
The social space of terror: towards a civil interpretation of total war

K Hewitt

Department of Geography, Wilfrid Laurier University, Waterloo, Ontario, Canada N2L 3C5
Received 8 December 1986; in revised form 24 April 1987

Abstract. In the paper I seek to interpret modern warfare from the perspective of civil society and its geography. I emphasize the predicament of civilians who are subject to direct and deliberate armed assaults. Particular attention is given to enforced uprooting or removals of population, and to annihilation of urban places with weapons of mass destruction. Two case histories are explored, both taken from the last months of the Second World War. They are, the expulsion of German civilians from Eastern Europe, and the firebombing of Japanese cities, especially Tokyo. Damages and casualties are detailed. However, the main concern is to establish the composition, plight, and responses of civilian populations, and this includes their relation to national war efforts. It is concluded that the vast majority, because of gender, age, health, occupation, and class, were essentially marginal to, and little involved in, the war efforts of their respective states. This contrasts sharply with the assumptions or rhetoric of the theory of 'total war', and the practice of targeting civilians and nonmilitary areas. It is suggested that the majority of home populations remain civilians in the fullest sense of the term, even in wartime. From this it follows that assaults upon them by military forces are primarily strategies of terror, and that the 'social space' attacked is essentially civilian. Such uprootings and mass destruction of human settlements have, however, become an ever larger part of the war strategies, and the history of warfare, of most powers since 1945.

War and civilians in the twentieth century

In the major conflicts of our time, civil society has been as fully engaged as the military. The greater part of modern mass armies is drawn from the civil population. When soldiers die, or are injured, there is a permanent loss to civil life. The fear of it is a major burden for those left behind. Conscription also profoundly alters the composition of civil society and its problems in wartime. Essentially, it leaves families, institutions, services, and economic activities to carry on without the majority of their able-bodied menfolk.

Industrialized warfare leads to ever more complete mobilizing of the resources and the workforce of nations. In relation to war or its threats, totalitarian methods of government are adopted everywhere, which bring complete control over civil life, and an introduction of military methods or of war-fighting attitudes in all institutions. Moreover, it allows war leaders to impose ever more of the risks and the stresses of war upon civilians.

For such reasons as these, 'total war' is widely assumed to be the usual, perhaps inevitable form of conflict in this century (Ludendorff, 1935; Earle, 1943; Liddell-Hart, 1967; Aron, 1955; Paret, 1986). During the Second World War, leaderships spoke of total war meaning the involvement of every last man, woman, and child: a war over the entire fate of peoples and continents. Nowadays, it is difficult to find a war, 'hot' or 'cold', in which the same language is not in use.

A singular development associated with all of this is the escalating threat of direct destruction for civilians, their settlements, and their habitat. In many recent conflicts, from the Spanish Civil War to Laos, East Timor, and Afghanistan, the majority of those 'at the sharp end' of war have been civilians rather than soldiers.

In part, that follows from the increased destructive power and the mass production of weapons. In part, it reflects the enormous expansion in the geographical scope of motorized warfare. Artillery, tanks, naval guns, rockets, flamethrowers, and air strikes can do colossal damage to land and life. So can the now formidable fire power of the infantryman—classically, the one ‘at the sharp end’. All of these have done great harm to civil society, as a side effect of the clash of armed forces.

That side effect must be distinguished from deliberate assaults upon civil populations and nonmilitary areas. These have grown to unprecedented levels, whether in aerial bombardment of cities and villages, in scorched earth policies, or in environmental warfare. When unarmed populations and undefended areas are subject to armed violence one usually refers to this as *terror*, whether carried out by small, dissident groups or by state forces (Chomsky and Herman, 1979; Walzer, 1977).

For the West, at least, three wars stand out as revealing progressively deeper layers of threat and terror to civil society. And few events have caused a greater spread of fear and grief among civil populations. The First World War is distinguished by the annihilation of men; millions of them, in mass armies sent to do battle with industrially produced weapons (Howard, 1986). The men were nearly all civilian volunteers and conscripts. For the military this was ‘war of attrition’. For civil life it can, perhaps, be summed up in the phrase ‘the lost generation’ (Wolff, 1959; Fussell, 1975). It was not terror as I will use the term, but it did reveal the extraordinary capacity of modern states to mobilize, discipline, and destroy manpower in great numbers.

In the Second World War military casualties were much larger, but its special message lay elsewhere, in the mass destruction and uprooting of civilian populations themselves. Almost as many unarmed men and women, young and old, were killed or maimed by armed assault, as were soldiers. Violent death took about 16 million in this way (Ullianis, 1971). More than 12 million others were either deliberately killed, in ‘security measures’ by forces of occupation, or died from the privations of war (Elliot, 1972). For similar reasons, tens of millions fled, or were forced from their long-time homes, many into permanent exile (Vernant, 1953; Proudfoot, 1957).

The military sense of these events is given in such phrases as ‘strategies of annihilation’, ‘pacification programmes’, or simply ‘total war’ (Weigley, 1973). For civil life it meant holocausts, genocide, and what I have termed ‘place annihilation’ (Hewitt, 1983a). It was warfare that strove towards, if it did not always achieve, an end of the settled historic places that have been the heart of civil life, and an extermination of entire civil communities.

The USA’s Vietnam war, the Second Indo-China war, reinvented, as it were, each of the forms of assault on civilians noted above, and elaborated them. There are many parallels between the experiences and literature of its veterans, and the aftermath of ‘The Great War’ (Remarque, 1929; Lifton, 1973). Relatively, even greater destruction of settlements, civilian uprootings, and civilian casualties occurred than in the Second World War. The war’s special achievements, however, lay in a systematic assault upon the land and habitat, backed by the scientific and industrial resources of the United States. This was a huge, deliberate, military strategy. It sought to destroy the living cover of the earth, the fertility of agricultural areas, and to exploit natural forces as agents of war (Westing, 1976; 1984). The means—biocides, napalm, heavy earth-moving equipment, aerial spraying, and bombardment—were unique products of recent research and industrial production. In military terms, the actions were a response to the supposed requirements of ‘counterinsurgency warfare’ (Blauferb, 1977; Shy and Collier, 1986). It was strategy intended to deny the enemy cover, resources, and friends in the countryside. From a civil perspective.

it became the annihilation of *living space* or, more comprehensively, 'ecocide'—an assault upon the very biological bases of survival (Lewallen, 1971; Bunge, 1973).

The unique significance of thermonuclear weapons is, of course, the ability to achieve, *and inability to avoid*, all these levels of annihilation simultaneously! To the extent that there is relative risk, it is the reverse of the old sense of war, with habitat, settlements, and civil populations more vulnerable than military systems. That too has its apparent rationale in modern strategy. For civil life it creates the permanent, overarching threat of 'omnicide' (Somerville, 1985).

In this part, where I am exploring what a civil perspective on war involves, I will examine two aspects of the civilian predicament in recent years. Two examples from the Second World War provide the empirical basis. The choice is not entirely arbitrary. Unlike the aspects of the nuclear threat, Vietnam, or First World War raised above, the events and issues are rarely considered in the readily available literature. Yet, the aspects singled out seem peculiarly relevant to a human geographer or anyone concerned with 'society and space' in war. They are, the enforced uprooting of long-settled populations, and the annihilation of urban places. Both processes, often interrelated, seem peculiarly to threaten the survival of civil life⁽¹⁾.

To date, the Second World War was undoubtedly the occasion of the largest and the most widespread upheavals and devastations of civil life. And it included the populations, cities, and heartlands of industrial powers. However necessary the fight, and however satisfactory the Allied victory, in civilized and civilian terms, the war was an immense disaster. If there is a precedent, a 'proving ground' for what civil societies will face in another great war, it was here, and not only at Hiroshima.

If the war, as a whole, saw unprecedented destruction and atrocity for civil life, the extreme projection of this came near the end, especially in 1945. In part, that reflected the state of exhaustion in many of the peoples and the armed forces involved. Mainly, it reflected the fact that the two materially decisive factors of the war, war production and mobilized manpower, only reached their peak late in 1944. This was so even for Germany and Japan [see United States Strategic Bombing Survey (USSBS), 1945a; 1946]. Additionally, many of the restraints that had kept the war somewhat less than 'total', were abandoned in a fight to the finish.

⁽¹⁾ I assume that by 'civil society' most people will take me to mean 'non-combatants' in the context of a war. Rather than employ an extended discussion of that, I will proceed empirically, and use the wartime evidence to reconstruct what else it implies. I realize, however, that this begs some important questions. Obviously, the point about 'total war' is that it blurs, and for some eliminates, the civil-military distinction. Meanwhile, in other contexts civil society means very different things to different people or disciplines. Much of the literature on material and cultural history treats 'civil' and 'civic' as virtually the same. It identifies them in urban-based communities. It emphasizes 'citizenship' as against slavery or unenfranchised persons. It emphasizes a form of community, in which public life serves to defend the personal security of citizens and their property through equality before the law. That connects with war through the duties of citizens in ('defence') taxes, conscription, and so forth. Here, civil society is also often identified with the rise of modern commerce and capitalism (Pirenne, 1956; Black, 1984). Marx seems to have adopted Hegel's view that 'civil' is synonymous with 'bourgeois' or 'burgher' society. However, some of the socialist literature stresses a contrast between 'civil society' and 'the economy', as well as 'the state' (Urry, 1981; Keane, 1984). Then, there is the whole area of 'civility' as a way and an ethic of living, with or without a sense of its material and political roots. That is linked to the philosophical and artistic preoccupations with 'civilization' à la Sir Kenneth Clark. All of these issues will emerge as relevant to the predicament of unarmed populations which are subject to military assault. In a sense, my investigation here turns upon how it defines just *who* and *whose* 'space' one is referring to as 'home populations' during wartime. One will begin to realize who are the 'definitive civilians', what they are usually doing in wartime, how far it bears on 'total war', and what they suffer and lose under armed attack.

Only then were the iron expectations, and the plans for total war with the newest weapons, realized. Moreover, it was the civil populations of Germany and Japan that felt the fullest impact. With their own armies overextended or decimated, and their leaderships increasingly in disarray, they came under intensifying direct assault by the greatest array of armed might the world had seen in action—the combined air, sea, and land power of the Allies. These civilians, their settlements and habitats, felt the full impact of the latest weapons of mass devastation.

Mass uprooting

Modern warfare, 'blitzkrieg' and its relatives, is so indiscriminately destructive and most civilians are so lacking in means of protection, that there is rarely any option but to flee from it. All of the campaigns of the Second World War thrust great masses of civilians before them (Scott, 1968, pages 153–156). Not content with that, war plans and the activities of occupying forces called for mass deportations, concentration, exterminations, and expulsions, or large-scale shipments of people as forced labour. The plight of these folk stands among the greatest calamities of our time. Moreover, a large fraction of those involved went through the same experiences twice or more. In Eastern Europe, for example, great numbers of civilians from all nations experienced at least two flights or deportations, as the fortunes of war shifted for and then against Germany.

Between 1939 and May 1945, more than 40 million Europeans, which included people from 21 nations, were made refugees (Proudfoot, 1956, page 32). That does not include people evacuated from, or bombed out of, their homes in the air war—probably a further 25 million in all. There were the further millions shifted about as forced labour. And there were the first five million German people who left Eastern Europe. They will be the focus of attention here. They represent the

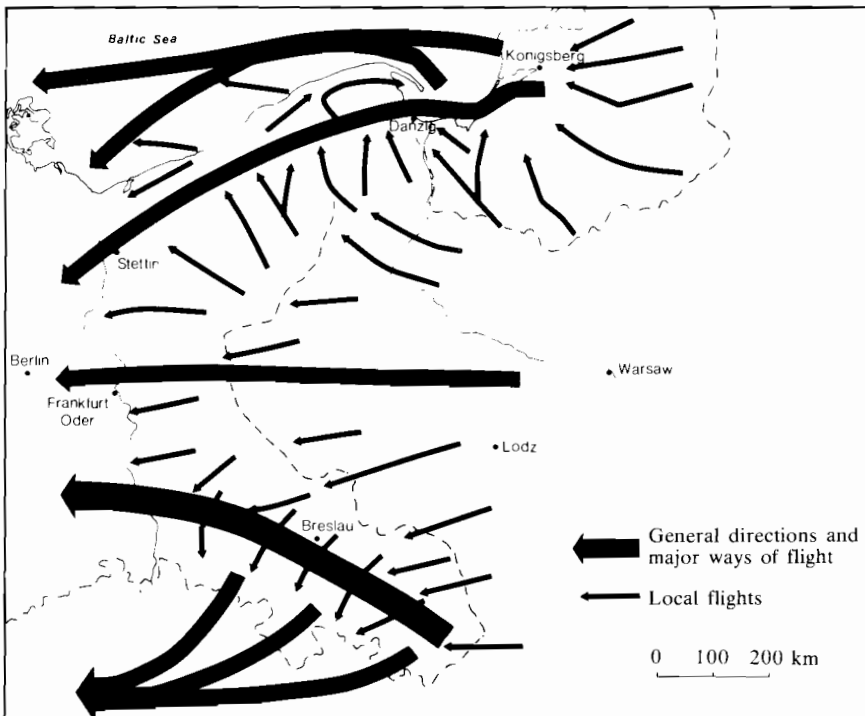


Figure 1. Mass flight of the East German civilians during the advance of the Red Army to the Oder and Neisse, January–April 1945 (source: Schieder, 1953).

first wave of some 15 million Germans eventually expelled from Eastern Europe (figure 1) (Vernant, 1953; De Zayas, 1977). These were those who fled the battlegrounds and atrocities of the Eastern Front (Thorwald, 1953; Toland, 1966).

The Great Offensive

Few episodes involved more human misery than the flight of the residents of Eastern Europe who were in the path of the Great Offensive begun by the Soviet armies in June 1944. And that is particularly true of that of the German nationals and ethnic German communities within and around the borders of Poland.

It was in October 1944 that Soviet troops had made their first thrust into German soil, near Gumbinnen in East Prussia. They had been quickly repulsed, yet reports of what happened in this brief encounter spread terror among the civilians who lived in the path of the Soviet armies. The ferocity of murder and pillage, stories of the burning of homes and the raping of women, convinced German folk they must, at any cost, try not to fall into Soviet hands.

To a great extent, what happened here was a culmination of the uncompromising hatreds and long trail of violence between Fascism and Communism, between Slav and German, as well as an already unparalleled story of atrocity since the German invasion of Poland in 1939. Soviet soldiers were encouraged by official propaganda to treat *all* Germans as enemies; to rape, loot, and kill them at will. By no means did all soldiers feel or act in accordance with such values (Schieder, 1953; Terkel, 1984), but enough did, so as to produce a nightmare for civilians in their paths. A key source is a long poem by a Russian soldier involved in the campaign, see Solzhenitsyn's *Prussian Nights* (1977).

After the October episode, East Prussian authorities evacuated some 600 000 civilians. This was itself a tremendous upheaval. To it was added a large unofficial flight of those who had come here as evacuees from the bombing of cities in the Reich itself. After that, however, officialdom discouraged, sometimes violently, further evacuation. The full import of that only emerged when the winter offensive began. Then, even such orders for evacuation as were issued, generally came too late for organized assistance.

On 12 January 1945 the Soviet armies began their drive to the River Oder. Between them and the river there were some 12 million German civilians. About five million would flee westwards as the offensive developed. A greater number were overrun. Hundreds of thousands already in flight were caught to be killed, abused, or deported eastwards to face years of forced labour. Some thousands, who felt they could not make the journey—especially old people but also many young women—committed suicide as the Soviets drew near. Hundreds of thousands died, on the treks westwards, of starvation, exposure, sickness, or in air, land, and sea attacks, or through other misfortune⁽²⁾.

⁽²⁾ Sources on these events are few and not readily available. Most of the literature in English, that I cite, deals with the theme tangentially, in terms of legal-political or 'refugee' problems (De Zayas, 1977; Vernant, 1953). The only exception in the popular literature involves sections of Toland's *The Last 100 Days* (1966). Selections from the immense documentation of expellees made in Germany were translated into English (Schieder, 1953). I am aware of no reference to this in the geographical literature, even when it concerns Germany, or in most other fields.

There is no difficulty finding descriptions of the military campaigns which took place here, and maps swarming with arrows to show the movement of troops (Michel, 1975; Salmaggi and Pallavisini, 1979). And it was an extraordinary offensive. In many ways it outdid Hitler's virtually unopposed thrust in the other direction. Soviet military casualties were enormous too. Nevertheless, it was arguably an even more 'decisive' affair for the civil populations of these regions.

The flight in winter

From the “Documents of the Expulsions” (Schieder, 1953) a compelling portrayal of the civilian experience can be gained. The recollections of one woman from East Prussia encompasses the story of so many others that I will base my discussion around it.

The woman, her two small children and aged parents, were called to assemble in the town offices of Sensburg. It was January with heavy snowfall outside. The sounds of the Soviet artillery could be heard in the distance, their soldiers twenty-four hours away.

“It was (she recalled) a sad picture in the big hall of the Landrat’s office. Aged people, sick people, lame people and children were waiting around, and desperate mothers tried to pacify their crying babies ...” (Schieder, 1953, page 137).

Official transport never materialized and they began their journey thus:

“When the window panes were shattered and the bullets whistled near, my father who was 74 years old had a fit of shrieking. Making up our minds with lightning speed we prepared the children, we took our ruck sacks and handbags and in spite of all ran to the highway It was icy cold and there was a continuous snow storm—panting we dragged the perambulators (sic) through deep snow ...” (page 138).

The woman and her family were later assigned to one of the thousands of treks. She and her children sat in a covered wagon, but her parents were in an open sleigh:

“... my father was not able to endure the journeys because of the cold. As early as February 2, we had to leave him ... at a village inn, which was full of wounded and refugees. He could no longer stand up. My mother remained with him. It was one-and-a-half years before I learned that my father had lived another nine days and then been put by the Russians in a mass grave ...” (page 138).

As with most of the treks, this woman’s was cut off to the west in the rapid encirclement by the Soviet Second Army. She and her family were among 1.5 million German civilians trapped in the East Prussian pocket. Their only remaining hope of escape was via the Baltic Sea.

A German army unit then placed her in another trek going northwards, “... the leaders of which”, she adds, “received us very unwillingly” (page 140). Like others, this trek was continually subject to aerial bombardment, to attrition from sickness and breakdown, and to a nightmarish level of uncertainty:

“The children were getting continually more tired owing to the cold and the small amount of food and did not want to come out of the cart They became ill with a dysentery-like diarrhea, which was called the ‘highway illness’. We all became victims of this disease ...” (page 140).

Finally, they reached a geographical feature of very special meaning for any who experienced or heard of these events—the *Frisches Haff*, a body of water ponded behind a coastal spit some 100 km long. Today’s atlases called it the *Vislinskij Zaliv*. To reach the coast, in hope of being evacuated by ship, the treks had to cross the frozen surface of the Frisches Haff. Many wagons and horses went through the ice, often through holes where Soviet aircraft bombed it to prevent movement. The woman recalls looking out from the shelter of her cart,

“... over the wide extent of the Haff and the dark grey sky of night spreading over it. Occasionally, the way was indicated by torches. Then one could see the endless rows of the treks, which were proceeding at long intervals in silence and with inconceivable slowness ...” (page 140).

Even when she did reach a staging point for official evacuations, her problems were not over and in some ways became worse:

"The roads inside the camp were indescribably dirty, my children lay ill in straw in the hut. The National Socialist Welfare organization was a complete failure. *Only people who were alone and healthy*, could, with any chance of success, queue up the whole day for bread and watery soup. I could not leave the children so long alone and no longer had any utensils to fetch food in ..." (page 142, my italics).

Civilian predicaments

It is appropriate to pause and consider some general features of this woman's experience. As noted, the German authorities, once so determined to control every aspect of civil life, failed nearly everywhere to order evacuations in time or to provide organized assistance. They feared the effect upon 'morale'. As so often in 'civil defense', officialdom viewed the plight of civilians through the eyes of those preoccupied with the military situation and the problems of their own bureaucracy.

Second, and as a result of official mishandling, the majority of the civilians had to flee, in haste, at the last moment. They fled as families and individuals. They lacked the provisions which were adequate for the journey, or anything but the vaguest notion of where they were going.

The journeys, even for persons who got away by train, were under conditions of extreme hazard. They taxed the survival abilities of well-equipped fit adults. But then there were many on foot, travelling in severe cold, over icy ways and deep snow or, later, through the equal miseries of the thaw and the cold rains. Constant hunger, thirst, and illness made a life-threatening situation for all, even without the strafing and bombing they endured and without playing hide-and-go-seek with Soviet troops and Polish partisans.

One must emphasize that the majority of those in flight were women, commonly with children and aged relatives. Young women led many of the treks which were formed out of those forced to flee on foot and in carts. As a woman on a later trek described it, "... we were defenseless, for there were practically only women, children and very old men in our column ..." (Schieder, 1953, page 293).

In the whole episode, the mortality of the elderly was very high: higher even than in the bombing war on German cities where it was disproportionate. To be old when a modern war begins, is a singular calamity—unless, perhaps, you are a president or a general! An unknown number, but certainly several hundred thousand old people died, in all the treks and expulsions from East Europe at that time, out of a total death toll estimated to exceed 2 million (Schieder, 1953; Elliot, 1972; De Zayas, 1977).

This woman's plight, being responsible for children and aged parents, provides evidence of something which has quite general significance for a civilian view of war. War or no war, the everyday requirements of nurture, health, and caring for dependents go on. Governments may make special arrangements to assist those responsible for such needs. Many people do, in fact, recall wartime as one of unusual 'togetherness', of unlooked for kindness and caring; as often appears in natural calamities too. Yet, the conditions of war—the draining away of manpower and resources at home, no less than enemy blockade or assault—put the needy in special jeopardy. And when all assistance fails, as it so easily does in a war zone, only those unencumbered with dependents will readily move away and find sustenance. Women with small children, the old, and any who have care of the sick will be at great risk.

Like the woman's husband, 1.5 million soldiers had been conscripted from these eastern regions into the German army. Then, in June 1944, Hitler had ordered a mass induction of all German menfolk up to the age of sixty-five, as labour to build fortifications. In October, these men, and any others who could be found, were pressed into the so-called *Volkssturm*. Apart from the doubtful military value of either the fortifications or these untrained forces, their absence greatly increased the helplessness of, and harm to, their families who were forced to flee across the war-devastated winter lands.

After more journeying, more sickness, and more air attacks, this woman and her children were among those who reached the sea. They were placed in an evacuation ship and brought safely to Denmark. Thus, we know her story.

The Baltic 'Dunkirk'

The seaborne evacuation of these people from the Baltic ports, between January and May 1945, was the most astonishing, and in this case, most organized evacuation of the war. It was an evacuation under the command of the German naval authorities but largely against the will of the National Socialist leadership. It moved twice as many soldiers and wounded as the Dunkirk evacuation of June 1940 (table 1). But the number of civilians moved was *four times* as large. In all, nearly two million persons were transported to the Reich and to other Baltic states.

Table 1. German naval evacuations from the Eastern Baltic Sea, January–May 1945 (source: Brustat-Naval, 1970).

| Port | Fleeing civilians | Wounded | Soldiers | Totals |
|------------|-------------------|---------|----------|-----------|
| Libau | 500 | 19 717 | 31 215 | 51 432 |
| Memel | 10 670 | 7 000 | — | 17 670 |
| Königsberg | 40 319 | 1 290 | 2 040 | 43 649 |
| Pillau | 291 151 | 99 335 | 27 975 | 418 461 |
| Danzig | 119 069 | 45 971 | 4 988 | 170 028 |
| Gotenhafen | 316 333 | 83 460 | 7 024 | 406 817 |
| Hela | 247 134 | 163 363 | 85 313 | 495 810 |
| Elbing | 4 000 | — | — | 4 000 |
| Stolpmünde | 32 760 | — | — | 32 760 |
| Rügenwalde | 5 560 | — | — | 5 560 |
| Kolberg | 116 717 | 1 915 | 9 950 | 128 582 |
| Swinemünde | 68 590 | 13 323 | 51 748 | 133 661 |
| Stettin | 2 050 | 900 | 900 | 3 850 |
| Greifswald | 1 000 | 1 200 | — | 2 200 |
| Warnemünde | 5 055 | 2 092 | 1 748 | 8 895 |
| Stralsund | 7 512 | 4 341 | 3 790 | 15 643 |
| Sassnitz | 7 552 | — | 13 106 | 20 658 |
| Rostock | 7 450 | 150 | 350 | 7 950 |
| Wismar | 4 400 | 700 | 1 042 | 6 142 |
| Travemünde | 4 100 | — | — | 4 100 |
| Totals | 1 291 922 | 444 757 | 241 189 | 1 977 868 |

Total ships involved: 790

| | | |
|---------------------|----------------------|------------------------|
| Total losses: ships | tonnage ^a | mortality ^b |
| 123 | 464 340 | 19 152 |

^a Measured in long tons.

^b Includes over 7000 prisoners of war (POWs).

Note: Dunkirk operation, May–June 1940; 338 226 soldiers rescued.

Totals are slightly different from those in the source.

The ports, and ships tied-up in them, were constantly bombarded from the air, and often from land and sea too. The sea lanes, ice-infested and shrouded with fog, were alive with Soviet submarines and other warships. Communications were an appalling mess. Evacuation needs inevitably took low priority compared with the needs of the military calamity that was developing to the south, and in western Europe. There was virtually no German air cover, and very little assistance from their own warships. Vessels which were capable of carrying the numbers involved were mostly old liners, troop, and hospital ships. If they were sunk, there was little chance of rescue, certainly not within the survival time of people in waters with temperatures near freezing point. In this and in other ways, the shore and maritime conditions of the Baltic rescue suggest the sort of stress and losses that an organized evacuation could face during a nuclear exchange.

Again, one should remember that most of those who were drowned were civilians, and mainly women, children, and the elderly. Brustat-Naval (1970) gives a blow-by-blow account of the people, the ships, and the conditions. He describes how the trekkers arrived at the seaports already in a wretched state; the bombed-out chaos of the ports; the desperate wait for a ship by hungry, thirsty, sick folk, packed together where they hoped a bomb would not reach them; the agony of waiting when a ship was there, hoping to load, and leave before being hit; the miseries of those packed together in the holds of ships that might be holed and sunk at any moment (compare with Toland, 1966).

Nine of the greatest maritime disasters of history occurred, four of them involving between two and four times as many deaths as those in the 'Titanic' disaster (table 2). The sinking of the 'Goya', torpedoed on 16 April, is the single largest loss of civilian life in a maritime disaster.

Table 2. Major losses of life and shipping in the Baltic Sea evacuations, January–May 1945 (source: Brustat-Naval, 1970).

| Date | Ship | Location | Cause | Casualties (comments) |
|-------------|------------------|------------------|---------|---|
| 30 January | Wilhelm Gustloff | near Stolpmünde | torpedo | ~ 4000 ^a (fleeing civilians) |
| 10 February | Gen. von Steuben | 55°09'N: 10°37'E | torpedo | 3000 ^a (civilians and wounded) |
| 17 February | Eifel | near Libau | ? | 677 |
| 7 March | Robert Möhrung | Safsnitz Hafen | bomb | 350 |
| 12 March | Andros | near Swinemunde | bomb | 570 (mostly women and children) |
| 25 March | Weser | Neufahrwasser | bomb | 250 |
| 10 April | Posen | near Hela | ? | 300 |
| 10 April | Neumark | Danzig Bay | torpedo | 800 (wounded and some civilians) |
| 11 April | Moltkefels | near Hela | ? | 400 |
| 11 April | Vale | Pillau | bomb | 250 |
| 13 April | Karlsruhe | near Stolpmünde | ? | 900 |
| 16 April | Goya | 55°13'N: 18°20'E | torpedo | 5900 ^a (fleeing civilians and wounded) |
| 16 April | Cap Guir | near Libau | | 774 |
| 3 May | Cap Arkona | near Neustadt | | ~ 5000 (mostly POWs) ^b |
| 3 May | Thielbek | near Neustadt | | ~ 2000 (mostly POWs) |

^a Compare with 'Titanic' disaster, in which 1513 lives were lost.

^b Prisoners of War.

Yet, against all odds, the great majority of trekkers who reached the coast were brought away to safety (figure 2). It was an astonishing achievement, snatching a special kind of victory from defeat as at Dunkirk. In many ways, it vindicated the role of organized assistance, despite lack of planning and effective overall control. Strangest of all, unlike Dunkirk or most heroic rescues of the war, this was largely a saving of civilians and the least 'useful' of them.

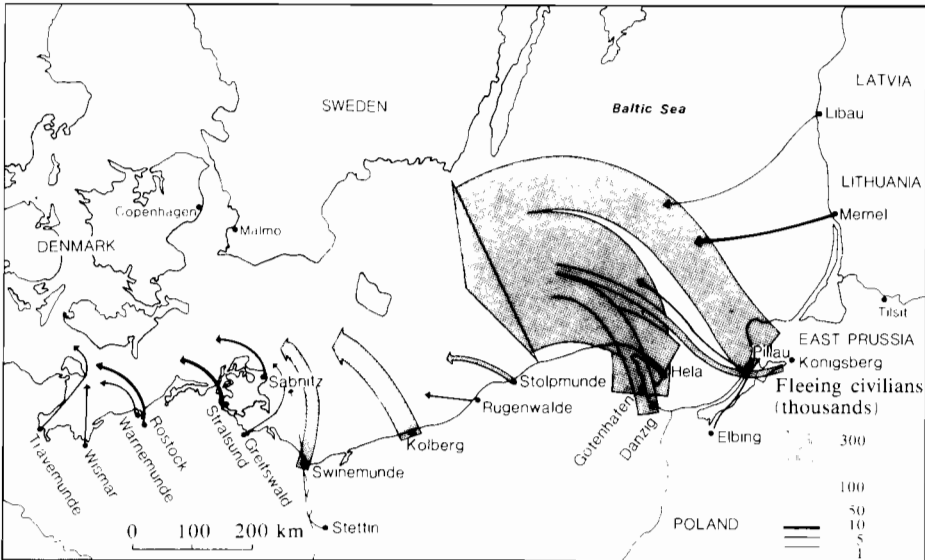


Figure 2. The Baltic "Dunkirk": naval evacuations of German civilians from Baltic Sea ports, January–May 1945 [source: based upon figures in Brustat-Naval (1970)].

Uprooting as strategy

The flow of refugees from Eastern Europe did not cease with the war's end, but became a still greater flood of desperate humanity. A further 10 million German-speaking folk were displaced after VE Day (Proudfoot, 1957). By then they were openly designated 'expellees', systematically forced from their homes and driven westwards in treks hardly less awful, sometimes worse, than those of the war. The entire process involved expulsions from Czechoslovakia, Poland, and other states, as well as prewar German territories. These millions were crowded into the now much contracted area of the two postwar Germanies.

It is important to repeat, however, that before and after the war's end this was an integral part of Allied strategy.

The Germans who fled from Eastern Europe did not discover until later how Allied policy had already made them permanent exiles, to be joined later by twice as many "expellees" (Vernant, 1953; De Zayas, 1977). That was an important part of the hidden agenda, the long range geopolitical and racial strategy of the Great Offensive.

Its broad philosophy was already being discussed when Roosevelt and Churchill met in Quebec, August 1943. The specific intention to expel German folk and relocate them within a smaller demilitarized, deindustrialized Germany, were matters of accord between the Big Three at Yalta and specifically of Article 13 of the protocols signed at Potsdam (De Zayas, 1977). True, the Western Allies underscored the notion of 'orderly and humane transfers', but they could not ensure, and had every reason to know and expect, that Stalin would not shrink from utterly ruthless methods (Conquest, 1970; 1971; Fitzgibbon, 1975; Tolstoy, 1977).

In any case, what is, or could be, 'humane' about massive forced uprootings? Under the most favourable conditions, to be obliged by outside forces to leave one's long-time home and homeland is deeply disturbing; being forced out is traumatic, and being expelled is devastating. For long-settled, traditional, urban and rural communities, as most of these were, it was bound to be worse. For families without their menfolk, for children, and for the elderly, it was doubly threatening, apart from the environment of strife, severe weather, war damage, and vengefulness into which they were thrust. It could not have been anything but a prescription for the human catastrophe it actually became, and continued to be for years afterwards in Germany (Gollancz, 1947).

This kind of uprooting is a peculiarly 'geographical' calamity, but only Bowman seems to have spoken out strongly against the 'principle' of population transfers (Bowman, 1946). Others who did speak out at that time, like Gollancz (1946) and Schweitzer (quoted in De Zayas, 1977, page xix), seem also to have been voices crying in the wilderness. For mass transfers, or 'forced draft' 'pacification' programs, as they were called in Vietnam (Huntington, 1968), became commonplace methods of the armed forces which served virtually every shade of political complexion in subsequent wars. Meanwhile, if any sort of survival of the civil population were possible in a future world war, evacuations too horrible to contemplate, and permanent uprootings from today's major centres of population, are deemed inevitable. That is to say, they are an integral part of everybody's war plans. The 'DPs' (displaced persons), saddest figures in the devastated European landscape of the postwar years, speak to the fate of any who survive the next great war.

Place annihilation

Through systematic policies of urban attack, the Allies razed about 290 square miles in total (750 square kilometres), of city areas within the prewar boundaries of Germany and in the Japanese Home Islands (Hewitt, 1983a). As many as 1.5 million civilians were killed in these raids alone, and more than two million were severely injured. To the millions uprooted by official and unofficial evacuations, were added over 16 million made homeless by bomb destruction. No other national areas suffered so extensive and irrevocable loss of urban places.

Although great numbers of towns and cities have been destroyed by bombardment as part of the general clash of military forces, here I am concerned with bombing specifically directed at populous cities which were more or less remote from the battle zones. Moreover, I am dealing with a systematic policy of 'planned destruction' of urban areas, prepared over more than a decade, and perfected in hundreds of raids. It represents a sharp, if not a wholly distinct, development in the use of armed force to destroy peoples and places. It is the lineal ancestor not only of our thermonuclear predicament, but also of the practices adopted in Vietnam, Afghanistan, Lebanon, the Persian Gulf War, and others.

In the Second World War, what is often called 'area', 'obliteration' or 'saturation' bombing involved mass raids, usually by hundreds of heavy bombers arriving in waves. Their 'aiming point' was commonly just the heart of a city's built-up area, and their task to lay down as thick a carpet of bombs as possible. Even then, high-explosive bombs proved unsatisfactory and these attacks increasingly assumed the form of fire raids. The spread of fires from the incendiaries the bombers dropped was the main cause of damage and casualties. This defines the essential character of *area bombing*, even in the final form of the A-bomb raids [Bond, 1946; Stockholm Peace Research Institute (SPRI), 1975]. For the victims, fire more than explosion, burns more than other types of wounds, were the definitive experience. This also placed the raids firmly in the category of *terror bombing* (Ford, 1944; Rumpf, 1963; Veale, 1962).

Dresden and Hiroshima are commonly perceived as the worst, most damaging, and 'final' of these raids, and one will not deny their unique place in the annals of atrocity. However, the extreme result to date—in overall devastation and casualties, in the area of a city burnt out in a single raid, and in numbers of civilians who lost their homes—occurred elsewhere, but also in 1945³.

The 'big fire' raid

On the night of 9 March, a force of B-29 bombers was sent against Japan from newly won air-bases in the western Pacific Islands. The B-29 or 'Superfortress' was then the newest, most powerful, and most expensive weapons system in the air. Its range of operation was over 4800 km, with a payload, in this instance, averaging about 5.5 tonnes of bombs. It bore an impressive array of guns, and novel electrical, hydraulic, and electronic equipment, to defend and guide itself through the skies of war. More important still, the aircraft was now available in many hundreds of copies.

In the raid of 9 March, 334 planes were involved. They began taking off from airstrips in the Marianas at 17.35 h. The lead aircraft were over the target area at about midnight. If by no means the largest bomber raid of the war, it was a formidable array of force.

However, this force was not being applied in a battle against another military force. It might have encountered resistance from aerial defenses, but it was not being sent against them, or directly against the military bases, or the war industries of the enemy. Its mission was to destroy a city (USSBS, 1947b; Daniels, 1975).

The bombers' 'aiming point' was the congested Asakusa district of Japan's capital city, Tokyo. Here, along the banks of the Sumida river just north of Ginza, was one of the densest concentrations of humanity in the world. Air force intelligence estimated an average of 40000 persons per square kilometre, which rose, in places, to more than 55000 (Craven and Cate, 1953). The ratio of roofed-over area to total area, or 'built-upness ratio', was also exceptional. At about 50%, it was several times that for the inner area of most Western cities. Equally significant, the area was seen to contain countless flimsy close-packed structures, of which their composition made them highly susceptible to fire. Fire was to be the main means of destruction.

The bombers were carrying incendiaries only; about 2200 tonnes in all. The marker bombers, which formed the first wave, set a scatter of fires with M47 napalm bombs. The main force followed with 240 kg clusters of delayed-fuse M69 napalm bombs. A few days later, an article in the *New York Times* would reassure its readers that everything possible was being done to bring Japan to its knees, by

⁽³⁾ My argument for devoting space to the description of events here, is again the lack of readily available material in English. Ten years after Daniels (1975) made the same point, I believe it is still valid. Certainly, the geographical and urban literatures miss these events even when discussing Japan. There is, of course, a sizeable 'raid' literature, in both the official histories and other military sources. The Reports of the US Strategic Bombing Survey have long been available for those who are interested, but are rarely, if ever, cited in the literature one uses (Daniels, 1981). The vast quantity of civil information and analysis in their archive (Modern Military Archives; National Archives, Washington, DC) remain largely untapped and uncited after several years in the public domain. That is disturbing when the surveys were, without doubt, used to assess and *improve* strategic bombing of settlements and civilians. I cite some of the materials here, having worked on these archives in recent years. Apart from Hiroshima and Nagasaki, it may be noted that most Japanese cities, including Tokyo, have published detailed studies by local scholars that have never been translated.

describing the action of these bombs:

“... one of the principle instruments of destruction in the fire attacks has been the M-69 incendiary ... (or) jellied oil bomb ... containing gel-gas, a resin-type jelly (or) ... a composition mixed with gasoline ... cheesecloth impregnated with flaming jelly is spewed out in all directions over a radius of twenty-five yards shortly after the bomb strikes. The material burns fiercely at a heat of about 3,000 degrees F for eight to ten minutes” (*New York Times*, 1945).

The bomber crews' orders were to lay down a carpet of not less than 11 tonnes of bombs per square kilometre in the target area, or about 5000 M69s (Craven and Cate, 1953). The aircraft came in at a daringly low altitude of 1500–3000 m. Visibility was good and aerial defenses proved to be negligible. The result was an unprecedented concentration of incendiaries. This, the flammable nature of the neighbourhoods attacked, and a rising wind, produced a vast conflagration.

In a report to the National Fire Protection Association of the United States, Major F J Sanborn, a member of the Strategic Bombing Survey, observed that: “In a conflagration, the pillar of the mass fire, once it had been established, slanted appreciably to leeward and the hot burning gases contributed much to the ignition of combustible materials on the ground. The chief characteristic of the conflagration was the presence of a fire front, an extended wall of fire moving to leeward preceded by a turbulent mass of pre-heated vapours. The progress and destructive features of the conflagration were, therefore, much greater than those of the fire storm The conflagration of the 9th March in Tokyo was the most notable example of this type of mass fire An extended fire swept over 16 miles (25.7 km) in six hours. Pilots reported the air was so violent that B-29s turned over completely at 6,000 ft (1,820 m) and the heat was so intense they had to put on oxygen masks. The destruction was complete; not a single building escaped damage in the area affected. The fire had spread largely in the direction of the natural wind” (Bond, 1946, page 181).

By mid-morning, on 10 March, the fires had done most of their work. The main fire had burnt itself out. In all, an area of forty-one square kilometres was laid waste. Under the smoke lay tens of thousands of dead civilians. The exact number remains in doubt. The USSBS figure of 83600 seems minimal (1947c). Later studies suggest over 100000, and some have argued that 200000 is nearer the mark. Severely injured civilians numbered about a quarter of a million. Even so, given the density of population, the congestion, lack of organized help, and rapid spread of the fire, these figures may seem miraculously low.

Some 270000 buildings were destroyed. Most were civilian housing, but nearly two-thirds of the city's commercial establishments and one-fifth of the industrial were also consumed in the fire (figure 3).

What, however, were the conditions on the ground that lay behind such bare statistics. Tens of thousands of women and children were trying to flee through the burning streets; fighting their way over narrow bridges. The mind can hardly comprehend one, let alone the vast array of terror experienced. One can only guess at the multitudes of those who struggled, failed, and died, in attempts to rescue their own from burning homes, or at the state of mind of those who crowded, as a last hope, into the few open spaces in these districts (Caidan, 1960).

The behaviour recorded can, all too readily, be called ‘panic’. It surely felt like the end of the world to those involved, and should not be treated like the classic scenes from, say, London's ‘Blitzes’. The scale was vastly greater than anything Londoners had to cope with. This was one of the earliest raids experienced by the residents of Tokyo. There had not been that crucial period of adjustment experienced by civilians in British or German cities subject to recurrent bombing

(see Schmideberg, 1942; Harrison, 1976). There was almost no assistance from trained personnel. Great numbers of families, lost children, mothers carrying babies, injured, aged, and infirm persons alike, had to struggle alone, amid vast crowds of frantic people. There were no teams of valiant rescue workers to help free them; rarely any police or soldiers to guide those hurrying to places of safety, or to control the appalling congestion at the many bridges. Some three hundred fire engines were on the scene early, but they were completely over-whelmed, as were most of the first-aid posts (Bond, 1946). Many rescue units did not, or could not, move in from districts outside the stricken areas.

Meanwhile, during the full-scale fire raid, civilians on the ground had other problems to contend with. Problems of escape or rescue were greatly magnified by continued bombing. In this instance, it went on for about three hours. The air was repeatedly filled with a rain of fire which was created by the spilling cannisters of jellied gasoline. New centres of fire were being started all the time. These were standard tactics in urban area raids, and intended to frustrate any efforts at rescue and at fire fighting.

“People running for refuge were trapped by the bombings ahead and around them and were encircled with flames and black smoke. They looked for protection to the canals and rivers, but in some districts the shallow canals were boiling from the heat which seemed to be compressed by the wind, and the canals were full of people. In some places one swarm of humanity after another crowded into the water and by the time a third or fourth wave of frantic people had jumped, the first wave lay on the bottom ...” (USSBS, 1947a, page 70).

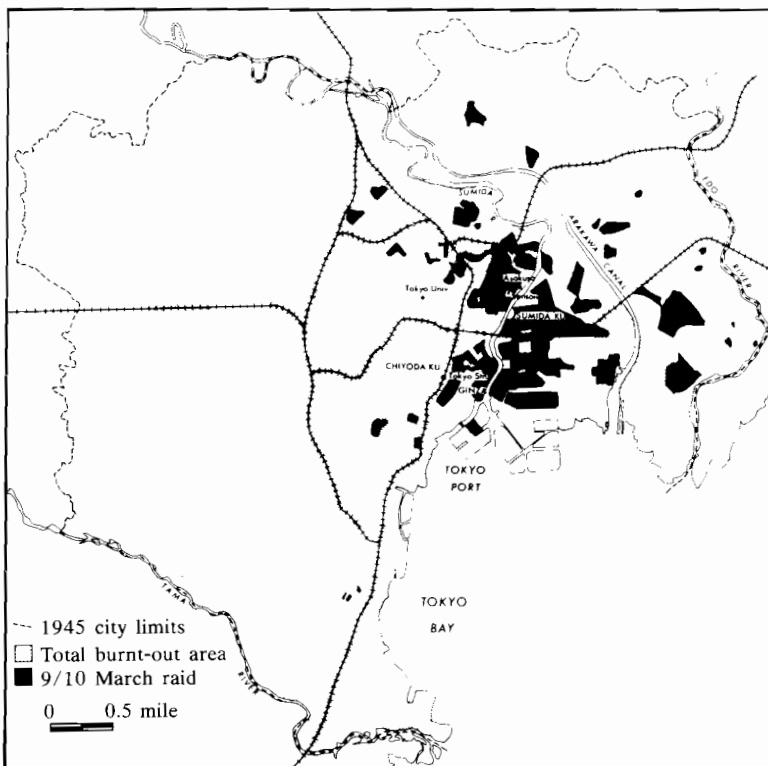


Figure 3. Tokyo areas burnt out in fire raids, 1945 (based on USSBS, 1947b).

Kazutoshi Hando, then a schoolboy in grade three of the middle school, found himself alone:

“My family’s house was burned to cinders, and I escaped only by jumping in a nearby river, where I stayed the whole night long. When dawn broke, I saw that the banks of the river were piled high with charred bodies, and many who had taken refuge in the water were dead as well” (Pacific War Research Society, 1972, page 13).

An eye-witness—from a distance during the attack, but later in the burnt-out areas—was R Guillian, a Frenchman who remained in Japan during the war (Guillian, 1947). He tells how hundreds of folk converged in desperation upon the grounds of the great Senso-ji or Asakusa Kannon Temple. A Buddhist foundation of the seventh century, dedicated to the ‘Goddess of Mercy’, it was a major landmark in the city and place of pilgrimage. People who ran there in the 1923 fire, were said to have been saved. On this night, the temple and all who sought refuge in its grounds perished in the flames (Caidan, 1960).

For the ‘profane space’ of the Yoshiwara Yukwaku, the ‘nightless city’ of the Gieshas and courtesans, matters proved equally final. When the raid began they closed the metal fire doors, but the doors were not proof against the form of incendiarism they were facing. The ‘ladies of the night’, whose story is no doubt more one of exploitation and enforced bondage than of pleasure (see Hane, 1982), perished with their clients. And it may well be that from among the latter came the largest compliment of military casualties suffered in the whole raid!

In fact, many who sought protection in air-raid shelters were worse off than those in the open, as few shelters were adequate to withstand these fires. Rather, they turned into death traps where thousands died of asphyxiation, carbon monoxide poisoning, or heat stroke; the commonest killers in incendiary raids everywhere (USSBS, 1945b: 1947c).

The scenes from that night are, to a great extent, like those from the better known events at Hiroshima, where fire was also the largest cause of death and destruction (Osada, 1959). The Tokyo fire was, however, on a much larger scale, although there were not the additional horrors of radiation.

An important point to note is that, throughout the war, mass raids against cities were rarely very successful when confronted with determined anti-aircraft and aerial defenses. Even where many bombs were dropped, the disruption of bombing patterns, and harm to the attacking force, would prevent critical concentrations of incendiaries. All the really devastating raids, from Lübeck and Hamburg to Dresden and Nagasaki, showed the defenses unprepared or in disarray. In the present case, even as the Japanese military were flinging suicide planes at Allied warships, they provided no credible defenses for their capital city. The Tokyo raid showed, months before the two A-bombs, that Japan’s cities and their civil population were virtually defenseless against the threat they faced. In the words of the USSBS team:

“The overall picture of civilian defense in Japan, was not a happy one. It is hard to conceive of a nation’s undertaking a major war and paying so little heed to the protection of its vital industries, to the continuance of its essential economic life *and to the safety of its people ...*” (1947a, page 140, my italics).

The raid of 9 March was just a beginning. By June, nearly one third of Japan’s urbanized area was in ruins. In a dozen or so raids, upon the five major cities—Tokyo, Yokohama, Osaka, Nagoya, and Kobe—some 259 square kilometres of built-up area had been laid waste by fire (table 3). By the end of July, a further 166 square kilometres and fifty-seven lesser cities had been similarly destroyed (figure 4). Some ninety-four other cities reported civilian fatalities in excess of a

hundred persons, and damages that exceeded the total for Britain during the war (USSBS, 1947a). And only then did the A-bombs do their work; a further sixteen square kilometres of devastation, mainly caused by fire, and some 180 000 civilians dead (Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs at Hiroshima and Nagasaki, 1981).

Thus, the greater part of the urban area of an industrialized nation was eliminated, and in a relatively small number of blows over a short timespan. The devastation encompassed the central parts, and often much more, of all but two of the important

Table 3. Civilian impacts of major fire raids, Japan 1945 (sources: USSBS, 1947a: 1947b; 1947c; Craven and Cate, 1953).

| Date | City | Comments |
|---------------------|-----------------|--|
| 25 February | Tokyo | 27970 buildings destroyed. 2.5 km ² burnt out including Kanda University |
| 10 March | Tokyo | 267 171 buildings destroyed. 38.2 km ² burnt out. 130 000–200 000 civilian deaths. Over 50 000 severe injuries. Over 1 million made homeless. 66% of commercial area destroyed. Numerous hospitals, clinics, schools, temples, etc. destroyed. |
| 14 March | Osaka | 135 000 houses destroyed. 20.7 km ² burnt out. ~ 4000 deaths and 8500 injured. |
| 17 March | Kobe | 65 051 houses destroyed. ~ 2700 deaths and 11 300 injured. 7.5 km ² burnt out. 242 000 persons made homeless. |
| 15 April (twice) | Tokyo–Kawasaki | 238 732 buildings destroyed. 24.8 km ² burnt out and 4.0 km ² of Yokohama. 841 deaths. |
| 15 and 17 May | Nagoya | 113 460 buildings destroyed. 32 km ² burnt out. 3866 deaths. 472 701 rendered homeless. (Note: includes damages from earlier but much smaller attacks.) |
| 23 and 25 May | Tokyo | 221 160 buildings destroyed. 14 km ² and 43.5 km ² burnt out, respectively. 83 000–100 000 deaths (according to Brodie, 1973, page 51) ^a . (Note: in 25 May raid largest area burnt out in any air raid.) |
| 29 May | Yokohama | 89 073 buildings destroyed. 23 km ² burnt out. ~ 4500 deaths. |
| 1 June | Osaka | 136 107 houses destroyed. 8 km ² burnt out. 3960 persons dead or missing. 218 682 persons rendered homeless. |
| 5 June | Kobe | 51 399 buildings destroyed. 17.27 km ² burnt out. |
| 7 June | Osaka | 55 333 buildings destroyed. 6 km ² burnt out. |
| 15 June | Osaka–Amagasaki | 4.9 km ² of Amagasaki burnt out. |

^a This may be an error; he may have mistaken this for the 10 March raid.

towns of Japan. More than eight million civilians had their homes destroyed in the raids (table 4). Still greater numbers were forced to flee into an already overcrowded and impoverished countryside. The whole episode is remarkable in the extent of unrestrained assault upon human settlements and noncombatant resident populations. Equally, perhaps, it is remarkable for the lack of awareness shown by, or qualms of conscience in, the Allied nations then or since (Veale, 1962).

And if there is a precedent for our thermonuclear prospects, it is this whole episode of 'overkill' and annihilation that provides it, rather than just the A-bomb raids.

Place annihilation as strategy

The devastation in Tokyo and elsewhere was not without precedent; indeed it was something air forces had been struggling to achieve for years. It was 'planned destruction'; a form of strategic bombing nurtured by decades of preparations and, ultimately, by enormous investment in the means to carry it out. The tactics and exact means to use in the raids had emerged from years of wartime practice in the saturation bombing of cities. The almanac of great urban fires already embraced dozens of other cities, before the inclusion of those that began in Japan in March 1945 (Hewitt, 1982a).

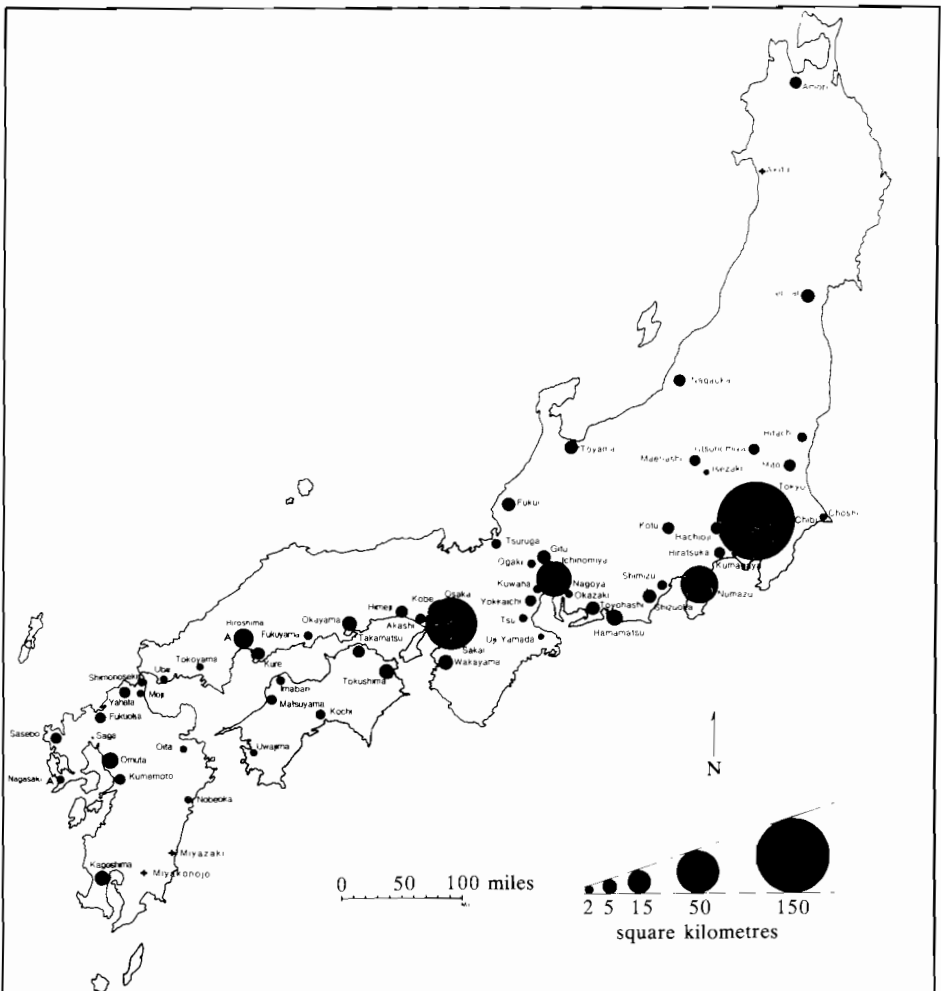


Figure 4. Urban devastation: the impact of area bombing on Japanese cities, by area.

It was the aeronautics pioneer W F Lanchester who, as early as 1914 (published 1916), had predicted what one sees occur in the Second World War. In the use of air power against cities, he stated that:

“The critical point, and the point to be aimed at as an act of war, is that at which the fire-extinguishing appliances of the community are beaten and overcome. Up to this point, the damage done may be taken as roughly proportional to the means and cost of its accomplishment: beyond that point the damage is disproportionately great: the city may be destroyed *in toto*” (Lanchester, 1916, page 121).

The firestorm at Hamburg was, perhaps, the first to demonstrate fully the accuracy of this prediction (Middlebrook, 1980). From that, and other raids, bombing strategists knew that the degree of damage from incendiaries was as dependent upon the density and type of built-up area attacked, as upon the concentration of bombs. The degree of crowding together of structures was important: so too was

Table 4. Some aspects of civil damages of area bombing raids on Japanese cities (sources: as given in table)

| | |
|--|--|
| <i>Bombs dropped</i> (tons) (USSBS, 1947b) | |
| all of Japan | 160 500 |
| urban area | 104 000 |
| all Tokyo attacks | 16 500 (2 500 incendiaries) |
| <i>Civilian casualties</i> | |
| deaths: all raids | 0.9–1.3 million (Hewitt, 1983a) |
| fire raids | 0.65–0.8 million (Hewitt, 1983a) |
| A-bombs | 180 000 (immediate) + 160 000 (to 1950) ^a |
| severely injured | > 1 500 000 (Hewitt, 1983) |
| fire burns as cause of death | 56–84% (five cities) (USSBS, 1947c) |
| total casualties | ~8 million (Kosaka, 1972) |
| <i>Built-up area destruction</i> (62 cities): | |
| complete destruction: | |
| total | 425 km ² (USSBS, 1946) |
| proportion | ~50% (USSBS, 1947b; Craven and Cate, 1953) |
| buildings destroyed | ~2.2 million (USSBS, 1946) |
| Greater Tokyo | 0.86 million (USSBS, 1947b) |
| Hiroshima | 70 000 ^a |
| Nagasaki | 19 587 ^a |
| by structure evacuation | 614 000 ^a |
| <i>Specific damages for civil life</i> | |
| housing units destroyed | 2.5 million (Havens, 1978) |
| persons made homeless (raids) | 8.3 million |
| structure evacuation | 3.5 million (Havens, 1978) |
| persons evacuated (to October 1944) | 2.1 million (USSBS, 1947a) |
| to August 1945 | 8.3 million (USSBS, 1947a) |
| Tokyo (to August 1945) | 4.1 million (57% (USSBS, 1947a) |
| hospitals destroyed (fire raids and A-bombs) | 969 (USSBS, 1947c, page 10) |
| hospital beds lost (fire raids) | 51 935 (USSBS, 1947c, page 10) |
| pharmaceutical factories destroyed | 200 (32% (USSBS, 1947c, page 10) |
| food stores destroyed | 221 891 tonnes (5% (USSBS, 1947b) |
| service professionals killed in Hiroshima ^a (%) | |
| physicians | 90 |
| pharmacists | 80 |
| dentists | 86 |
| nurses | 93 |

^a Source: Committee for Compilation of Materials on Damage Caused by the Atomic Bombs at Hiroshima and Nagasaki, 1981

the type of building materials used, notably the amount of wood and other biomass materials. The presence of many wallpapered rooms cluttered with fabrics and furniture, of domestic fuel stores and home fires, of many numbers of outlets for electricity and gas, all aided the development of fires (Bond, 1946). In a word, it was found that dense *residential* neighbourhoods of the inner city were ideal places to start a mass fire that would fulfill Lanchester's prediction.

If the larger threats a particular civil society faces in air war are especially the weapons and actions of an enemy, the doings of home governments bear directly upon the harm their own citizens may suffer. Failure of powerful states to outlaw and remove means of terror bombing are part of that, but it also has two other aspects. First, there are direct civil-defence measures which, as noted, were quite inadequate in Japan (Hewitt, 1985). Second, there is the responsibility of governments that do develop and use weapons of terror, in that they provide an enemy with reasons to assail their home areas with the same. This raises Richardson's arguments that "... in a roundabout way the bombing airplanes are a danger to the nation that owns them" (1960, page 229).

The Japanese Air Force had pioneered long range strategic bombing, essentially in the form of terror, against cities and civil populations in China. Early in the Sino-Japanese War, their aircraft began raids that were, at the time, unparalleled in distances flown and in destructiveness. They assailed the central congested areas of cities, and razed large areas of Canton, Nanjing, Hangzhou (Hangkow), and Chongqing, mostly with fires started by incendiaries (Linsay, 1975). Nonmilitary areas and civilians were the main focus of destruction (Hsu and Ming-Kai, 1971).

Although the US Air Force generally avoided incendiary and area bombing raids in Europe, they had long been preparing for their possible use against Japan. From 1943, trials were carried out at Eglin air base in Florida, and the Dugway Testing Ground, Utah, in which mock-ups of "... model urban areas typical of Japanese construction" were burned (Bond, 1946). They studied the great Tokyo fire, that which followed the 1923 Kanto Plain earthquake, as a 'model' for incendiary attacks against the city (Bond, 1946). Napalm was used in an area bombing raid of singular devastation, against Hankow in China on 18 December 1944 (Craven and Cate, 1953; SPRI, 1975; Hewitt, 1982a). Although held by the Japanese army, most casualties were Chinese civilians. The French seaside town of Royan was also wiped out in a napalm raid when American bombers were experimenting with its use in Europe (Zinn, 1970). Although part of an attack on the remaining German forces, the casualties were again (French) civilians. Finally, the raid of 9 March on Tokyo, was not only a 'highly successful' action, but also the decisive *experiment* that confirmed 21st Bomber Command's use of fire raids as its preferred role—its 'final solution' to Japan's resistance.

In many respects, the unique significance of the fire raids on Japan, like Dresden or Royan, lies *only* in their impact upon civilian space and urban places. Other raids, much earlier in the war, had involved many more bombers and far greater bomb loads. Some continued over several days and were, for the aircrews involved, 'battles' in every sense, in which they came up against powerful aerial defences. Apart from the appalling statistics of damage, most of the fire raids were militarily uninteresting—a 'piece of cake' as the phrase goes.

Although I fail to see how a civilized approach to these events can ignore the morality they presuppose, that is not my focus here. Rather, it is the iron implications for the survival of civil society and its places. Indeed, the experience of civilians on the ground, and the fate of their places, is what defines the most basic meaning of this style of war. It was, regardless of other military benefits expected or hoped for, not just a strategy of annihilation, but it was specifically

one of (civil) *place annihilation*. This is seen in just whom and what the raids harmed most, and most often. Here is a sort of negative listing of the ingredients of civil 'ecology' and its living space (Hewitt, 1983a). The consequences of the assault on Japanese cities were mainly:

1. Large concentrated fatalities among resident civilian populations.
2. A predominance of women, children, the aged, and infirm among the casualties (that is, 'non-combatants').
3. 'De-housing', or destruction of *homes* of civilians, as a common objective, and the predominant form of physical destruction (Ikle, 1958).
4. Indiscriminate destruction involving schools, shops, banks, libraries, hospitals, theatres, temples, and landmarks, and including buildings of great civic and artistic significance.

The implications of this incendiarism for civilization are further expressed in Ienaga's remark that: "No one could ever count the books, documents, paintings and other treasures that went up in the flames ..." (1978, page 2). It was indeed a process of 'de-civilizing' an entire people, and that was not lost upon advocates of the policy. US Air Force General Chennault spoke of "... burning the guts ..." out of Japan (Craven and Cate, 1953, page 144). US Secretary of War Stimson spoke of "... bring(ing) the heart of Japan under the guns and bombs of the Army Air Forces ..." (Craven and Cate, 1953, page 144; *New York Times*, 1944, 16 June). The architect of the fire raid strategy, and commander of the forces that carried it out, General Curtis LeMay, is notorious for describing the objective as bombing Japan "... back into the Dark Ages" (Kantor, 1965, page 565). Later, at the head of Strategic Air Command, he would advocate bombing North Vietnam "... back into the Stone Age ..." and a similar approach to the Soviet Union and China (see Stone, 1967, pages 92-104). On the evidence of what his bombers had done to Japan's cities, this is not just a figure of speech (compare with Branfman, 1972).

The social space of terror

It is often inferred that 'total war' blurs if it does not eliminate the distinction between civilians and soldiers (McReavy, 1941). It is usually assumed that weapons of terror and mass devastation, being indiscriminate in ethical and targetting senses, produce 'wall-to-wall' destruction. They strike rich and poor, shabby and salubrious neighbourhoods, alike. These notions must erode the sense that war can be restrained by civilized rules, and they tend to make social, geographical, and historical understanding redundant. It is my sense of the materials examined above, that these notions can be challenged. As is found with natural disasters, notions of 'wall-to-wall' destruction are media overdramatizations or technocratic fictions (see Hewitt, 1982b; 1983b). And for a social scientist it is actually imperative to ask just *who* dies and *whose* places are destroyed by violence.

It has already been shown that area bombing assailed the central, most congested, areas of cities. Their destruction led to some of the most populous parts of cities being emptied and abandoned. Where their flight took urbanites beyond the untouched suburbs or where they were evacuated to the countryside, it led, in effect, to a deurbanization of society. This, in itself, is a huge subject. For one finds that twentieth-century violence everywhere, has the effect of either herding vast numbers of rural folk into cities, or forcing urban folk *out of* cities. It either accelerates, or slows and reverses urbanization (Thrift and Forbes, 1986). Allied bombing 'deurbanized' Germany, but the great majority of German folk who were expelled from Eastern Europe were from rural and farming backgrounds, and most eventually ended up in urban areas of the postwar Germanies.

It is important to add that even saturation bombing and firesetting were rarely very effective against dispersed urban areas or suburbs. Mass fires could not be generated in the less dense neighbourhoods. Critical and newer industries, also often in the suburbs or dispersed to the countryside, and heavily defended, could rarely be hit at all, nor reached by mass fires set elsewhere. Few strategists will deny that the ability to knockout key war industries, energy sources, military bases, airfields, and communications nodes is a far more effective and desirable use of strategic air power. Unfortunately, it is well documented that the bombers were rarely able to hit or destroy these; at least, not without unacceptable casualties (Hastings, 1979). And so, frustration and losses among the much-championed and expensive bomber fleets was a large factor in turning them against targets that they could hit and could seem to cause a great impression upon. These were the city centres. Only then did 'barn-door' targetting and carpet bombing provide impressive statistics of destruction.

One also finds that the bombings and uprootings were not indiscriminate with respect to demographic, social, and economic conditions among the victims. In the case of the bombing of cities, it is often assumed that the industrial 'war workers' were the only or the main targets. If that were true it would itself involve a specific social space. In fact, it was the remaining city-centre civil populations *in general* that were assailed. Persons whose work lay in local government and services, law enforcement and nonwar businesses or enterprises, were also exposed. Commonly, they were more at risk than the industrial workers because they were more heavily concentrated in city-centre areas. Workers in key war industries were better protected and fared better than most during the air raids (USSBS, 1945a; 1945b; 1946). Again, it is often assumed women who were not evacuated successfully to the countryside were in war work; 'Rosie the Rivetter', etc. Important for women as this development was, at least in Britain and North America, its relative role has been exaggerated. In Germany and Japan, the overwhelming numbers of women, especially in the cities, were 'homemakers' (Stephenson, 1981; Havens, 1978). Those with work outside the home—itsself often of a part-time or a voluntary type, over and above domestic duties—were in services (education, health care), in small businesses (bakeries, tobacconists), and in civic, religious, and cultural occupations.

Meanwhile, conscription of men from the cities was rarely balanced by evacuation of women, so that the latter formed the larger fraction of the urban populations which were subject to bombing. A disproportionate concentration of air raid deaths and injuries among women is well established for most German cities (Rumpf, 1963; Hewitt, 1983a).

Women were almost certainly the larger fraction of casualties in the fire raids on Japan, although data have not yet come my way to substantiate this claim for most cities. However, Hiroshima, object of minute examination, fully shows this to be the case. There, death was proportionately much greater in 'spouses' (wives) than in 'household heads' (husbands), and among daughters compared with sons (Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs at Hiroshima and Nagasaki, 1981).

It may be noted that near the time of the raids, as in East Prussia just before the flights and expulsions, the Japanese government ordered a final wave of conscription that took many remaining men away, who had been previously considered too old or disabled for military service. Japan had its *volkssturm* too! The military also stripped civil society of most of its physicians and other service professionals, not to speak of medicines and of other facilities that would mean the difference between life and death for thousands when the fire raids happened (Hewitt, 1985; 1986).

Although organized movements managed to remove a large fraction of very young children and others who were not to be obliged to evacuate, great numbers of older children and adults were crowded into school, especially those in lower-income groups. In October 1944, as the main period of bombings began, about 14.5% of people in the major cities had been evacuated (USSBS, 1947a). By August 1945, 57.6% had been evacuated, about 38% in organized or voluntary movements, and the remainder in precipitate flights during or after the raids (USSBS, 1947a). That is to say, millions of ordinary housewives, children, youths, and the elderly, were in each major city for many a fortnight of the raids. As was already well-known in Britain and Germany, and is dimly realized by those planning mass evacuations for nuclear war, there are very severe constraints on where, and how many people can be supported outside the cities of an urban-industrial state—and this is if the crisis continues only for weeks, let alone years. Studies of demography, rationing, and other services in wartime support these observations about the gender and age of city populations. They are rarely put together with the raid data (but see USSBS, 1945a; 1945b; 1947a, 1947b; Litwack, 1950; Havens, 1978).

A further aspect is the income or class distribution of victims in congested city-centre areas (Hewitt, 1985a). In German and British cities, urban targeting led to disproportionate casualties among low income or poor families. To the extent that 'the German industrial worker' or his British counterpart were affected, it was usually the unskilled or semiskilled. Mainly, however, it was the families of servicemen in the lowest ranks who were being struck at, and, of course, this happened while the men were away, again in disproportionate numbers, at the battle fronts. American advocates of air power do not seem to have followed their British counterparts who advocated attacks on "working-class neighbourhoods" (Webster and Frankland, 1961, pages 21–33; Snow, 1961, pages 47–48). Nevertheless, by assailing the densest central areas of Japanese cities, their actions had a similar effect. The better-off urbanites lived mostly in more open and suburban areas, or were easily evacuated to comfortable properties in the countryside.

A recurring observation by even better-off respondents, to the thousands of interrogations and questionnaires of the USSBS stresses this aspect. They speak of 'slum bombings' or of the much greater plight of poorer neighbourhoods (Ibuse, 1969, page 71). And they suggest that had the bombings affected more expensive neighbourhoods much more loss would have been made, and this would have required more *effective* government action. This was paralleled in Britain, especially in early phases of the bombing (Harrison, 1976).

In the enforced flights from Eastern Europe, farm families tended to fare better than urbanites. Their menfolk often remained at home, because of special consideration for food producers, and they often had draft animals for the journeys. Still, the majority of trekkers were women, children, and the elderly.

The expulsions raise another dimension of the social space of terror: the ethnic or racial. Total war may blur the distinction between citizenship of a state and linguistic or racial diversity within a given it, even if there is difficulty in the absorption, or in the fair treatment, of the minorities within its boundaries. In war, the tendency is not to differentiate in the case of the enemy state—to the dismay of, say, the people of Hamburg who could not understand why Britain burnt their city when they were 'Saxons' not Prussians (Middlebrook, 1980).⁴ But conquerors or forces of occupation will exploit group differences or pursue racialist policies. In the East

⁴ Interrogation 419, sections 1 and 2, statements 1 and 2, Morale Division, USSBS—these are unpublished documents in my archive.

⁵ Unpublished Mass. case, in my archive, section 1, page 3.

European expulsions, like the Hitlerite treatment of Jews, Gypsies, and Poles, one can note enemies identified by race and language. Whether that is even rational, let alone 'civilized' is doubtful, but it is one of a host of examples in which peacetime prejudice and wartime hatreds are used to justify assailing people on such grounds. When armed force is applied, one encounters genocide as the term is usually understood.

The 'definitive' civilians

What the evidence seems to show is that the wartime civil populations, urban and rural, were skewed towards rather than away from those typically regarded as noncombatants. This applies not only to their being unarmed, and of an age or sex or health status that excluded them from fighting, but also to their being in occupations which were marginal or irrelevant to the conduct of war, and which gave them little or no say in that conduct.

The civilian majorities I have encountered as victims of bombings and uprootings, were predominantly female, the young, and the elderly. They were mostly occupied in domestic and service roles. Most of them came from the least wealthy, and hence least influential classes in their respective societies. To be sure, their menfolk had provided the bulk of the armed forces, and it could happen, when enemy soldiers invaded and occupied their land, that wives, children, and grandparents would obey their governments' call to take up arms. The history of siege, although usually emphasizing martial prowess, actually shows that civilians have always willingly defended their actual homes. Perhaps Allied soldiers would have faced Japanese matrons armed with spears had the A-bombs not brought a final capitulation (Havens, 1978). But that must be distinguished from the kinds of warfare outlined earlier, and is, in any case, a desperate resort that no civilized power should require, even of its enemy.

However, the victims of terror I have examined were mostly of a truly civilian status. Because of age, gender, occupation, and social position, no less than being unable to fight back, they can be fairly termed '*definitive*' civilians, both in ethical and in functional interpretations of war. In wartime they were largely engaged in 'peaceful' activities, whether domestic, neighbourhood, civic, or economic. Their lives maintained, at home, in schools, stores, offices, churches, museums, and places of entertainment, whatever vestiges of 'peacetime' ways of life could survive during war.

However, it was also these majorities of 'ordinary' civilians who bore the brunt of the bombing and the uprootings. *Their* places were destroyed without restraint. Their home areas became 'killing grounds' where vast numbers were massacred and maimed. They were shifted around or driven out with little or no regard for what that meant to them. It is my sense of all the wars that have happened since 1945, that a similar disproportionate impact of destruction and terror has been visited upon such civilian majorities. They have included Laotian, Afghan, and Ethiopian peasants, North Korean and Lebanese townfolk.

In one's attempts to provide a broad conceptualization of what all this means, it may be useful to suggest certain similarities of this to a more familiar debate. The civilian majorities, which I have identified here, go through a parallel process to that of many 'traditional' folk caught in the so-called 'development trap'. The second is the underside of economic development. This is where it exploits, destabilizes, and marginalizes the established lives and livelihoods of millions outside the industrial world today. The parallels with civil populations in wartime are of the following kinds.

There is a shift to wage labour (war work) in a traditional (peacetime) society, to commercial and industrial (war production) economies, and to strong central (war planning) government—the matters that concern the bulk of the development (war) literature. These tend also to shift a huge burden of inescapable domestic, traditional, and cultural ('home front') work onto the female, the young, the elderly, and the poorly educated ('ordinary civilian') parts of the population. And much of the last's often enormously arduous and aggravated work, is in the 'hidden' or 'shadow' (nonwar, 'black market') economies.

Those who most readily adapt to commercial work/enterprise (war work, air raid duties, etc) receive the more favourable attentions of government. And it is against this background that the more devastating changes in indigenous (civilian) societies take place. They include 'drift to the cities', resettlement, land expropriation (evacuations, 'concentration'), destructive collapse of traditional land uses and environment ('scorched earth', 'resource denial'), and the famines and high mortality (bombings). And *the main victims* have already been largely written off or written out of the Five-Year Plans, Foreign Loan conditions, etc (war councils, war allocations), or redefined in official euphemisms as targets of another sort—'underdeveloped' areas ('the war-making potential of the enemy').

At this point, I can only propose these analogies as a basis for discussion; a way to mobilize concepts from areas in which there is more vigorous and conceptually grounded debate. For it is my sense of the literature that these 'definitive civilians', in this phase of their lives, are most often written out of war studies in general, and strategic bombing or other uses of terror in particular—as, until recently, their parallels have been written out of the literature on economic development.

It seems fair to conclude that the main victims of terror, encountered or caused by male-dominated, industrial, totalitarian states at war, are those whose gender, age, class, and occupation have rendered them invisible. They certainly were so in the military states of Japan and Germany late in the Second World War. No less than their menfolk in the 'other ranks' of the military, these civilians were expected to obey, if necessary to die, but not to be heard in, or to have any influence upon, the affairs of the state at war.

Meanwhile, the 'great events'; the fascination which we scholars, no less than the popular studies, have with leaderships, weapons, battles, spying and such, dominates the literature. Not only does this distract attention from the plight of national civilian majorities, but also it has tended to make them, and their roles and needs, appear pathetic if not banal. Their problems appear as unfortunate side-effects, if not boring irrelevancies in the clash and decisions of 'great forces'. And that placement of the problem is hardly noticed even when the forces stooped to a policy of terror towards these civilians. Nowhere is the sense of this captured with more poignancy than in Ibuse's *Black Rain* (Ibuse, 1969; compare with Liman, 1986; Hewitt, 1986).

Quite apart from the assumptions and ethics involved here, my investigations show that the meaning of terror in war is not solely a question of the weapons and goals of the attacking forces. If the *attacks* were indiscriminate, the *vulnerability* of different places and segments of society was not. Indeed, my own discussion probably overstates the 'impacts' in terms of the attacks, in that it presents only the losses, damages, and flight of civilians. A full portrait of these events involves also an extraordinary history of adjustment to, courage in, and assertion of will by, civilians struggling to survive and protect their own. And if they often failed, or finally had to flee, then this diminishes their achievements no more than when soldiers die or hold steady in battles they eventually lose.

Concluding remarks: a defenceless space?

Destruction of places, driven by fear and hatred, runs through the whole history of wars, from ancient Troy or Carthage, to Warsaw and Hiroshima in our own century. The miseries, uprootings, and death of civilians in besieged cities, especially after defeat, stand among the most terrible indictments of the powerful and victorious. In that sense, there is, despite the progress in weapons of devastation, a continuity in the experience of civilians from Euripides' *Trojan Women* or *The Lamentations* of Jeremiah, to the cries of widowed women and orphaned children in Beirut, Belfast, the villages of Afghanistan, and those of El Salvador today. A vital difference, however, concerns the defense of cities and civil populations. Often in the past, it has been the first priority of civilized societies.

In his Preface to a translation of Weber's *The City* (Weber, 1958), Martindale asserts that, "... it is of decisive importance, which units of social life are able to maintain themselves by armed force ..." (page 60). It is a principle held widely in the history of political thought. He stresses the vulnerability of contemporary cities to destruction in war. He emphasizes the gulf that separates them from the military situation enjoyed, or at least sought after, by most cities and civilizations in the past. And I suggest that at the heart of this is, on the one hand, an inability or unwillingness of twentieth-century military powers to protect civil society and its settlements, whereas, on the other, they place enormous investment and faith in the instruments that destroy them. Here is another paradox of urban-industrial societies and their war-making. From Aristotle to Machiavelli, von Clausewitz, Engels, and Mackinder, politico-military thinkers in the West seem to share one central premise; that the methods of war developed by a state should be appropriate not only to its material means but also to its political form. Many developments in twentieth-century warfare, certainly among the ostensibly civil democratic states, whether of the left or right, seem profoundly at odds with their ideologies and material lifestyles.

Total wars involve and threaten everyone. However, I believe it is not difficult to show and document how the 'home fronts'—the voice and needs of civilians in particular—have been consistently slighted in comparison with offensive forces (Hogg, 1978; Snyder, 1984). This applies to the provision of resources and ingenuity, and the serious concern of governments. The home defences of major powers were allowed to languish, long before it could be shown they were a lost cause.

The events considered were not just out-of-control warring when leaderships were overstretched and morally exhausted. In a certain sense they were unusually successful consequences of military strategy. That is because they had been goals, however misguided, of long-range planning and investment. Moreover, the events, although extreme projections of harm to civil life in wartime, were fully symptomatic of the growing threats of modern warfare. Examples go back at least to the American Civil War—often called the 'first industrialized war'—and to the shelling and starvation of Paris in the Franco-Prussian War. Colonial military actions of Britain, France, Germany, Italy, Belgium, and other powers were commonly against whole peoples and settlements (Gottman, 1943; Porch, 1986), as was Stalin's strategy in the Ukraine and elsewhere (Elliot, 1972; Conquest, 1986). They included experiment and deployment of such weapons as the machine gun (Ellis, 1975), and aerial bombing of settlements (Divine, 1966), both precedents for what happened in the world wars.

The First World War, fought on all sides with an ethos of the offensive (Howard, 1986), was an overwhelming testament to the superiority of defensive warfare.

Instead of capitalizing on that, military men and belligerent politicians saw it as a fatal impasse. They eagerly sought ways to restore the power of the offensive, the 'war of movement', and the concept of decisive victory. The result was 'blitzkrieg', an even longer and more destructive world war, and the events I have examined. Again, although slighted in nearly every way, developments in civil, aerial, and other defensive measures in the Second World War could be highly effective. In the Battle of Britain, the Battle of the Atlantic, or at Iwo Jima, and in a host of other better defended military and urban centres, defensive measures defeated or demanded extraordinary sacrifices of offensive forces. The achievements of counter-city strategic bombing and other attempts to devastate and terrorize civil populations in Europe were themselves extremely costly in men and material, often for small and indecisive results (USSBS, 1945a; Webster and Frankland, 1961).

Germany's aerial defenses were remarkably effective until the Luftwaffe was finally overwhelmed, largely because of 'attrition' of men and machines on the Eastern Front. In going against them, in order to bomb German cities, 55 573 aircrew of RAF Bomber Command were killed—a loss every bit as tragic as the 'lost generation' of junior officers and NCOs killed on the Western Front in the First World War.

Whatever fraction of the defeat of the Axis powers can be attributed to counter-city bombing, one at least knows that the war was ultimately decided by the clash of the armed forces. Only the final crushing defeat of the Axis air, land, and sea forces by overwhelming Allied military strength brought the war to a conclusion. The expulsions, the fire raids, and V-weapons were in warfare, if not political, terms—'side-shows'⁶. The debate continues as to whether the A-bombs made a significant difference in ending the Pacific War (Miles, 1985). They certainly look like 'overkill', too much too late, when far more devastation in much more vital cities had already occurred. Moreover, because the attacks were on cities occupied largely by civilians, to suggest they saved Allied soldiers' lives, as appealing as that may be, appears to condone a 'crime of war'. One may not sacrifice noncombatants in hope of saving military lives *and* remain within 'the laws of civilized warfare'.

Valid or not, it may seem naive to think these reflections have relevance any longer. The prophets of doom are having more of a field day now, than in the 1930s. There is total pessimism about, and lack of real action to enable, the defense of civil society. And perhaps that is valid for all-out nuclear war. It is not true of the many wars since the Second World War, or of the civil implications of today's arms trade. It is not true of many other, not unrelated emergencies (Chernobyl?). And the civilian complexities that 'omnicidal' war plans obliterate, in thought as well as in deed, *are* required evidence for a revitalized sense of the

⁽⁶⁾ One can never raise this subject without the question of postwar reconstruction, the Japanese and German 'economic miracles', being raised. On the one hand, it is amazing and ironic how, within a decade or two, where the destruction was most complete, the record, on the ground, was least. Or rather, it lay in prodigious reconstruction that dwarfed the war memorials. On the other hand, to treat that, as many seem to, as the essential message and even as a vindication of the bombing (as is often heard about London's South Bank Site), seems to me an extreme measure of the brutalizing of modern thought by the technocratic planners. At least, to see it as such is an equally valid ethical and 'aesthetic' judgement. Otherwise, one might start trading off 'lost generations' against postwar 'baby booms'. One might find in the state of Israel or in efforts to outlaw overt anti-semitism, compensation for the death camps! Without trying to trade atrocities, I think the postwar reconstruction of firebombed cities merely emphasizes also the futility and criminality of the untimely death of so many millions and the irrecoverable loss to civilization. Meanwhile, the recoveries themselves have taken place in concert with the development of ever greater weaponries which are able to destroy all cities and all civil majorities (Hewitt, 1983a).

need for a durable peace. They could help reinstate the terms of a (lost) sense of the 'laws', or civilized morality, in warfare—once considered the West's greatest contribution (Veale, 1962; Laarman, 1984). In an age when most war plans, conventional as well as nuclear, threaten mass devastation to settlements and their populations, and when these are virtually defenceless against such assaults, perhaps it would be valuable to know, in a detailed and concrete way, just what civilians stand to lose because of that.

Acknowledgements. A large part of the article involves materials presented to the Phillip Uren Memorial Lecture 1985, at Carleton University, Ottawa. Thanks to the Social Science and Humanities Research Council (Canada), and the Office of Research, Wilfrid Laurier University, for funding parts of the work. Thanks to Mr B Gabbei and Ms D Senese for research assistance, and to P Schaus and P Carnochan for map preparation.

References

- Aron R, 1955 *The Century of Total War* (Beacon Press, Boston, MA)
- Black A, 1984 *Guilds and Civil Society in European Political Thought from the Twelfth Century to the Present* (Cornell University Press, Ithaca, NY)
- Blaufarb D S, 1977 *The Counterinsurgency Era: US Doctrine and Performance* (Free Press, New York)
- Bond H (Ed.), 1946 *Fire and Air War* (National Fire Protection Association, Boston, MA)
- Bowman I, 1946, "The strategy of territorial decisions" *Foreign Affairs* 24 177–194
- Branfman R, 1972 *Voices from the Plain of Jars: Life under an Air War* (Harper and Row, New York)
- Brodie B, 1973 *War and Politics* (Macmillan, New York)
- Brustat-Naval F, 1970 *Unternehmen Rettung: Letztes Schiff nach Westen* (Koehlers, Herford)
- Bunge W, 1973, "The geography of human survival" *Annals of the Association of American Geographers* 63 275–295
- Caidan M, 1960 *A Torch to the Enemy* (Ballantine Books, New York)
- Chomsky N, Herman E S, 1979 *The Political Economy of Human Rights: Volume 1. The Washington Connection and Third World Facism* (Black Rose Books, Montreal)
- Committee for the Compilation of Materials on Damage Caused by the Atomic Bombs at Hiroshima and Nagasaki, 1981 *Hiroshima and Nagasaki: The Physical, Medical and Social Effects of the Atomic Bombings* (Basic Books, New York)
- Conquest R, 1970 *The Nation Killers: The Soviet Deportation of Minorities* (Macmillan, London)
- Conquest R, 1971 *The Great Terror: Stalin's Purge of the Thirties* revised edition (Penguin Books, Harmondsworth, Middx)
- Conquest R, 1986 *The Harvest of Sorrow: Soviet Collectivization and the Terror-famine* (Oxford University Press, Oxford)
- Craven W F, Cate J L (Eds), 1953 *The Army Air Forces in World War II. Volume 5: The Pacific, Matterhorn to Nagasaki* (University of Chicago Press, Chicago, IL)
- Daniels G, 1975, "The great Tokyo air raid, 9–10 March, 1945", in *Modern Japan: Aspects of History, Literature and Society* Ed. W G Beasley (University of California Press, Berkeley, CA) pp 113–131
- Daniels G (Ed.), 1981 *A Guide to the Reports of the United States Strategic Bombing Survey* (Royal Historical Society, London)
- De Zayas A M, 1977 *Nemesis at Potsdam: The Anglo-Americans and the Expulsion of the Germans; Background; Executions, Consequences* (Routledge and Kegan Paul, Andover, Hants)
- Divine D, 1966 *The Broken Wing: A Study in the British Exercise of Air Power* (Hutchinson, London)
- Earle E M (Ed.), 1943 *Makers of Modern Strategy* (Princeton University Press, Princeton, NJ)
- Elliot G, 1972 *Twentieth Century Book of the Dead* (Penguin Books, Harmondsworth, Middx)
- Ellis J, 1975 *Social History of the Machine Gun* (Pantheon Books, New York)
- Fitzgibbon L, 1975 *Katyn: Triumph of Evil* (Anna Livia, Dublin)
- Ford J C, 1944, "The morality of obliteration bombing" *Theological Studies* 5 261–309
- Fussell P, 1975 *The Great War and Modern Memory* (Oxford University Press, Oxford)
- Gollancz V, 1946 *Our Threatened Values* (Victor Gollancz, London)
- Gollancz V, 1947 *In Darkest Germany* (Henry Regnery, Chicago, IL)

- Gottman J, 1943, "Bugeaud, Gallieni, Lyautey: the development of French colonial warfare", in *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler* Ed. E H Meade (Princeton University Press, Princeton, NJ) pp 234-259
- Guilian R, 1947 *Le Peuple Japonais et la Guerre* (Juillard, Paris)
- Hane M, 1982 *Peasants, Rebels and Outcasts. The Underside of Modern Japan* (Pantheon Books, New York)
- Harrisson T, 1976 *Living Through the Blitz* (William Collins, London)
- Hastings M, 1979 *Bomber Command* (Pan Books, London)
- Havens T R H, 1978 *Valley of Darkness. The Japanese People and World War Two* (W W Norton, New York)
- Hewitt K, 1982a, "Air war and the destruction of urban places" DP-8041, Office of Research, Wilfrid Laurier University, Waterloo, Ontario, Canada N2L 3C5
- Hewitt K, 1982b, "Settlement and change in basal zone ecotones: an interpretation of the geography of earthquake risk", in *Social and Economic Aspects of Earthquakes* Eds B G Jones, M Tomazevic: Proceedings of the Third International Conference, Institute of Earthquake Engineering and Engineering Seismology, Skopje, Yugoslavia, pp 15-42
- Hewitt K, 1983a, "Place annihilation: area bombing and the fate of cities" *Annals of the Association of American Geographers* 73 257-284
- Hewitt K, 1983b, "The idea of disaster in a technocratic age", in *Interpretations of Calamity* Ed. K Hewitt (Allen and Unwin, Hemel Hempstead, Herts) pp 3-32
- Hewitt K, 1985, "Strategic air power against the Japanese civilian, 1945: the threat and its preconditions" RP-8574, Wilfrid Laurier University, Waterloo, Ontario, Canada N2L 3C5
- Hewitt K, 1986, "The meaning and loss of place in war: Japanese civilians in World War Two", in *FUDO: An Introduction* Eds A V Liman, F S Thompson (University of Waterloo Press, Waterloo, Ontario) pp 44-58
- Hogg I V, 1978 *Anti-aircraft: A History of Air Defence* (Macdonalds and Jane's, London)
- Howard M, 1986, "Men against fire: the doctrine of the offensive in 1916", in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* Ed. P Paret (Princeton University Press, Princeton, NJ) pp 510-526
- Hsu L H, Ming-Kai C, 1971 *History of the Sino-Japanese War 1937-1945* (Chung Wu Co, Taipei)
- Huntington S P, 1968, "The bases of accommodation" *Foreign Affairs* 46 642-656
- Ibuse M, 1969 *Black Rain* (Kodansha International, New York)
- Ienaga S, 1978 *The Pacific War: World War II and the Japanese, 1931-1945* (Pantheon Books, New York)
- Ikle F C, 1958 *The Social Impact of Bomb Destruction* (William Kimber, London)
- Kantor M, 1965 *Mission with LeMay: My Story* (Garden City, New York)
- Keane J, 1984 *Public Life and Late Capitalism. Towards a Socialist Theory of Democracy* (Cambridge University Press, Cambridge)
- Kosaka M, 1972 *100 Million Japanese: The Post-war Experience* (Kodansha International, Tokyo)
- Laarman E J, 1984 *Nuclear Pacifism: 'Just War' Thinking Today. American University Studies* (Peter D Lang, New York)
- Lanchester F W, 1916 *Aircraft in Warfare* (Constable, London)
- Lewallen J, 1971 *Ecology of Devastation: Indochina* (Penguin Books, Harmondsworth, Middx)
- Liddell-Hart B H, 1967 *The Revolution in Warfare* (Yale University Press, New Haven, CT)
- Lifton R J, 1973 *Home from the War: Vietnam Veterans, neither Victims nor Executioners* (Simon and Schuster, New York)
- Liman A V, 1986, "Furusato: place in modern Japanese literature", in *FUDO: An Introduction* Eds A V Liman, F S Thompson (University of Waterloo Press, Waterloo, Ontario) pp 81-97
- Linsay M, 1975 *The Unknown War: North China 1937-1945* (Begstrom and Boyle, London)
- Ludendorff E, 1935 *Der Totale Krieg* (Ludendorffs, Munich)
- McReavy L L, 1941, "Reprisals: a second opinion" *Clergy Review* 20 131-138
- Michel H, 1975 *The Second World War* (Praeger, New York)
- Middlebrook M, 1980 *The Battle of Hamburg: Allied Bomber Forces Against a German City in 1943* (Allen Lane, London)
- Miles R E, 1985, "Hiroshima: the strange myth of half a million American lives saved" *International Security* 10 121-140
- New York Times*, 1944, "Our superforts bomb cities in Japan", 16 June, reprinted in *Japan: The Great Contemporary Issues* Ed. E O Reischauer (Arno Press, New York) pp 127-128

- New York Times*, 1945, "Fire bombing Japan", 21 March, reprinted in *Japan: The Great Contemporary Issues* Ed. E O Reischauer (Arno Press, New York) p 130
- Osada A, 1959 *Children of the A-Bomb* (Uchida Rukakuho, Tokyo)
- Pacific War Research Society, 1972 *Japan's Longest Day* (Kodansha International, Tokyo)
- Paret P (Ed.), 1986 *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton University Press, Princeton, NJ)
- Pirenne H, 1956 *Medieval Cities: Their Origins and Revival of Trade* (Doubleday, New York)
- Porch D, 1986, "Bugeaud, Gallieni, Lyautey: the development of French colonial warfare", in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* Ed. P Paret (Princeton University Press, Princeton, NJ) pp 376-407
- Proudfoot M T, 1956 *European Refugees: A Study of Forced Population Movement* (Faber and Faber, London)
- Remarque E M, 1929 *Im Westen nichts Neues* (Propyläen, Berlin)
- Richardson L, 1960 *Arms and Insecurity: A Mathematical Study of the Origins of War* (Boxwood Press, Pacific Grove, CA)
- Rumpf H, 1963 *The Bombing of Germany* (Holt, Rinehart and Winston, New York)
- Salmaggi C, Pallavisini A, 1979 *2194 Days of War: An Illustrated Chronology of the Second World War* (Mayflower Books, New York)
- Schieder T (Ed.), 1953 *The Expulsion of the German Population from the Territories East of the Oder-Neisse Line; A Selection and Translation of "Dokumentation der Vertreibung der Deutschen aus Ost-Mitteleuropa"* Federal Ministry for Expellees, Refugees and War Victims, Bonn, FRG
- Schmideberg M, 1942, "Some observations on individual reactions to air raids" *International Journal of Psychoanalysis* 23 146-176
- Scott F D (Ed.), 1968 *World Migration in Modern Time* (Prentice-Hall, Englewood Cliffs, NJ)
- Shy J, Collier T W, 1986, "Revolutionary war", in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* Ed. P Paret (Princeton University Press, Princeton, NJ) pp 815-862
- Snow C P, 1961 *Science and Government* (Oxford University Press, Oxford)
- Snyder J, 1984, "Civil-military relations and the cult of the offensive, 1914 and 1984" *International Security* 9 108-146
- Solzhenitsyn A, 1977 *Prussian Nights: A Poem* (Farrar, Straus and Giroux, New York)
- Somerville J, 1985, "Nuclear 'war' is omnicide", in *Nuclear War: Philosophical Perspectives* Eds W A Fox, L Groarke (Peter D Lang, New York) pp 3-10
- SPRI, 1975 *Incendiary Weapons* Stockholm Peace Research Institute (MIT Press, Cambridge, MA)
- Stephenson J, 1981 *The Nazi Organization of Women* (Croom Helm, Beckenham, Kent)
- Stone I F, 1967 *In Time of Torment* (Random House, New York)
- Terkel S, 1984 *The Good War: An Oral History of World War Two* (Pantheon Books, New York)
- Thorwald J, 1953 *Flight in the Winter: Russian Conquers, January to May 1945* (Pantheon Books, New York)
- Thrift N, Forbes D, 1986 *The Price of War: Urbanization in Vietnam 1954-1985* (Allen and Unwin, Hemel Hempstead, Herts)
- Titmuss R M, 1950 *Problems of Social Policy* History of the Second World War, United Kingdom Civil Series, 4 volumes, Ed. W K Hancock (HMSO, London)
- Toland J, 1966 *The Last 100 Days* (Random House, New York)
- Tolstoy N, 1977 *Victims of Yalta* (Hodder and Stoughton, Sevenoaks, Kent)
- Ullanis B, 1971 *Wars and Population* (Progress Publishers, Moscow)
- Urry J, 1981 *The Anatomy of Capitalist Societies: The Economy, Civil Society and the State* (Macmillan, New York)
- USSBS, 1945a, "Overall report (European war)" United States Strategic Bombing Survey (US Government Printing Office, Washington DC)
- USSBS, 1945b, "The effect of bombing on health and medical care in Germany" United States Strategic Bombing Survey (US Government Printing Office, Washington DC)
- USSBS, 1946, "Summary report (Pacific war)" Office of the Chairman, United States Strategic Bombing Survey (US Government Printing Office, Washington DC)
- USSBS, 1947a, "Final report covering air-raid protection and allied subjects in Japan" Civil Defense Division, United States Strategic Bombing Survey (US Government Printing Office, Washington DC)

-
- USSBS, 1947b, "Effects of air attack of urban complex Tokyo-Kawasaki-Yokohama" Urban Areas Division, United States Strategic Bombing Survey (US Government Printing Office, Washington DC)
- USSBS, 1947c, "The effects of bombing on the health and medical services in Japan" Medical Division, United States Strategic Bombing Survey (US Government Printing Office, Washington DC)
- Veale F J P, 1962 *Advance to Barbarism: The Development of Total Warfare from Sarajevo to Hiroshima* (The Mitre Press, London)
- Vernant J, 1953 *The Refugee in the Post-war World* (Allen and Unwin, Hemel Hempstead, Herts)
- Walzer M, 1977 *Just and Unjust Wars: A Moral Judgement with Historical Illustrations* (Basic Books, New York)
- Weber M, 1958 *The City* (Free Press, New York)
- Webster C, Frankland N, 1961 *The Strategic Air Offensive against Germany, 1939-1945* History of the Second World War, United Kingdom Military Series, 4 volumes, Ed. W K Hancock (HMSO, London)
- Weigley R F, 1973 *The American Way of War: A History of United States Military Strategy and Policy* (Macmillan, New York)
- Westing A H, 1976 *Ecological Consequences of the Second Indo-China War* (Almqvist and Wiksell, Stockholm)
- Westing A H, 1984 *Herbicides in War: The Long-term Ecological and Human Consequences* (Taylor and Francis, London)
- Wolff L, 1959 *In Flanders Fields: The 1917 Campaign* (Penguin Books, Harmondsworth, Middx)
- Zinn H, 1970 *The Politics of History* (Beacon Press, Boston, MA)