccuracy of German bombing as attacks shifted to night, in poor weather with less experienced crews. German bombing became less effective as the Blitz went on, and the spread of bombs on residential areas more widespread. The decision to use higher numbers of incendiaries,

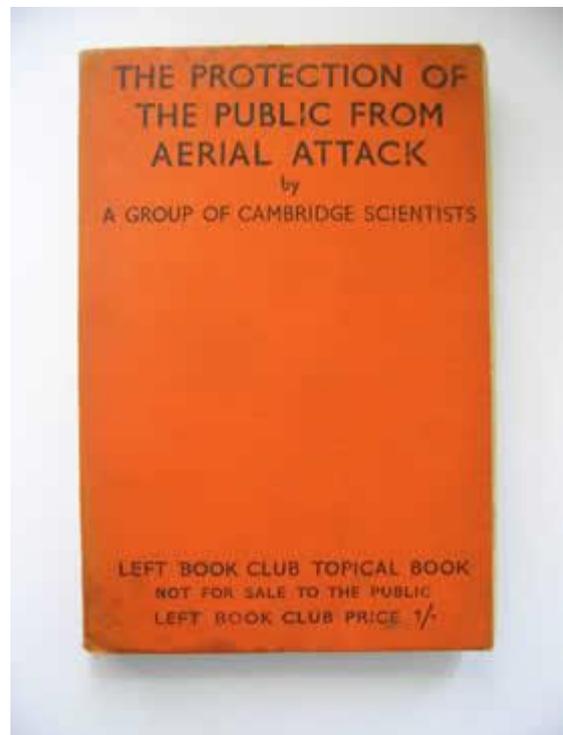
taken in order to destroy warehouses, stores and factories more effectively, also resulted in large-scale destruction of housing. The decision to permit ground strafing also made it clear that the German Air Force was no longer just committed to military or war-economic targeting.

PREPARING FOR BOMBING IN BRITAIN

Britain had been bombed in the First World War, first by German Zeppelin airships, then by German bombers. The scale of each attack was small and the number of casualties over four years of raids only 4,820 (including 1,413 dead) but the assault on civilians from the air was unprecedented and the reaction of the population one of panic and fear. The attacks prompted the establishment of an air defence system (anti-aircraft guns and fighter planes) and of early civil defence measures, including shelters, lighting restrictions and limited warning systems. In 1918 the Royal Air Force was established as an independent service largely on account of the bombing threat.



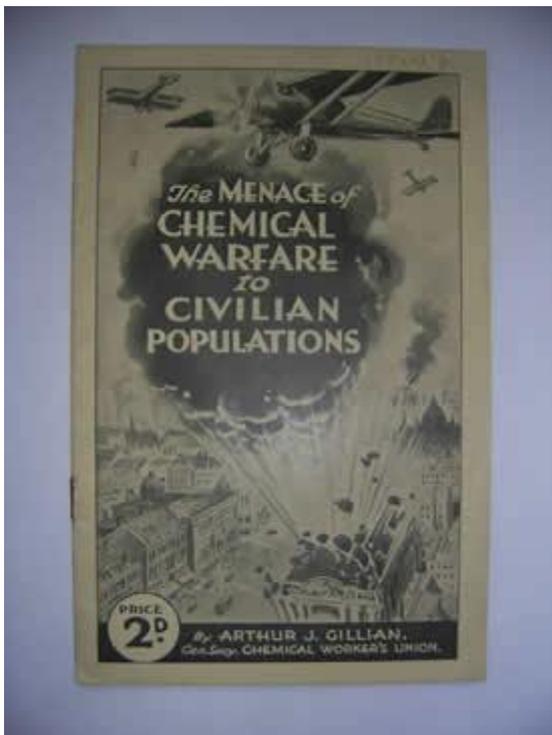
Letter from Prime Minister Neville Chamberlain in January 1939 appealing to the public to register for National Service. Despite his hatred of war, Chamberlain understood that it had to be prepared for.



In the 1930s there was strong popular hostility to ARP because it was regarded as a step towards war preparation. In 1937 a group of top Cambridge scientists produced a book on air raid protection to show that the anti-gas precautions recommended by government were not in fact effective. Their hope was that the government would abandon ARP and try to preserve peace instead.

Early preparations

As a result of the first bombing of Britain, inter-war governments were aware of the need to anticipate any future bombing offensive. The high ratio of casualties to bombs during the First World War encouraged an exaggerated assessment of the likely levels of death and injury. The popular idea of the 'knockout blow' from the air suggested that the first few days of any future war would be the most dangerous. In May 1924 an Air Raid Precautions Committee was set up and throughout the 1920s made recommendations about protection against bomb and gas attack from the air and the limitation of damage to industry and services. Little was done in practical terms, however, until July 1935 when an Air Raid Precautions (ARP) Department was set up in the Home Office. The department recommended to all local authorities the establishment of a local ARP organization, the supply of equipment and a programme of training.



The threat of gas attack was the most potent in the 1930s. This pamphlet was issued in 1933 by the trade union representing British chemical workers in order to alert the public to the widespread danger of gas attack, for which there was still no protection.



As the threat of war drew nearer, popular booklets on air raid first aid were made widely available. Hundreds of thousands of British people took part in simple first-aid training to prepare them for future raids.

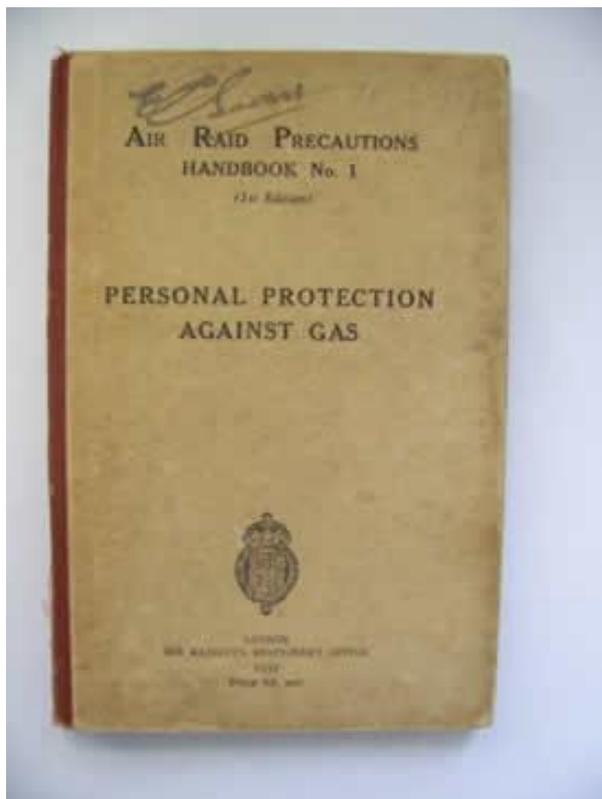
The most serious threat was thought to be gas attack from the air and in April 1936 the government set up an Anti-Gas School at Falfield, near Bristol, where ARP specialists were to be trained who could return to their local areas to train a wider circle of ARP volunteers. The whole system was dependent on the co-operation of local government. Limits were placed partly because the local authorities were reluctant to commit too much money until the government had indicated how much of the cost would be borne from national funds, partly because in many places there was strong anti-war and pacifist objection to ARP. The anti-war movement saw ARP as a form of backstairs militarization of the population and in some cases boycotted preparations. There was still much public support for disarmament and the hope that air attack would be outlawed by international agreement.

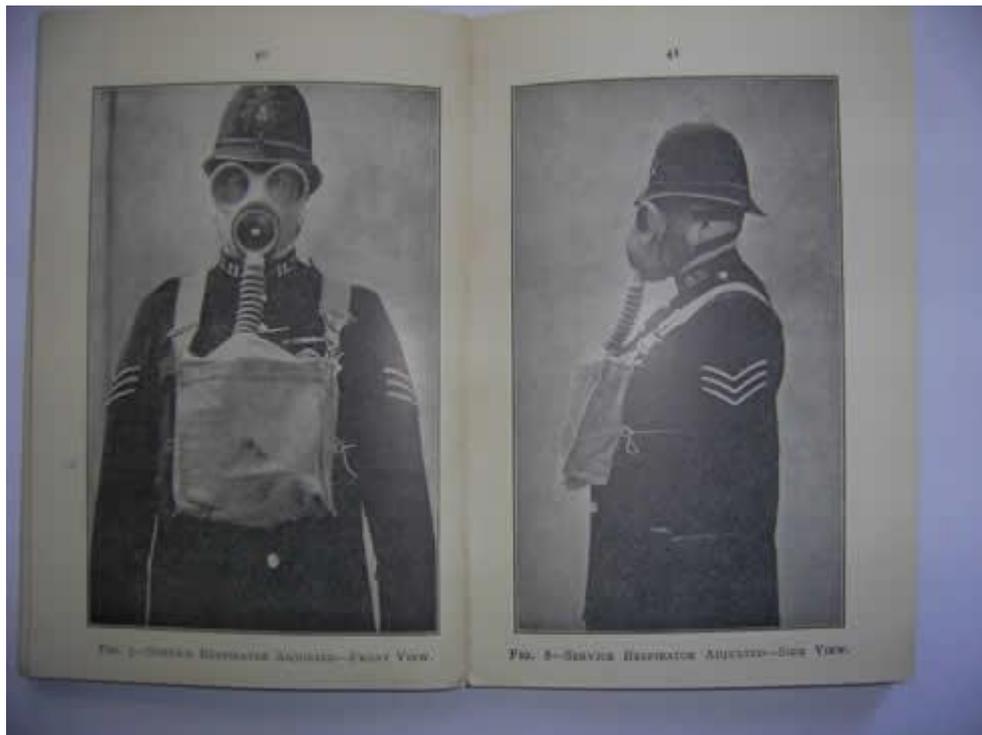
The 1937 ARP Act

By 1937 the nature of the threat directed at Britain had altered. Disarmament had been largely abandoned as a possibility and the rise of an aggressive, rapidly rearming Germany presented the very real risk of bomb attack on a large scale from European bases. In the summer of 1937 a committee set up under Sir Warren Fisher, permanent secretary to the Treasury, reported on the need for a comprehensive, country-wide system of civil defence whose object was not to provide complete immunity (which was always understood to be impossible) but to limit damage to production and services and to preserve lives as far as possible. The most pessimistic estimates suggested that there would be 200,000 casualties in the first week, including 66,000 dead and government plans were based on finding ways to reduce this possibility. Much of the planning was

governed by fear that the poorer parts of the population, crowded into the major industrial cities, would panic at the first attacks and create conditions for social breakdown.

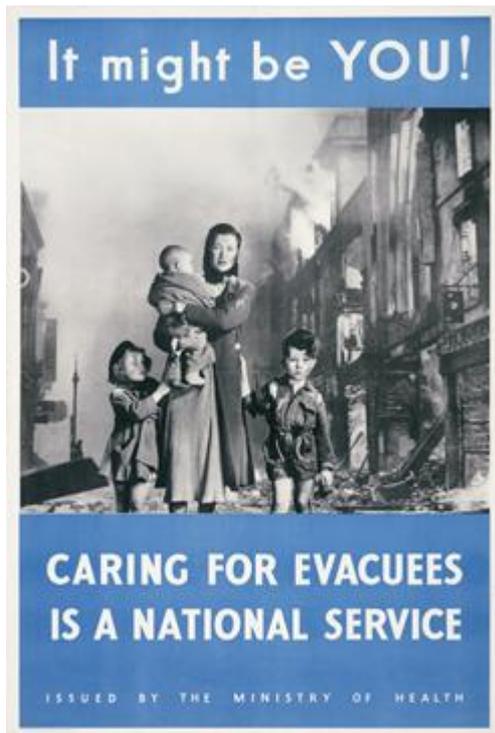
The result of the report was the 1937 ARP Act, which came into force on 1 January 1938. The law required all local authorities (County Councils or municipal boroughs) to become 'scheme-making' bodies, responsible for organizing a local ARP system. The government undertook to refund between 60 and 75 per cent of the cost, shifting most of the growing financial burden of civil defence on to central government. The Czech crisis in September 1938 nevertheless still found many authorities in the preliminary stages of an organization. The popular war scare prompted by the crisis showed how much still needed to be done and between September 1938 and the outbreak of war ARP became a major factor in local government.



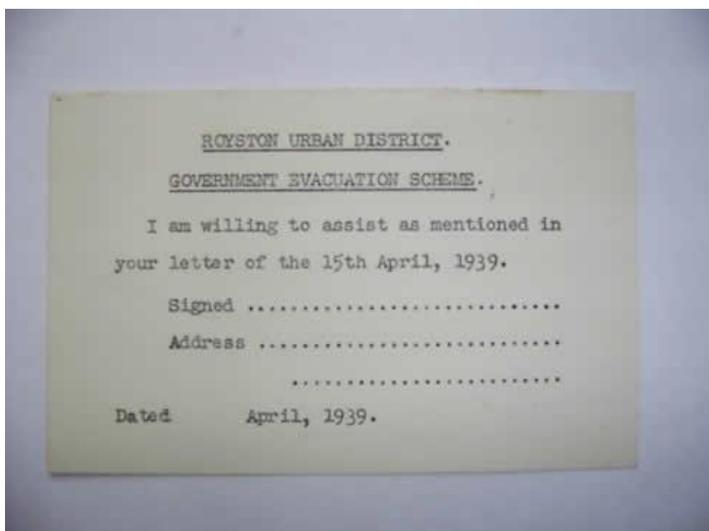


When the government began to issue official ARP handbooks, the first one produced, in 1937, was about protection against the threat of gas. Every city set up de-contamination centres and thousands were trained to recognize the different forms of toxic substance they were likely to meet. The second illustration shows a policeman demonstrating the first early gas masks. Soon masks were distributed to the entire population.

Each 'scheme-making' body developed a system based on the existing structure of local government. In cities and towns an ARP Control Centre was established, usually run by the local Town Clerk as ARP Controller. The Clerk was supported by the local police commissioner, the borough architect and the borough engineer, each responsible for one aspect – keeping order, building shelters, planning rescue and reconstruction. To increase the degree of co-ordination between authorities (particularly in London where there were a large number of local authorities geographically side-by-side) a system of 12 Regional Commissioners was set up in April 1939. Each commissioner had representatives from the main ministries involved (Housing and Local Government, Food, Home Security, Health etc.) so that there were close links established between centre and locality. This system operated throughout the war with increasing success.



A poster calling on households in less threatened areas to volunteer to take in evacuees. Millions did volunteer, but the result was often a degree of social friction between town and country and between classes.



Circulars like this one from Royston District Council in Hertfordshire were sent to all householders in Britain in the spring of 1939, well before the outbreak of war, to find volunteers to take in evacuees.



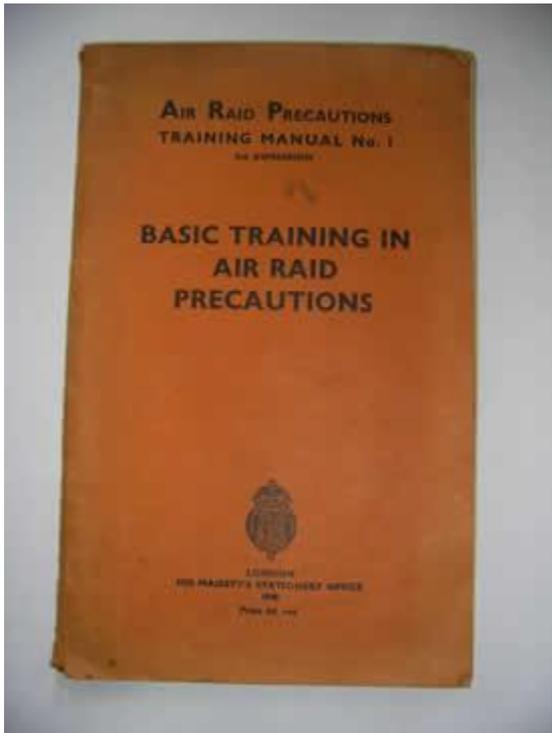
Local councils used posters to alert the public to ARP measures in their area. Here a woman is reading a poster promoting 'gas mask week'. Masks had to be regularly re-tested in local 'gas chambers' to find any that were faulty.



Householders were encouraged to buy a simple stirrup pump for use against incendiary bombs. They were given rudimentary training and then expected to tackle an incendiary bomb on their own.

The reality of ARP

The organization developed faster than the facilities for ARP. The scheme started late and required high expenditure on resources that competed directly with accelerated rearmament in 1938 and 1939. Personnel were recruited as volunteers and after Munich the numbers increased rapidly, but there remained substantial gaps in the number of air raid wardens, first aid volunteers and rescue workers. Only the outbreak of war encouraged increased enrolment and by June 1940 there were 626,149 ARP workers, one-fifth of them full-time. The greatest deficiency was the fire service, which had been run in the 1930s by a variety of small local services, some of them manned by local policemen. In 1938 local authorities were ordered to set up an Auxiliary Fire Service of part-time and full-time volunteers to cope with a possible wartime emergency. In 1937 there had been 5,000 firemen in England and Wales; by the outbreak of war there were 75,000 full-timers, by the end of 1940 85,000 full-time and 140,000 part-time.



The ARP division of the Home Office issued millions of booklets and leaflets, including this Training Manual No. 1, published in 1937. By 1940 there were 626,000 people in Civil Defence, and a further 353,000 part-timers.

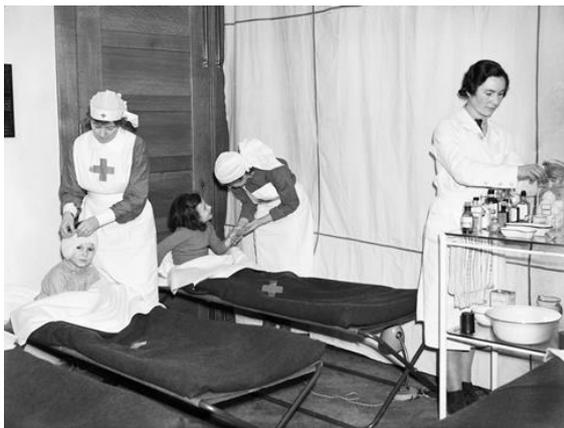


London auxiliary firemen take a break during the Blitz. The shortage of full-time fire fighters led to the creation of the Auxiliary Fire Service. In 1937 there were 5,000, by 1940 more than 85,000. (Courtesy of the Imperial War Museum, London)

The volunteers often had only a rudimentary training and were short of equipment and uniforms. ARP welfare services were limited and until the formation in 1938 of the Women's Voluntary Services for Air Raid Precautions (WVS), there was no dedicated welfare organization. The WVS eventually recruited one million women who undertook to supply meals in local canteens or mobile vans, to look after the displaced or refugee population and to supervise the evacuation of vulnerable parts of the population. They also helped to show people how to put on one of the 40 million gasmasks produced for the British population in case of gas attack.



Poster recruiting women to the ARP services. Thousands of women became air raid wardens, messengers, telephone operators and first aid workers. Around one million volunteered for the Women's Voluntary Services, which helped provide welfare during raids. (Courtesy of the Imperial War Museum)



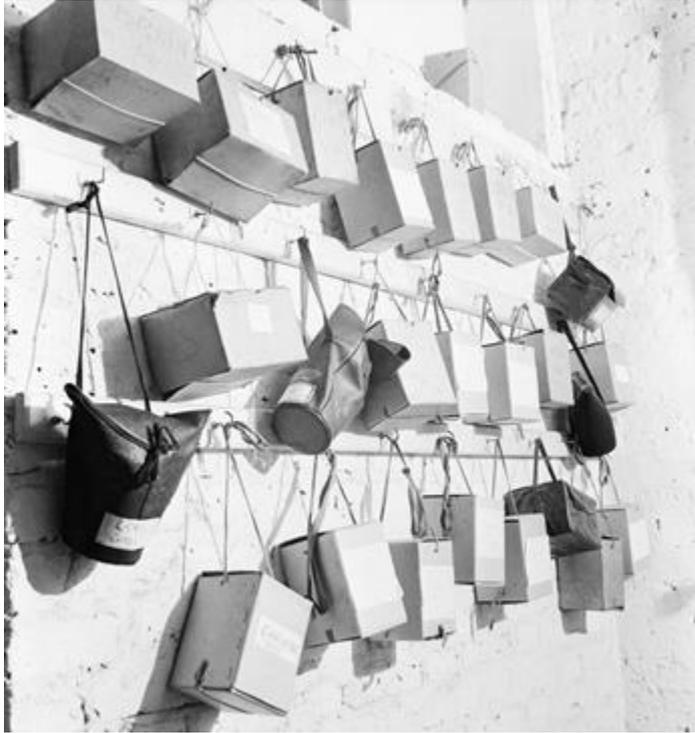
Children receiving medical attention after a raid. Temporary First Aid centres were set up in all threatened cities, where light injuries were treated on the spot. (Courtesy of the Imperial War Museum)

There were two ways in which the vulnerable part of the population (estimated to be around 27 million living in major cities and ports) could be helped: first, a programme of evacuation of children, the disabled, pregnant and nursing mothers, and mothers with pre-school infants; second, the

provision of air-raid shelters. Evacuation was planned from early 1939 and when war broke out in September 1939 1,473,500 people were moved from threatened urban areas to small towns and villages in the surrounding area or to distant localities in Wales, the West country or north-west England which were thought to be safer. The families where evacuees were billeted were paid a rate per child. Many children and mothers found the experience alienating, while host families sometimes complained about the delinquent and unhygienic character of their evacuees. By January 1940, 900,000 had returned home. In London only 34 per cent of eligible children were evacuated, in Birmingham only 14 per cent.



Evacuees to the countryside helping out with farm work in Totnes, Devon. Although there were strict controls over using child labour, many children preferred to work rather than do nothing. Many got a healthy diet and fresh air for the first time. (Courtesy of the Imperial War Museum)

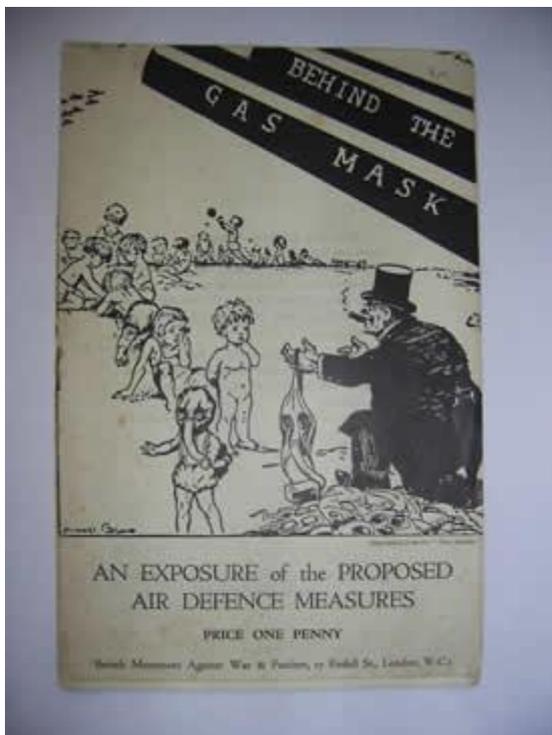


Children's gas masks hanging in a school basement shelter. Although it was recommended to carry a gasmask at all times, by spring 1940 only a small fraction continued to do so. During the Blitz the masks were carried more often, and sometimes worn to cope with dust or fumes.

The programme for shelter provision also faced many problems. The government plan was to encourage the decentralization of the population by supplying small domestic shelters or encouraging people to convert a basement or cellar as a shelter. The fear was that large communal shelters might help to spread disease and be sites for collective social protest. Private shelters consisted of the corrugated steel Anderson shelters (named after the engineer David Anderson, who designed it); public shelters were large converted basements, air-raid trenches and small brick surface shelters built on pavements or open ground. The public shelters were often poorly constructed and the surface and trench shelters were used very little by the local populations, which rightly recognized that the only real protection was to be deep underground. For the most vulnerable population in the crowded working-class districts of the major cities the Anderson shelter was not an option since they had no gardens. The provision of shelters was uneven in the poorer areas. Around half of the vulnerable population had no domestic shelter and public shelters could cater for only 10 per cent of them.



A garden shelter during the war. The Anderson shelter seen here, designed by the engineer David Anderson, was supposed to be installed below ground level, but in areas with the risk of flooding this was difficult to do. They were no defence against a direct or near direct hit. (Courtesy of the Imperial War Museum)



A pamphlet published by the British Movement Against War and Fascism in 1935 to protest against preparations for home defence that implied a future war. Here a cigar-smoking capitalist is handing out gasmasks to small infants.

How prepared was Britain?

The ARP system in Britain developed late and unevenly. If heavy bombing had begun in September 1939 the level of casualty would have been even greater than it proved during the later Blitz. Britain needed the year before the bombing began in earnest to try to make good some of the gaps in ARP provision. The active defences (anti-aircraft guns and fighter aircraft and radar) were relied on to blunt bombing attack, but when the major night-time offensive began in September 1940 there were few night fighters and anti-aircraft artillery could shoot down hardly any of the attacking aircraft. This placed a large responsibility on the passive defences to limit damage and loss. Public shelter provision was generally poor but domestic shelters were widespread among better-off communities. Evacuation had failed as a policy and had to be restarted again with the bombing in September 1940. The most successful part of the ARP programme was the blackout. Most tests in 1940 from the air confirmed that British cities were comprehensively darkened. One of the least successful was the system of air raid warning. This was controlled by RAF Fighter Command using radar and the volunteer Observer Corps to track incoming aircraft. Alarms were not usually given for single aircraft or small numbers, while the full alarm when it came covered a wide area where no attack took place. Even before the Blitz the authorities realized that something had to be done and a system of 'roof spotters' was set up whose job was to see how close the bombing and anti-aircraft fire was and to give warning to shelter only when attack was imminent. This allowed productive work to continue through most of the warning period, though it placed a heavy burden on the workers who took it in turns to stay on the roof, dangerously exposed to risk. On balance, the level of preparation in Britain was sufficient to prevent a major crisis, but its many deficiencies were to be fully exposed when the bombing campaign began.



A Civil Defence book for the Weston-super-Mare area in Somerset. By the last years of the war every part of the country had a comprehensive Civil Defence organization covering everything from emergency feeding to gas decontamination chambers.



A poster produced by the Hull League of Good Neighbours, set up to allow householders who were not Civil Defence volunteers to contribute to helping bomb victims. The posters were displayed in the front window of more than 1,000 Hull houses. (Courtesy Hull History Centre, TYN/1/W6)



One of the most widespread effects of the bombing threat was the blackout. This required a whole range of preparations, including the addition of white lines on roads and pavements, seen here, designed for people to be able to follow a route in the dark. (Courtesy of the Imperial War Museum)



'Roof Over Britain' was published by the Ministry of Information in 1940 to show the extent of active defences against the threat of bombing provided by the Anti-Aircraft Command. In fact an effective system of radar-directed heavy anti-aircraft guns was in place only after the Blitz had ended.

THE STATE AND BOMBING 1940-1945

The German bombing campaigns gave the state a central role in trying to protect the home population, the war economy, food supply and essential services. The measure of the state's success

was the extent to which the population remained prepared to accept sacrifices on the home front and was willing to continue the war. This state of mind was described as 'morale' and its measurement and reinforcement was seen by the state as an essential part of its effort to limit the damage done by bombing to Britain's war effort. Despite pre-war anxieties about the vulnerability of city populations to panic and social collapse, the bombing never produced a serious social crisis or a wave of political unrest. What it did do was to increase the reliance of the population on state institutions and force the state to respond flexibly and effectively to the challenges posed by bomb attack. Bombing certainly did create local if temporary social dislocation and panic, but the problems were generally overcome. The system was never tested severely after the summer of 1941, by which time civil defence provision was at last in a better position to help sustain morale and limit damage to the war economy and services.

The state and civil defence measures

The basic organization of civil defence, with the balance between local organization and central supervision, remained largely unchanged over the period of the Blitz, though the role of the Regional Commissioners was strengthened with the addition of officers responsible for reconstruction and shelter provision. The principal changes in civil defence activity came as a result of the changes in the German method of attack. With increased incendiary loads the problem of fire was much greater than had been anticipated. Buildings left closed and empty in the evening or at weekends burnt down before the fire services could cope. Local fire chiefs estimated that fire was responsible for between 80 and 90 per cent of the damage. The wide fire damage caused by the raid on the City of London on 29 December encouraged the government to act. On New Year's Day 1941 the Minister of Home Security, Herbert Morrison, announced the establishment of a scheme for compulsory fire-watching. This was the first time compulsion had had to be used and it created problems with the trade unions, who wanted firewatchers paid for their time, and provoked hostility from those who were willing to volunteer for duty but disliked the idea of compulsion. Nevertheless concerted schemes for fire prevention were essential and millions were drafted in to watch, day and night, for incendiary attack. In August 1941, the watchers were renamed the Fire Guard and placed under the control of the Labour MP, Ellen Wilkinson. By the end of the war an estimated 6 million people had taken part in the routine job of spotting incendiaries and, if possible, extinguishing them.

The second change came with Morrison's decision to create a National Fire Service to replace the small local organisations. The law was pushed through parliament in May 1941 and the National Service was created in August. Standard procedures, training and equipment were introduced and by the time the Blitz was over, there was a more effective fire-fighting organization in place. There were other shortages of personnel to be coped with and in the National Service Bill passed in April 1941, workers could be allocated compulsorily to civil defence work. The same act gave the courts the right to direct conscientious objectors to ARP or fire service roles. Until then most local authorities or services had rejected the application of pacifists to help with the civil war effort.

Over the last four years of war the government interfered little with the civil defence system except to move some of the manpower into essential war work and to recruit more women. In 1944 plans were set up to reduce the civil defence establishment, and to institute mobile columns to supply rescue and welfare services from area to area. The Baby Blitz and the V-Weapon attack slowed down the pace of civil defence reductions, but by the autumn of 1944 the government insisted on an

accelerated programme of demobilization. In the two years after the end of the war shelters had to be knocked down or returned to local authorities for salvage, and the equipment, vehicles and stores that had built up over the period since the Blitz sold off or used for rescue work in Europe.

The shelter crisis

The onset of heavy bombing exposed the problems with the programmes of evacuation and shelter provision designed to protect the vulnerable sections of the community. Evacuation began again slowly – it was called the 'trickle evacuation' – and by spring 1941 there were 1.368 million evacuees, a smaller number than in September 1939. The numbers leaving London were, despite the bombing, much lower than anticipated.



There were many suggestions for effective shelter provision indoors as well as public shelters. This is one of the sketches submitted for the competition which was eventually won by the Morrison shelter, a sturdy table-frame shelter that could withstand the fall of heavy debris. (Courtesy of the Imperial War Museum)

The slow pace of evacuation placed greater pressure on the level of shelter provision. The government tried to maintain its commitment to decentralized, small-scale sheltering but people in the inner-city areas preferred communal sheltering. The London underground system was an obvious solution, and had been used during the First World War. The government opposed the use of the tubes because of concern over keeping the transport flows going in the city during bombing. But from 7 September 1940, with the first heavy raid on London, people flocked into the stations. The police and London Passenger Transport Board tried to control the influx but failed. By late September up to 120,000 were sleeping in the stations and on the platforms. The government reluctantly agreed to open a select number of stations and over the following three months efforts were made to supply canteens, bunks and first aid posts.



When the Blitz began in September 1940 the government was keen to prevent the London Underground being used as a shelter. Public pressure reversed the decision later in the month and soon up to 120,000 were sleeping each night on the platforms and even in between the rails.

(Courtesy of the Imperial War Museum)

The situation in public shelters was the subject of wide criticism, largely because it had been wrongly assumed that bombing would happen in the day and for short periods. The long nights of bombing forced people to sleep and eat in the shelters. The government set up an investigation under Lord Horder to recommend improvements to the shelters. His report led to the introduction of more effective public health measures, a ticketing system for shelter users, the introduction of bunks and better control over the sanitary conditions. In December 1940 responsibility for shelters was divided between the Ministry of Home Security (siting, construction and repair of shelters) and the Ministry of Health (the internal conditions and control of shelters). By May 1941 there were 1.3 million bunks installed in shelters and shelter provision in London for at least 86 per cent of the population. By 1942 shelters all over the country had been repaired, strengthened and provided with adequate medical and catering facilities. This did not avoid the occasional crisis. In March 1943 a stampede down the steps of Bethnal Green tube station resulted in 173 deaths and a further set of improvements to the underground shelters was undertaken to avoid a repeat.

Damage Limitation

The priority of the government was to find ways to limit damage to industry and services and to maintain a satisfactory level of food supply and housing stock. Factories were ordered to supply their own air raid precautions, including shelters and protective walls for valuable machinery. In the

summer of 1940 the Ministry of Aircraft Production ordered the dispersal of essential aero-engine and aircraft production. Each major component or assembly had to be produced in at least two places in case one got hit; most production from the main plants was decentralized into the surrounding district, where there was usually extensive unused industrial capacity. The programme of dispersal almost certainly reduced the damage that German attacks might have done to the aircraft industry. To help with the transfer of workers, temporary hostels for 200,000 workers were built. Results of these efforts to protect industry were generally positive. It was found that the aero industry in the Midlands, despite repeated attacks in November and December 1940, had lost only 700 machine tools out of total regional stock of 120,000. By the end of the Blitz the aircraft industry was producing fifty per cent more aircraft than at the start.

One of the government's chief concerns was the supply of food, which was regarded as essential in the maintenance of popular support for the war effort. The bombing was directed at ports and food stocks, while submarines tried to interrupt the shipping lanes. Although over 400,000 tons of food stocks were destroyed or damaged, the government dispersed what remained into a system of food storage zones (104 in total) where 6.5 million tons of food were kept, enough to feed the entire population for two weeks. At no point during the Blitz was the food supply severely threatened; the ports and docks were damaged heavily in some places, but alternative ports were activated, while repair was rapid.

The most pressing problem was the housing stock. Bombing had a number of effects on housing. Dwellings hit directly by a high explosive bomb were usually destroyed. Fire damage affected houses to a greater or lesser extent. Houses in the vicinity of bombing had slates and tiles blown off the roof and all the window glass shattered. In the aftermath of a raid the destruction looked extensive, but it was soon found that so-called 'first aid' repairs could be done quickly and houses brought back into occupation. The number of long-term homeless was quite small, and many were found accommodation with friends or relatives. By the end of the Blitz 1.6 million houses and apartments had been returned to use, while only 271,000 still needed repair. By 1942 most housing damaged by bombing was being reused. The repair and rehabilitation schemes were based on a system of Mutual Aid. Local areas undertook to supply a certain number of workers, machines and vehicles to help a bombed town. They would be sent at once after a raid and worked for a number of days clearing debris and repairing houses. In August 1940 the government also issued detailed instructions on salvage. This was made the responsibility of the householder, but in many cases the local authority supplied the lorries and labour to move furnishings and stored them free of charge.

During the Baby Blitz and the V-Weapons campaign a large number of houses were once again subject to superficial damage, but in this case the government had prepared mobile rescue and repair teams, including some soldiers waiting for D-Day, and once again rehabilitation was carried out relatively quickly. The repaired houses were not always comfortable and the repairs were temporary and unattractive, but the state placed a high priority on making sure that homes could be re-used as quickly as possible.



The results of a V2 explosion in late 1944. The German rockets carried a one-ton warhead and were capable of devastating damage in the area immediately around the area where they landed, though the effects were dealt with quickly by Civil Defence. (Courtesy of the Imperial War Museum)



Roofers repairing bomb-damaged roofs with temporary tarpaulins. High explosive was capable of smashing windows and lifting roof tiles over a wide area, but most of the more than 2 million houses damaged in the Blitz were habitable again after a few weeks. (Courtesy of the Imperial War Museum)

Morale in the Blitz

One of the persistent worries for government since the 1930s had been the fear that bombing would be insupportable for a modern society and might lead, as many air strategists had suggested, to social breakdown and the collapse of the war effort. In 1940 there was little sense that this would be the reaction to impending air attack. The 'militarization' of the home front in the year between the outbreak of war and the onset of bombing had gone a long way to create the idea of a 'front line' at home.

The state played an important part in monitoring opinion and creating a propaganda appropriate to current war needs. A Ministry of Information was set up at the start of the war, which established a system of Home Intelligence reports designed to monitor closely the popular mood all over the country, using a cohort of local agents to supply information. As a result of their reports efforts would be made to target particular anxieties or to boost particular sentiments. The reports showed, even during the period of intensified bombing, that people were worried about a whole range of issues to do with the war or with local economic conditions, rather than bombing. Indeed an opinion poll in spring 1941 showed that only 12 per cent of respondents chose bombing as the most serious issue facing the government.

The most sensitive question concerned the release of details about raids and casualties. The government consistently refused to do so on security grounds (with the single exception of Coventry where the numbers were published to avoid extravagant rumours). There was widespread popular resentment at the secrecy surrounding raids and in the end it was agreed that local government officials could post the number of dead in a list on town hall doors if it was felt this would help local morale. The Ministry established a rumour department to try to counteract the popular fears about the effects of bombing, but its activity petered out in 1941.

One of the propaganda strands chosen by the government was captured in the slogan 'we can take it' or 'London can take it'. A film was produced with the title 'Britain can take it' (to avoid accusations from the provinces about too much focus on the capital) and shown to wide acclaim in British cinemas. But the Ministry found from local reports that people preferred the idea of 'giving it' in reprisals against Germany and that the idea of 'taking it' was too negative. By April 1941 the slogan 'we can take it' was dropped from home propaganda.

The local government and police authorities generally reported throughout the Blitz that despite brief moments of panic and despondency immediately following an attack, popular morale proved remarkably strong under air attack. Police reports noted that against expectations morale seemed highest in the poorer working class areas, while middle-class communities were more prone to anxiety and isolation. Apart from a brief movement of protest over tube sheltering in September 1940, there was little political dissent or social unrest. Reports produced after the Blitz was over, in the summer and autumn of 1941, suggested that the bombing had increased dependence on the state. Over the course of the Blitz over 100,000 payments for compensation for injury were made by the National Assistance Board. State authorities were very aware of the need to deliver effective help early on in a raid and to supply full information and advice for welfare and rehabilitation. In the few cases where this system broke down, in Coventry in November 1940 and in Southampton the following month, the public mood was observed to decline sharply if temporarily.

In 1944 when the bombing returned the authorities kept secret from the population the exact nature of the V-Weapons until it was felt to be safe to release the details. After three years with relatively little threat, the renewed attacks in 1944 provoked a downturn in popular morale, partly because people expected the war to be over that year and had not expected a German retaliation. The government made every effort to repair damage quickly and to provide extensive welfare but one local report suggested that morale was lower in the summer of 1944 than at any point in the Blitz.

BRITISH SOCIETY UNDER THE BOMBS

The 'myth of the Blitz' was already being constructed even during the war. In November 1942 the government published the booklet 'Front Line', an account of British society during the Blitz which sold more than 1.6 million copies. The booklet emphasized the capacity of the community to 'take it' under the bombs, the growing sense of social responsibility and solidarity, the classless collaboration in a just cause. There was much truth in this picture of how urban society coped with bombing, but the reality was more complex and less heroic than the popular postwar image has suggested.



In November 1942 the Ministry of Information published 'Frontline 1940-1941', a heroic account of the British population's resolve in the face of the bombing. It sold 1.6 million copies in Britain and became for many the standard account of British fortitude, though it masked an often complex reality.



During the Blitz a great many artists took advantage of the fantastic landscapes created by bombing and the widespread ARP measures as a source of creative inspiration. Some artists were appointed by the government as official war artists of the home front.

The many responses to bombing

The experience of bombing was never uniform. Reactions depended on a range of factors. Some places were never bombed, some only suffered a few bombs, large port cities suffered repeated heavy raids, while London was bombed continuously month after month. Reports on the attitude of the population showed that in areas subject to repeated alerts and bombing, people became more conditioned and less fearful, the very opposite of the pre-war idea that the heavier the bombing, the more likely the social breakdown. Cities unexpectedly bombed heavily (like Exeter or Norwich in 1942) showed widespread shock and panic. Small cities also seem to have found it harder to cope with the aftermath of homelessness and the collapse of services, while large conurbations (London, Birmingham, Merseyside) could absorb the temporary dislocation better because there were alternative services, shops and housing within easy reach.

What all reports on the bombing indicate is that the immediate response was one of fear, disorientation and anxiety. This was observed generally to be only a temporary phase. People trekked out of badly bombed cities such as Plymouth or Southampton or Hull and slept in the local villages in church halls, schools or farm buildings, or even in open countryside, as they did outside Clydebank. But populations either returned within a few days, or trekked regularly, coming in to work and returning to suburban or rural safety. The government disliked the idea of trekking but had to accept it and eventually so-called 'cushion belts' were established in the hinterland of bombed cities where proper supervision of sleeping and welfare was undertaken. The temporary nature of the shock can be seen in figures on absenteeism. In Clydebank around two-thirds of workers were back at work within a few days of the heavy bombing in the spring of 1941. In other heavily bombed cities, work was restored rapidly, usually within three or four days of the attack.

The bombing was also capable of eliciting quite different reactions. Diaries and letters show that some people found the experience dangerous but exhilarating. After a few raids, many people in London adopted a more casual or fatalistic attitude since the risk of actually being bombed was soon seen to be much less than early fears suggested. One of the reasons for the very high casualties in the Blitz (43,000 in 1940 and 1941) was the failure of many people to seek shelter. Diaries show that people might shelter a few times and then give it up. Others would shelter if they heard the bombs near but not as a matter of course. In London thousands had no easy access to shelter and were caught at home or in the open. Sheltering was not made compulsory, so that deciding whether or not to seek shelter was an individual choice. Many of those dug out dead or mutilated from ruined houses had been asleep in upstairs rooms, ignoring the warnings.

Shelters did afford some immunity, although the public soon distrusted trench and brick surface shelters because too many of them were hit and destroyed, with high loss of life. People sought out railways arches, tunnels, caves or large underground basements, which they regarded as safer. Many were not designated shelters and had to be rapidly improvised. In the first months people made do with mattresses and cushions, or slept on bare boards or concrete. The shelter communities were unregulated at first and conditions were often squalid and noisy. By the beginning of 1941 many shelters had appointed their own committees and shelter wardens to try to make them more effective communities. A list of regulations was drawn up by the Ministry of Health, but daily enforcement was left to the local shelter wardens and welfare officers who had to try to stop illicit smoking, noise and insanitary behaviour. Prostitution was not uncommon in the shelters and there

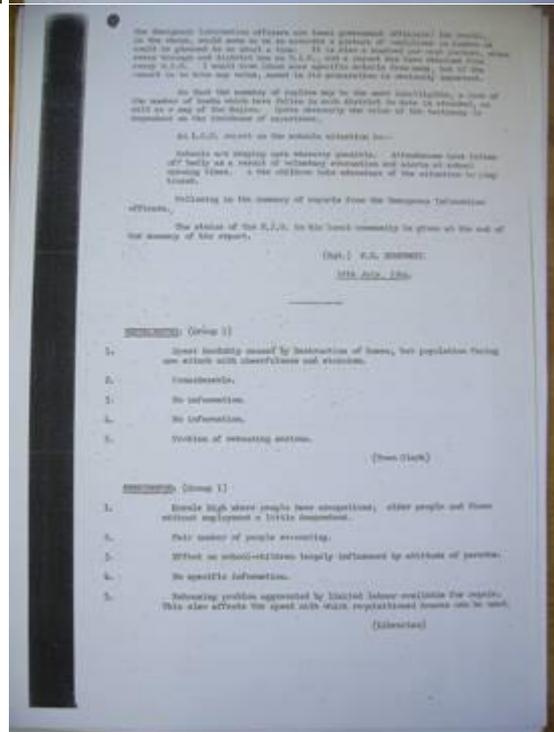
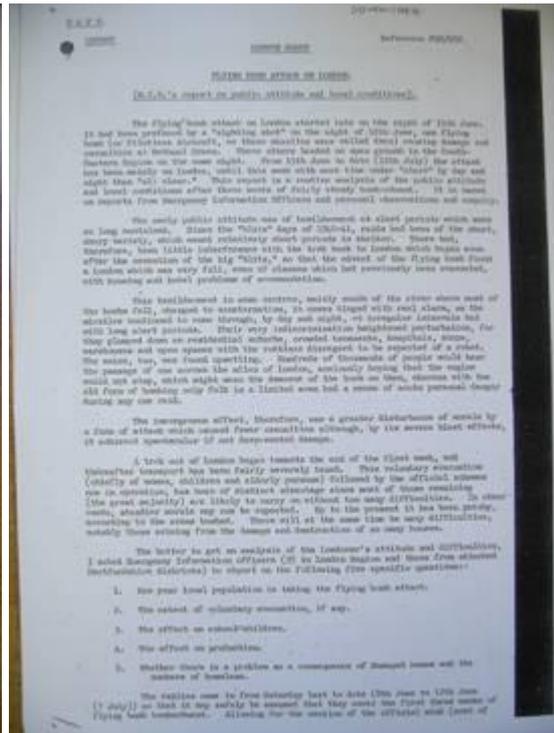
were special instructions on how to recognize and deal with the problem. During the blackout, prostitutes wore white coats to make themselves more visible. The extent to which the experience of being bombed united the classes or created a strong sense of collective solidarity is questionable. Better-off households tended to be in suburban areas where there was room to erect a garden shelter. Middle-class and upper-class households could more easily vacate to safer areas, were more likely to have cars, and could replace lost or damaged furniture and clothing more easily. Solidarity was constructed in working-class areas where good neighbour schemes were set up to offer welfare after the raids; observers noticed that poorer families preferred communal shelters to local surface or domestic shelters because they were more used to sharing amenities and to an easy communality. There was also evidence of delinquent behaviour as a result of raids. Looting and pilfering was widespread and punished with heavy fines, imprisonment or beating. Shelters were damaged and shelter equipment stolen. Women found that the blackout made walking at night a more dangerous activity. In many ways bombing simply reinforced class identities, social habits and patterns of delinquency rather than transcending them.

Against the grain: political and social dissent

Although there was no wide movement of political dissent as a result of the bombing, there was by no means complete consensus about government policy, the war effort or the propaganda slogan 'we can take it'. It is important to recognize that areas of political dissent or social protest were influenced by many things other than bombing. Home Intelligence reports showed that bombing was just one among a number of issues (the war effort, food supply, welfare etc) that created a positive or negative public opinion. Bombing sometimes provoked a moment of real dissent but not often. In January 1941, for example, all 3,000 workers at a plant in Cheshire signed a letter of protest to the Minister of Aircraft Production because their factory was bombed by a single plane without warning and with no anti-aircraft fire. In the London docks a strike was organized in protest at the failure to provide canteens for dockers following the destruction of local feeding places, but was averted after volunteer canteens arrived. In September 1940 the London communist Phil Piratin led a group of protesters from Stepney to the fashionable Savoy Hotel where they occupied the basement shelters supplied for the wealthy guests and refused to leave. In all three of these cases efforts were made to understand the grievance and to do something about it.



Front cover of a paper produced by the London Branch of the Communist Party of Great Britain early in 1941. The Party challenged the government to provide better air raid shelters for the working-class areas of east London.



A Report produced in July 1944 on the impact of the flying bomb on British morale. The public reacted less well to the new and unexpected threat than they had done to the Blitz three years before.

There was also protest from pacifist and anti-war lobbies against continuing the war and against the bombing of Germany. These movements had been widespread before 1939 and although many anti-war organisations closed down their activities on the ground that an anti-fascist war was a just and

necessary one, there remained throughout the Blitz period pockets of protest. The Communist Party of Great Britain agitated for 'deep shelters' to provide real security for working-class districts, while condemning the war as an imperialist-capitalist struggle. The communist paper *The Daily Worker* was closed down in January 1941 as a result, while communist meetings were closely monitored by the authorities. Another protest movement, the People's Convention, campaigned during the Blitz for proper shelters and effective welfare but by late 1941 the movement was collapsing. Among the bulk of the population, however critical people might be of evident areas of military incompetence, there was a broad consensus on the necessity for war.

The most significant protest movement involved the whole question of retaliation against German bombing. The bombing provoked much anger against the Germans, particularly as the pattern of bombing was interpreted widely as simply terroristic and indiscriminate. But there is also much evidence to suggest that in the bombed areas attitudes to the German enemy were less clearcut. In opinion polls taken during the Blitz there was a clear division over the question of whether the RAF should bomb German civilians. A poll in October 1940 showed an even division, 46 per cent in favour, 46 per cent against. A second poll after six further months of bombing showed 55 per cent in favour and 38 per cent against, but the result in London, where 28,000 people had been killed, showed that 47 per cent were against retaliatory bombing and only 45 per cent for it.

The argument against bombing Germany's cities as an act of deliberate strategy began to take shape during the last months of 1940. It enjoyed strong pacifist support, but was also taken up by prominent churchmen, academics and public intellectuals. In April 1941 *The Times* agreed to publish letters from Bishop George Bell of Chichester, the playwright George Bernard Shaw and the Greek scholar Gilbert Murray protesting against the indiscriminate nature of RAF night-bombing. Pacifist groups, most notably the Peace Pledge Union, also began to protest regularly against night bombing, inspired by the pacifist writer Vera Brittain. In August 1941 a Committee for the Abolition of Night Bombing (later the Bombing Restriction Committee) was established, which campaigned for the following three years against RAF night operations. The government tolerated the protest largely because they judged that its appeal was not widespread. But letters found in the records of pacifist organisations show that many ordinary people shared the view that bombing ordinary Germans was not a civilized way to conduct war. Some of those prominent in the Committee became leading activists in 1945 for reconciliation with Germany.

Did bombing strengthen morale?

One of the arguments often made about the bombing campaigns is that bombing tended to strengthen morale rather than undermine it. The evidence of the Blitz and the subsequent attacks in 1944 with bombs and missiles shows that this is at best a crude impression. First, bombing was only one of the many things that affected morale. Diaries from the war period show that morale was not much affected by bombing but could be seriously affected by military defeat or evidence of government dishonesty or incompetence.

In most bombed communities the success of the authorities in keeping food supply and welfare provision going, and in providing adequate medical aid and programmes of rehabilitation prevented any form of social breakdown. But at the same time the evidence of how people coped with the raids suggests that social or political protest, or a refusal to work, were never seen as serious options. People were more concerned with day-to-day issues and displayed a strong urge to restore

some sense of normality even in the most exceptional of circumstances. The coping mechanisms varied greatly according to the psychological disposition of the individual or their material opportunities and no generalization can cover those differences. But on balance bombing did not create intolerable conditions except for a small minority of the population. Psychologists found that the number of cases of neurosis that needed clinical attention increased not at all as a result of the bombing. People coped with personal trauma on their own or in families or communities, creating temporary and local solidarities. The collapse of morale under these circumstances was unlikely. Nor was it possible to work out, as the authorities tried to do, what level of bombing might have broken morale, since it was almost impossible to define it clearly. Post-Blitz reports suggested that bombing four or five times heavier might have created a crisis, but the later heavy bombing of Germany on an even greater scale also failed to provoke a profound social breakdown.

THE EFFECTS OF THE BLITZ

The material and physical consequences of the German bombing of Britain were severe but not on a scale to match the impact on Germany and Japan. The number of casualties over the war years totaled 60,595 dead and 86,182 seriously injured. This represented respectively 0.1 and 0.15 per cent of the population. The following table shows the pattern over the course of the war:

Bombing Casualties in Britain 1940-45

Year	Dead	Seriously Injured
1940	23,767	30,529
1941	20,885	21,841
1942	3,236	4,150
1943	2,372	3,450
1944	8,475	21,989
1945	1,860	4,223

Although it has often been assumed that women and children made up most of the casualties, the official figures shows that just over half the victims were men. The large number injured in 1944 reflects the pattern of V-Weapon attacks, where the blast effect smashed glass over a wide area and produced a high level of injury but fewer fatalities.

The effect of bombing on Britain's war effort was limited. Calculations made in 1941 suggested that around 5 per cent of Britain's productive output was lost as a result of the bombing. The main indices on war production show a slight fall in the winter of 1940/1 but by the end of the Blitz output was substantially higher than it had been a year before. The aircraft and aero-engine industries were particularly hard hit but much of the loss of output between October and December 1940 was caused by the forced dispersal of the industry rather than physical damage. The Index of Production

(Sept/Dec 1939 =100) for war stores calculated by the Ministry of Supply stood at 217 in September 1940 and 327 in June 1941.

The most profound effect on Britain's war effort was produced by the demands of civil defence which not only tied down almost 2 million men and women, but necessitated a large economic commitment to the welfare, compensation and provisioning of the bombed population and the uniforms, vehicles and equipment of civil defence forces. The demands of air defence, both active and passive, placed a limit on how effectively the British economy and population could be mobilized for war work.

After the bombing was over the task of reconstructing the damaged cities began while the myth of the Blitz, as a moment of social solidarity and grim fortitude in the face of the Nazi menace, became a central element of British identity and of the memory of the war. Despite the effort of historians in the past twenty years to assess this myth more critically, the Blitz remains a key point in British history and a persistent reference point in modern political rhetoric.



The bombed ruins of Exeter after the Baedeker raids. The cathedral survived the attack and can be seen in the background. The ruined sites were still private property and the signs show that these claims had to be maintained for when the rebuilding began. (Courtesy of the Imperial War Museum)