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Public Panic and Morale: Second World War Civilian Responses Re-examined in the Light of the Current Anti-terrorist Campaign

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ABSTRACT Following September 11 in the US and July 7 in the UK, the threat to civilians from terrorist attack has become real yet considerable disagreement exists about how people might respond. The effect of aerial bombing on the public's morale during the Second World War and the incidence of psychiatric casualties have been explored to provide reference points for the current terrorist threat. Systematic study of restricted government investigations and intelligence reports into the effect of air-raids on major British towns and contemporary medical publications have shown that panic was a rare phenomenon and arose in defined circumstances. Morale fluctuated according to the intensity of attacks, preparedness and popular perceptions of how successfully the war was being conducted. Resilience was in part a function of the active involvement of the public in its own defence but also reflected the inability of German bombers to deliver a concentrated attack over a wide area. Most civilians, by their very numbers, were likely to survive. Inappropriate or excessive precautionary measures may serve to weaken society's natural bonds and, in turn, create anxious and avoidant behaviour. Weapons that tap into contemporary health fears have the greatest psychological impact. Efforts by government to engage the public not only build trust but may also make an effective contribution to the campaign against terrorism.

KEY WORDS: Air-raids, morale, panic, psychological trauma, terrorism, resilience

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Introduction

The commitment of Al-Qaeda members and their ability to hit high-profile targets have again put civilians in the firing line. Yet there exists uncertainty about the form that any terrorist attack might take, whether an explosive device, chemical or biological agents or a dirty bomb designed to cause radiological fall-out. How the public might respond to any of these weapons is an important question as a terrorist goal is to create fear. Not only does fear inhibit an individual's ability to evaluate risk, it erodes trust, leads to the abandonment of routine patterns of work and recreation and is often contagious (Posner, 2002). By contrast, buoyant morale encourages adaptability, resourcefulness and the measured assessment of danger. Opinion is divided about the inherent capacity of civilians to cope with a serious external threat. Orthodoxy suggests that the public proved resilient to bombing during the Second World War (Titmuss, 1950; Ziegler, 1995; Mackay, 2002), while dissenting voices have argued that people were not as robust or as adaptable as contemporary propaganda and subsequent studies have claimed (Calder 1969; 1991; Harrison, 1976; Shephard, 2000). In an attempt to understand how the public might respond to terrorist attacks, we have reconsidered civilian reactions to bombing in the Second World War.

Definitions and Method

By 'panic', we refer to precipitate and unreasoning behaviour not likely to serve the interests of the subject (Glass and Schoch-Spana, 2002). It often involves actual or attempted physical flight (Quarantelli, 1957). For example, the person who, on hearing an air-raid siren, ran wildly into the street was more likely to expose himself to greater danger than the individual who calmly assessed where the nearest shelter was situated. Panic of this kind was driven by heightened or uncontrolled emotion, which in turn impeded the evaluation of evidence and decision-making. For morale we have employed the definition of Stephen Taylor, director of the Home Intelligence Division of the Ministry of Information, who in October 1941 stated that it can be assessed 'not by what a person thinks or says, but by what he does and how he does it'; it was 'the state of conduct and behaviour of an individual or group' (Taylor, 1941, p. 1). Morale, in Taylor's terms, involved active engagement rather than the passive mental state implied by some current definitions.

Seeking to draw out themes of contemporary relevance from the historical record, a keyword search was performed using the National Archives (TNA) catalogue. Restricted or secret files of the Home Intelligence Division of the Ministry of Information, the intelligence branch of the Ministry of Home Security, War Office, Prime Minister's Office, Cabinet Office, Colonial Office and the Air Ministry were systematically researched. At the outset the quality of intelligence available to the government was little more than anecdotal but the need to base policy on reliable data led to

improved sampling techniques and the commissioning of well-designed studies into the effects of air-raids. Greater credence has been given to such investigations conducted from autumn 1941 onwards. In addition, contemporary medical journals were hand searched for papers on morale or psychological disorders in civilians.

Morale During Air-raids

The 'phoney war' from September 1939 to June 1940, when no air-raids took place, not only allowed the emergency services time to prepare, it also gave civilians an opportunity to adjust mentally; what the authorities called 'hardening'. The blackout, rationing, war work, issue of gas masks, conscription and preparation of shelters engaged much of the population in their own defence before they were exposed to actual danger. Once the bombing began, resilience was encouraged by active participation. By June 1941, 1.8 million citizens had joined either full- or part-time Civil Defence and police services, and five million were later engaged in the Fire Guard organisation (O'Brien, 1955). This stands in contrast to today when most of the population, despite being identified by the media and politicians as the focus of terrorism, have no clear role apart from indefinite vigilance and await official instructions (including in an emergency to 'Go in, stay in and tune in').

From May to October 1940, the Ministry of Information prepared daily reports on morale and thereafter produced weekly and then monthly summaries, sometimes supported by research from independent groups, including Mass-Observation (Anon, 1940a). Although these summaries drew on a variety of sources, including postal censorship, the police and W.H. Smith newsagents, the selection and drafting process involved only two Ministry officials working on their own initiative; the circulated version was written with the input of Mary Adams, the first director of the Home Intelligence Division (McLaine, 1979). As a result, no in-built safeguards existed against institutional bias. The same criticism could be levelled at the weekly and fortnightly reports of the public's mood produced from August 1940 by R.H. Parker and D. Molesworth of the Ministry of Home Security's Intelligence Branch. Their annotations and editing demonstrated a concern for presentation, while unsupported references to 'evidence' revealed weaknesses of methodology (Anon, 1940b). Reports were also gathered from chief constables and Civil Defence Commissioners but these too were inherently unreliable. For a senior official to have reported low morale would have reflected badly on his management capabilities and could have been considered defeatist at a time of national danger. Aware of the need for objective measures, in summer 1941 the Ministry of Home Security commissioned a number of in-depth studies from academics to gain a more robust appreciation of the public's mood and the factors responsible for fluctuations (Anon, 1941).

The first outcome of this initiative was a study of Birmingham and Hull by Professors J.D. Bernal and Solly Zuckerman. By comparing production statistics with the timing and destructiveness of bombing, they showed that Birmingham possessed 'an inner buoyancy to offset the raids' (Anon., 1942a, pp. 2–3). Because of the size of the conurbation, attacks had little impact on output (less than 5%), while stable employment and high wages deterred people from permanent evacuation. They found little evidence of people leaving because of 'slight damage to their homes or because of fear of air raids' and those that left the city 'were practically exclusively those whose houses were destroyed'. Although 10,000 people left Birmingham every month, they were replaced immediately by similar numbers attracted by the range of well-paid jobs. Morale was crucially determined by the proportion of the population rendered homeless: 'a big town was more resilient under bombing than a small town, since it has a larger capacity for absorbing within itself a displaced population'. Although Bernal and Zuckerman found 'a degree of alarm and anxiety' associated with raids, neither in Hull or Birmingham was there 'any evidence of panic'. In the former, however, the situation was obscured by trekking (nightly trips into the countryside), which they interpreted not a sign of low morale but a rational response to the destructiveness of air-raids and facilitated 'by the availability of road transport' (Zuckerman, 1978, p. 143).

A second study by Research and Experiments Department was led by a physiologist, Dr C.W.E. Emmens. Four towns attacked in the 'Baedeker raids' (Norwich, York, Canterbury and Exeter) were investigated together with Bootle, Clydebank and Greenock to assess the effects on ports and centres of manufacture. A range of statistical evidence was collected, including casualties (killed and seriously injured), density of attack (tonnage of bombs per square mile), percentage of buildings destroyed, percentage of housing unfit for occupation, working time lost over a seventeen-day period after raids, together with evacuation and trekking statistics. To assess mood, Home Intelligence reports were analysed and local newspapers studied to measure the amount of space devoted to air-raid issues. Emmens concluded 'that the effective density of the attack' (percentage casualties and houses destroyed) exercised significant, though not absolute, detrimental effect on resilience (Anon, 1943a, p. 3). Trekking and evacuation correlated with the percentage of buildings destroyed. The only exception was Greenock where absenteeism was twice the level predicted from the density of raids and their destructiveness. Low morale there was attributed to badly organised emergency facilities and loss of confidence in the local authorities.

Resilience as a Function of Scale

Being the seat of government and a major port, London was the principal target of the *Luftwaffe*. In the month of September 1940, when the Blitz was at its height, 5,730 civilians were killed and a further 9,003 seriously injured (O'Brien 1955). Indeed, throughout the war significantly higher casualties

were recorded for London region (80,397) than for any other UK city; Birmingham by comparison suffered 5,261 killed and seriously injured, Liverpool 5,137 and Coventry 3,108 (Anon 1948). Half of all deaths (29,890) from air-raids fell within the 720 square miles of Greater London. Although German bombers hit London on an almost daily basis from September 1940 to May 1941, the limited payload of Heinkel and Dornier aircraft and the vast size of the conurbation prevented them from delivering an intense attack over a wide area. The majority of the population and most houses survived unscathed. In October 1940, Aubrey Lewis, a psychiatrist working at Mill Hill EMS Hospital, wrote to his wife in Canada:

The chances of getting hit are mathematically small and routine goes on much as usual, except that one does not go out after dark (partly because of the fragments of our own anti-aircraft shells which fall, and partly because it is forbidden to use one's torch when an air-raid warning is on...) (Lewis, 1940).

By the end of the Second World War it was recognised that every soldier, however, well-led and well-trained, would ultimately cease to function if continuously exposed to the intense stress of combat (Stouffer *et al.*, 1949). It was also shown that breakdown rates were determined by the level of physical casualties. Civilians, if subjected to similar psychological pressures were, of course, no different. In part, therefore, the public's resilience was a function of the percentage killed and wounded by air-raids. Although its very size protected London, smaller targets were vulnerable and short-term collapses in morale were sometimes observed. The case of Coventry is well described. Following an intense raid on the night of 14–15 November 1940, Mass-Observation investigators found

an unprecedented dislocation and depression... There were more open signs of hysteria, terror, neurosis observed in one evening than during the whole past two months together in all areas. Women were seen to cry, scream, to tremble all over, to faint in the street, to attack firemen. The overwhelming dominant feeling on Friday was the feeling of utter *helplessness* (Anon., 1940c, p. 2).

Short-term panic in Coventry was explained by lack of preparedness and the intensity of the attack: 'the very compact and crowded nature of the town made the damage dominate the whole scene... [and] made the shock effect much greater per bomb'. It was estimated that a UK citizen stood a one in 272 chance of being killed or injured by air-raids during the war, while in Coventry the risk was one in 166 (Longmate, 1976).

Contemporary surveys suggested that chemical weapons were particularly feared by civilians. In the first weeks of war, at a time when rumours of gas attack were common (Hilton, 1939), it was estimated that 75% of Londoners carried gas masks (Calder, 1969, p. 66). In the event, Germany was probably deterred from such an attack by the threat of retaliation in the

knowledge that the British citizens had been issued with respirators, which offered an effective defence against chlorine and phosgene, and had been instructed in a range of anti-gas measures, including the design of 'refuge rooms'. In addition, all local authorities were required to establish and train a Gas Identification Service and set up Gas Decontamination Centres to deal with people and property, including vehicles and roadways. Furthermore, the quantity of chemical agent that German medium bombers could deliver was limited, while gases were known to disperse relatively quickly. Hence, the limitations of 1940s technology rendered the mass poisoning of civilians from the air virtually impossible. Even less certain were the potential psychological effects of such a strategy. The release of sarin in the Matsumoto and Tokyo subways during 1994 and 1995 by the Aum Shinrikyo cult caused panic with in the latter case 450 psychological casualties to every one who had actually been poisoned (Alexander and Klein, 2003). Whether Londoners would have responded in a similar fashion had they been exposed to sarin in 1940 is an intriguing though unanswerable question. Greater preparedness and expectations of danger altered by wartime suggest that the response would have been less dramatic.

Drawing contemporary parallels, unless terrorists are able to deliver concentrated attacks on a large scale, it is unlikely that their efforts will have a catastrophic effect on public morale. Although London, by virtue of being the seat of government and the UK's financial centre, has been the terrorist's principal focus, it ought to be the city best able to survive their attacks with its morale intact. Essential services are dispersed, transport networks varied and the population so substantial that large areas are likely to survive unscathed. There has also been substantial planning for, and investment in, a range of effective electronic communications. In addition, the culture of the capital includes the experience of surviving both the blitz and a succession of IRA bombing campaigns.

Precautionary Measures

Current planning for terrorism makes much of the need to take preventative measures, reflecting the rise of the precautionary doctrine (referred to as a principle in many aspects of current policy). During the Second World War, planners argued that precautionary measures do not of necessity buttress morale and, if inappropriate to the actual threat, could create anxiety. A deep-shelter system, the only effective defence against aerial bombardment, was rejected not simply because it was costly to construct but also because of fears that it might inspire a 'shelter mentality', attracting those vulnerable to psychological stress. Such concerns proved unwarranted. Only one example of a deep-shelter mentality has been identified in the UK. After a series of raids on Ramsgate late in 1940, several hundred people occupied a tunnel shelter despite the absence of proper sanitation and schooling for their children. Their morale was described as 'almost non-existent' (Hodsoll,

1941). Fearing that these squatters would depress the spirit of the surrounding population, they were evicted.

Furthermore, in July 1944, when deep shelters were opened in response to the anxiety caused by the V1 offensive, there is no evidence that their use depressed morale or created further fears. Constructed at Clapham North, Clapham South, Stockwell, Goodge Street, Camden Town and Belsize Park Underground stations in 1941–42 following the Blitz (Anon, 1944b), they functioned as an appropriate defensive measure. Because the numbers killed (7,988) and injured (20,904) by the V weapons were not insignificant (though small in relation to the capital's total population), those who lived in target areas were well advised to seek safe shelter.

An inherent problem of the precautionary approach is the difficulty of matching the protective measure with the threat. During the 1991 Gulf War, Israeli households were ordered to prepare a room that could be sealed and serve as protection against chemical or biological weapons. Many used these rooms when Tel Aviv and Haifa were targeted by Iraqi Scud missiles. The dire message that this policy conveyed discouraged some health professionals from leaving their homes during alerts, while some families suffered from burns and carbon monoxide poisoning as a result of poorly designed heat sources (Rabitt Roff, 2001). Of the eight deaths associated with rocket attacks, six resulted from misuse of gas masks. By failing to remove the plug from the filter, individuals were asphyxiated, misattributing anoxia to the effects of poisonous gas. Thus, precautionary measures inadvertently led to greater mortality than Iraqi missiles.

News and the Communication of Risk

Throughout the Second World War there was an almost continuous demand for accurate information. In July 1940, for example, the Civil Defence commissioner based in Reading had argued that 'frank explanation is what the public want and expect. Without it they feel that something is being hidden from them' (Anon, 1940d). Although the Ministry of Information had been set up to satisfy this demand, in the early phase of the war its role was too often confused with propaganda and patriotic exhortations. However, the fall of Singapore in February 1942 led to a significant policy change. Throughout 1941, the press had been fed stories about the strength of reinforcements being sent to Malaya (to delay the Japanese offensive) and prior to Auchinleck's 'Crusader' offensive about the growing might of British forces in the Middle East (Anon, 1942c; Sabine, 1942). When major defeats were suffered in both theatres, the public's trust of news reports and government communiqués was undermined. Brendan Bracken, Minister of Information, who had been troubled by unrestrained use of propaganda, used the dip in morale caused by the fall of Singapore to effect a policy change. As a result, greater emphasis was placed on 'candid and objective' news, while it was recognised that 'rumours or complaints that have wide acceptance must be dealt with immediately and with care' (Anon, 1942d).

The V1 campaign, beginning on the night of 12/13 June 1944, tested this principle (Woolven, 2002). It took place shortly after the D-Day landings when most citizens believed that they had overcome the worst air-raids and the war was as good as won. Although the public had been made aware of 'secret weapons', little other preparatory information had been provided. Government reticence had in part been driven by the possibility that flying bombs would be used as a delivery system for chemical or biological agents (Waller, 2004). The launch of 40 V1s on 15 June prompted Herbert Morrison to inform parliament on the next day of an attack by 'pilot-less aircraft' (Morrison, 1944), but the government restricted reports about the nature of the weapon, casualties and damage to deny the Germans information on their targeting. The novelty of flying bombs, the sinister sound of their pulse-jet and the knowledge that they could cut out at any time caused a flurry of high anxiety throughout London and the Southeast (Anon, 1944c). In this state of heightened tension, an information vacuum drew out rumour and speculation. Wild reports circulated of thousands being killed and people openly panicking in an attempt to flee the capital (Anon, 1944d). The Ministry of Information challenged the tactic:

In view of the widespread rumours, it is thought that more details should be published... People in target areas, and elsewhere, are critical of official and press accounts which appear to tone down the raids and the damage they cause. People ask for 'less secrecy and more true information' (Anon, 1944e).

As a result, the government issued cut-away drawings of the V1 with data on their size and weight (Anon, 1944f), and publicised measures taken to protect the public (Anon, 1944g). At the end of June 1944, an assessment by the Ministry of Home Security suggested that most people regarded 'the new weapon is a nuisance but not nearly as bad as the raids which people expected to start when invasion [D-Day] began' (Anon, 1944h). It is unclear whether this habituation, or 'conditioning' as it was called at the time, was as a result of improved information or simply the natural resilience of a population accustomed to war.

The government also knew that the Germans had developed a long-range, ballistic missile. Technical data from agents suggested that the rocket carried ten tons, later revised to seven tons, of explosive, which it was estimated would kill no more than twenty people per rocket (Woolven, 2002). It was also predicted that the advance of the Allies through Northern France would soon result in the capture of the launch sites. This reassuring intelligence prompted Duncan Sandys, parliamentary secretary to the Ministry of Supply, to open a major press conference with the optimistic statement that 'except possibly for a few last shots, the battle for London is over' (Anon, 1944i). On 8 September 1944, the following day, the V2 offensive began as the first of 1,054 rockets landed on the UK mainland (571

falling in London Region), presenting the government with a further dilemma of how much information to provide.

Strict secrecy was imposed such that the public were not told of the existence of the V2 until 8 November when the Germans themselves announced that the offensive had begun. Two days later Winston Churchill confirmed to Parliament that long-range rockets had been launched at the UK but did not state that London was the target lest the enemy should draw conclusions about the accuracy of his fire (Collier, 1957). Because there was no defence against the rockets, which travelled faster than the speed of sound, it was argued that news about the new weapon might be more terrifying than silence. 'The official secrecy about the "bolts from the blue"', according to the Home Intelligence Division, 'is accepted as reasonable, and with some amusement. Some think the stories about rockets are wild rumours' (Anon, 1944k). Inevitably, the truth leaked out and by the time Churchill addressed Parliament, it was considered that 'the absence of warnings and the official silence add[ed] to the apprehensions of the nervous' (Anon, 1944l). In the absence of any precautionary measures, the V2 inspired fatalism, 'nervousness and resignation being about equal,' and had less of a psychological impact than the V1, which on its approach could be both seen and heard (Anon, 1944m).

Psychiatric Casualties

In 1942, in the aftermath of the blitz, Gillespie wrote 'one of the most striking things about the effects of the war on the civilian population has been the relative rarity of pathological mental disturbances among the civilians exposed to air raids' (Gillespie, 1942, p.106). In part, Gillespie based these conclusions on an important study collated by Aubrey Lewis (1942) to counter American claims that the British were deliberately minimising the incidence of psychiatric casualties for propaganda purposes. Whitby, a GP with psychiatric training based in the London suburb of Willesden, compared presentations between September 1940 and May 1941 with equivalent figures for 1937 (Whitby, 1942). In addition, various London psychiatric out-patient clinics were surveyed, together with six general practitioners and three out-patient psychiatrists based in Merseyside, a region that had been subjected to heavy raids in 1941. Although Lewis discovered that the general stress of war, including air-raids, was responsible for 75% of those individuals breaking down for the first time, these numbers were not significant. His general conclusion based on war pension data from London and Bristol was that 'after intensive raids there is a slight increase in the total amount of neurotic illness in the affected area, occurring chiefly in those who have been neurotically ill before' (Lewis, 1941, p. 15). However, Lewis also urged caution. 'Diagnosis is untrustworthy', he conceded, and 'a patient may appear at several clinics in turn... [and] many neurotic patients, when they come to hospital, are not seen in the psychiatric department, but

in the medical or specialist division with which their presenting symptom would appear to be concerned' (Lewis, 1943, p. 28).

Shephard has questioned the accepted view that bombing produced few cases of traumatic neurosis and suggested that psychiatrists may have been swept along by the 'Britain can take it' mood of 1940–41 (Shephard, 2000, p. 178–79). Because of the stigma attached to mental illness, he argued that civilians suffered in silence rather than endure the shame attached to treatment, a view that had been expressed in April 1941 by Tom Harrisson, a founder of Mass-Observation (Harrisson, 1941). While accepting that civilians generally coped well 'with the terror of being attacked from the skies', Bourke has also argued that 'periods of panic were not infrequent. On many occasions fear was palpably present witness the screams of people racing towards the shelters' (Bourke, 2005, 253). However, there are equally numerous examples of people acting calmly in the face of danger. Once factory workers had habituated to the V1, many continued at their benches during raids, relying on a short-term warning from a roof spotter; a tactic that relied on having shelters within easy reach. Without detailed studies of civilians subjected to repeated air-raids, it is impossible to say which of these hypotheses is accurate.

By comparison, a study of 12 Israeli hospitals during the 1991 Gulf War, showed a short-term increase in civilian psychiatric admissions following Scud missile attacks. Although a significant increase in stress-related disorders was found at the beginning of the missile offensive, after five days these tailed off and generally remained below 20% of all casualty admissions (Bleich *et al.*, 1992). The initial peak, caused by fear of chemical attack combined with a sense of helplessness, was rapidly followed by habituation.

A similar pattern of response appears to have occurred in the United States following the bombing of the World Trade Center. In the immediate aftermath of September 11, physicians in Lower Manhattan observed that many of their patients reported both psychiatric and somatic symptoms of stress (Horowitz, 2001), as did a study of 219 African-American college students not directly exposed to the attacks (Murphy *et al.*, 2003). A national survey found that 44% of a representative sample of 560 US citizens experienced a substantial stress symptom within three to five days after the bombing of the towers (Schuster *et al.*, 2001). Galea reported posttraumatic stress disorder (PTSD) rates of 7.5% among Manhattan residents living south of 110th Street based on evidence gathered between 16 October and 15 November 2001 (Galea *et al.*, 2002). A follow-up study at one to two months revealed probable PTSD rates of 11.2% in New York, though the figure for Washington (2.7%) was lower than that recorded in other major metropolitan areas (3.6%) (Schlenger *et al.*, 2002). However, a follow-up study conducted in January and February 2002 revealed that rates of PTSD and major depression had fallen to less than half their earlier levels. Indeed, a number of news polls also consistently reported significant falls in

self-reported symptoms of stress and worry one month after the attack, a trend that has continued (Langer, 2002).

Nevertheless, there is evidence that resilience, or the population's ability to adjust to new risks, may not be as robust as in the past. A nationwide, representative study of the psychological responses of 2,729 US citizens to the attacks, conducted within three weeks showed that psychological effects were not limited to those who had directly experienced the event. A follow-up at two (17%) and six months (5.8%), found that those with symptoms of PTSD had declined but remained significant. In addition, 59.5% reported fear of harm to their family from terrorism at two months and 40.6% at six months. Yet as the authors admitted, 'the timing of assessments is critical' and over the period of follow-up a series of events (anthrax in the mail and an intensification of military action in Afghanistan) had maintained the terrorist threat (Silver *et al.*, 2002). The rising incidence of psychological disorder may in part be related to changing attitudes towards trauma but also to the professionalisation of distress.

It is important to draw a distinction between civilians in the area of terrorist attacks and members of the emergency services called upon to undertake hazardous activities. During the 11 months after the World Trade Center attacks, 1,277 stress-related incidents were observed among New York Fire Department Rescue Workers, a 17-fold increase compared with the 75 stress-related incidents reported during the previous eleven months. This increase did not occur immediately and it was hypothesised that repeated exposures at the site and a growing number of funerals and memorial services that fire-fighters attended may have accentuated their traumatic experiences (CDC, 2002). There is as yet no systematic study of the incidence of psychological disorders among the emergency services during the blitz, though contemporary accounts do not reveal an untoward reaction.

Functional Somatic Disorders

Although Lewis was unable to discover a significant increase in the number of civilians suffering from 'war neuroses' in the aftermath of air raids, there is evidence to suggest that the incidence of functional somatic disorders may have increased appreciably. Felix Brown, a psychiatric registrar at Guy's, observed that 'definite psychoneuroses, induced by air-raids in patients who have previously shown no psychoneurotic traits are comparatively rare', but also recorded medically unexplained symptoms in patients with no history of mental illness (Brown, 1941, p. 687). His anecdotal evidence suggested that 'a particularly horrible experience is needed to precipitate this reaction in a previously normal person'.

The incidence of non-ulcer dyspepsia amongst UK armed forces was a considerable cause for concern in 1940–41 and appears to have been mirrored in the civilian population. We do not know whether this was simply a general effect or whether it was mediated by air-raids, and that

towns which had suffered from bombing saw increased numbers consult their GPs or attend accident and emergency departments with functional gastrointestinal and other somatic symptoms. Such functional somatic disorders have not disappeared as we have apparently become more psychologically enlightened. It is possible that recent manifestations (chronic fatigue syndrome, irritable bowel syndrome, multiple chemical sensitivity and fibromyalgia), which have more in common with each other than differences (Wessely *et al.*, 1999), are the modern successors to non-ulcer dyspepsia. The implication is that, with the exception of those directly injured in attacks (Gidron, 2002), rates of PTSD may not show a dramatic increase following a chemical or biological attack by terrorists, but that syndromes characterised by medically unexplained symptoms are likely to rise (Hassett and Segal, 2002).

Fractured Societies

It has been argued that our multi-racial society, the rising number of pressure groups and other sectional interests, together with the growing emphasis on the rights of individuals rather than the duties of the citizen, makes it difficult, almost impossible, to present a common purpose against terrorism. Although most will deplore a terrorist attack, substantial minorities may sympathise with the political aims of various groups. The 2003 war against Iraq showed how difficult it is to secure an international consensus about both objectives and strategies. However, it may be a mistake to assume that British society was as united as official propaganda implied during the Second World War. During 1940, the Ministry of Home Security was concerned that class differences could be exploited to undermine morale. Both the poorest elements (who had nothing to lose and potentially much to gain) and the aristocracy (whose inherited wealth and influence was threatened) were considered potentially pro-German (Anon 1940e). Evidence of a society divided was also provided by strikes and looting (larceny rose appreciably during the war years). Yet, despite these societal divisions, a greater commonality of purpose appears to have existed in the past.

Despite evidence that the motives of government were questioned during the Second World War, it appears that modern society, even with its emphasis on accountability and greater transparency, manifests a culture of suspicion. O'Neill has argued that increasing attempts to manipulate opinion, which often amount to deception, rather than engagement in a genuine dialogue based on factual information, has undermined the people's faith in authority (O'Neill, 2002). To reverse this trend, it may be necessary to engage the public more directly: to communicate in ways that allow opportunities for checking or questioning supposed information, and make citizens, who have duties as well as rights, responsible for their own protection.

Discussion

Morale

To adopt a metaphor from economics, civilians were resilient during the Second World War because on the supply side they were actively engaged in their own protection and on the demand side because air-raids never achieved the intensity required to break their will. Factors that militated against a feeling of helplessness and gave people a sense of being in control supported morale during air-raids (Jones *et al.*, 2004). Anti-aircraft batteries were ordered to fire to give people the impression of effective retaliation even though it was known that their chances of hitting night raiders were minimal and that the falling shrapnel was a danger to people and property.

Recent counter-terrorism policy debates and planning proposals have tended to discount the capacity of civilians to participate in a purposeful response, on the assumption that the public tends to be irrational, uncooperative and prone to panic (Glass and Schoch-Spana, 2002). Yet, during the Second World War, UK civilians showed resilience throughout protracted periods of bombing and the secondary phase of flying-bomb and rocket attacks. Although morale fluctuated, worn down by a lengthy campaign, it never broke. Furthermore, evidence from the World Trade Center bombing of 1993 and the attack of September 11 suggests that people are more robust and adaptable than some officials and media commentators have assumed. In both instances evacuation was calm and orderly, while in the latter event individual volunteers and organised groups entered an extremely hazardous area to offer aid.

Panic

Large-scale panic, or precipitate, unreasoning behaviour, was a rare event and occurred only in defined circumstances such as the crush at Bethnal Green Underground station where 173 people were suffocated (Dunne, 1943). An evening air-raid alert was followed by the firing of unfamiliar anti-aircraft rockets. The deafening sound was misinterpreted as exploding bombs by about 450 local people who raced for cover in the dark (Anon 1943b). It took only 10 seconds for an orderly descent down a staircase with no central railing to become a deadly crush. So shocking was the event that publication of the official report was suppressed until after the war lest it damage morale. Intense air-raids on poorly prepared towns of limited size and novel weapons also had the capacity to cause panic, though in all cases it was short-lived. However, genuine examples of terrified, irrational behaviour continue to be rare as illustrated by recent studies of panic following a fire at the Beverly Hills Supper Club, a surge into a rock concert in Cincinnati and mass withdrawals from the Home State Savings Bank where the investigator was 'struck not by the breakdown of social order but by its strength and persistence; not by the irrational, individual behaviour of popular myth but by the socially structured, socially responsible, and

adaptive actions of those affected' (Johnson, 1987, p. 180). Initial reports of the July 7 bombings suggest that some panic occurred in the confined space of tunnels filled with black smoke but that calm was restored with the arrival of emergency services or evacuation to a place of safety.

At present, chemical and biological weapons are particularly feared because they tap into contemporary ideas about toxic contamination, low-level exposure and reproductive concerns (Durodié and Wessely, 2002; Palmer 2004). In general, man-made disasters are experienced by the public as more troubling than natural ones (Smith and North, 1993; Gallagher and Tierney, 1996). It has been suggested that a 'dirty bomb', which releases low-grade radioactive material, would actually have minimal, long-term health effects. The main danger is likely to result from the explosion itself and any accidents that might arise should panic be caused on a large scale (Hawkes, 2002). Quarantelli *et al.* (1979) showed that the risks associated with chemical agents were not assessed uniformly but influenced by familiarity, size of the community and earlier disaster experiences. This suggests that both organisations and the public can benefit from targeted information and the creation of extra-community groups.

Factual information about the true nature of a threat can calm fears. The publication of technical details about the V1 flying bomb conveyed to the public the impression that the weapon was understood and could be countered effectively. The removal of mystery not only reduces the opportunity for wild rumour, it also creates an opportunity to manage apparently irresistible technology.

Engaging the Public

A survey of responses to the threat of terrorism concluded 'resourceful, adaptive behaviour is the rule rather than the exception in communities beset by technological and natural disasters as well as epidemics' (Glass and Schoch-Spana, 2002, p. 55). Studies of civilians who have endured long periods of war or terrorism in Israel (Milgram, 1993) and Northern Ireland have shown that a natural resilience pervaded most of society (Curran, 1988). Evidence from the Second World War gathered from a variety of towns over a period of six years consistently supports this interpretation. It also suggests that strategies designed to enlist the public as essential and capable partners in counter-terrorist measures are important. Not only do they supplement the resources of the emergency services, they also protect the morale of the civilian population. Politicians and officials need to trust the people and take them into their confidence as much as security will allow, while offering them opportunities to take a fuller role as active citizens. There is perhaps a price to pay for governments, which may explain their hesitancy. True resilience involves a measure of independent thought and action, which in turn may result in the public being more demanding of their leaders in terms of accountability and performance.

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