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# Profit from Paranoia

## Design against 'Paranoid' Products

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DESIGN AGAINST CRIME Research Centre

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# Abstract

Innovation is a risky business. Trying to innovate products to empower the individual against street crime, or to create designs for public space that can anticipate terrorist intentions, raise many design issues as well as what Prof. Ekblom (2005) defines as 'troublesome tradeoffs.'[1] These involve safety concerns versus address to maintaining personal freedoms. This paper will review specific troublesome tradeoffs between sustainable design goals when trying to effectively design against disaster. It will consider how and whether the design against crime model of the research and design process can and should embrace issues posed by terrorism, and whether it can be adapted to effectively do so. Discussion on this subject will occur by reviewing the 'Conjunction of Terrorist Opportunity' framework (Roach et al. 2005) and considering how the impact of acknowledging a potential 'terrorist' threat by the designer may have different consequences to other forms of crime risk problem analysis.

In particular the paper will discuss why design against terrorism, delivered without appropriate forethought, could be in danger of becoming equivalent of what Martin Innes (2004) calls a 'signal crime', over-fortified in terms of a security aesthetic or problem response, and in our view meriting the description 'paranoid' product.

# Profit from Paranoia

Terrorism is an anxiety-inspiring method of repeated violent action, employed by (semi-) clandestine individual, group or state actors, for idiosyncratic, criminal or political reasons, whereby - in contrast to assassination - the direct targets of violence are not the main targets. The immediate human victims of violence are generally chosen randomly (targets of opportunity) or selectively (representative or symbolic targets) from a target population, and serve as message generators. Threat- and violence-based communication processes between terrorist (organization), (imperilled) victims, and main targets are used to manipulate the main target (audience(s)), turning it into a target of terror, a target of demands, or a target of attention, depending on whether intimidation, coercion, or propaganda is primarily sought.
(Schmid 1988 cited by United Nations Office On Drugs And Crime 2007)

There are multiple ways of defining terrorism, and all are subjective. Most define terrorism as 'the use or threat of serious violence' to advance some kind of 'cause'. Some state clearly the kinds of group ('sub-national', 'non-state') or cause (political, ideological, religious) to which they refer. Others merely rely on the instinct of most people when confronted with an act that involves innocent civilians being killed or maimed by men armed with explosives, firearms or other weapons. None is satisfactory, and grave problems with the use of the term persist. Terrorism is after all, a tactic. The term 'war on terrorism' is thus effectively nonsensical. As there is no space here to explore this involved and difficult debate, my preference is, on the whole, for the less loaded term 'militancy'. This is not an attempt to condone such actions, merely to analyse them in a clearer way. (Burke 2004, p.22)

One person's terrorist is another person's freedom fighter. Popular cliché – summarised by Roach et al. (2005).

This paper does NOT explore definitions of terrorism! As James Burke (2004) above, points out, there are many competing definitions, a number of them summarised within the UK Terrorism Act (HMSO 2000), which, when applied, are often linked to subjective interpretations of various political tactics or militancy. Put more simply, one person's terrorist is another person's freedom fighter. Instead we focus on design issues. We consider if, when addressing 'anti terrorism' within design practice, designs delivered compromise rather than enhance our freedom? Indeed, this paper will attempt to engage with what Benjamin Franklin constructs for us, as the Liberty versus Safety debate, when he observes: 'Those who would give up Essential Liberty to purchase a little Temporary Safety deserve neither Liberty nor Safety'[2], in relation to the design of products for public environments. In order to achieve this aim our paper will:

(1) define what we mean by 'paranoid products'

(2) review existing designs of rubbish bins for public space that have attempted to address terror tactics in the design process. Specifically, to assess whether or not these problem solving anti bomb blast solutions have been successful in terms of user experience, and their relationship to theoretical principles outlined in the 'Conjunction of Terrorist Opportunity' framework (Roach et al. 2005).

(3) review the applied research approach of the Design Against Crime Research Centre[3], and Paul Ekblom's (2001) CCO framework which has led to the generation of anti theft bike parking for use in public space. Here, we point out that the model for generating design against crime (DAC) innovations, as utilized by DAC at UAL, can't simply be 'mapped onto' design against terrorism design scenarios. Adjustments in thinking need to be made, not least because terror tactics, unlike most other criminal acts, are precisely designed to promote fear in the wider context and are not an end in themselves. However, we do think the DAC model does have relevance and the paper discusses how it can be adapted for the purpose of anti terrorist design.

## 1. What are paranoid products?

'Fear of crime' refers to the fear of being a victim of crime… Usually the fear is disproportionate to the likelihood of being a victim of crime. Studies of the fear of crime occur in criminology. Moral panics are often the cause of rising fear of crime. (Hale 1996).

Many criminologists argue that 'fear of crime' exploits social naivety. Media coverage of crime feeds the public's

anxieties. Crime reports account for up to 25 per cent of ALL news coverage. In such coverage, quantity is not the only problem, but also quality. News coverage often distorts the overall picture of crime and criminal offending (Ferraro 1995), reinforcing stereotypes and inflated ideas about so-called examples of 'deviance', as well as social decay. No wonder people are fearful. It is almost as if news reports have led to what has been called a 'vulnerability-led' focus and/ or 'paranoid' security response (Durodié 2002). Risk is the issue. Signal crimes focused upon in such media coverage 'function as a warning signal to people about the distribution of risk through social space…[or] as a warning signal about the levels and attribution of criminogenic risk and therefore can generate paranoia and paranoid products' (Innes 2004).

Dictionary definitions summarize paranoia as a psychotic disorder, whose characteristics include delusions of persecution, grandeur, suspicion and/or excessive distrust (Soanes and Hawker 2000, p.737). A delusion is of course, a false or unrealistic belief/ perception.

Paola Antonelli (2005, p.12) defines the way fear impacts on design for us, when she argues objects 'speak directly to our paranoia, such as parachutes for tall buildings, a consequence of the shock of 9/11.'[4] It is very unlikely that many visitors to tall buildings in America will ever find themselves in need of a functioning parachute.

Yet public fears may generate free market responses because regrettably, public fear can be perceived as market demand. It can be propagated and catered to by those who wish to profit from paranoia by exaggerating risks and exacerbating public fears mediated through design. The 'paranoid products' discussed below, we argue, hook into public fears and exemplify paranoid design tendencies defined via the following aspects:

i) 'over-determined fortification'

ii) 'moral panic' (Cohen 2002) design

iii) 'delusional design' and

iv) 'normalizing of emergency conditions' products/ services

The Hummer

The SUV on the school run has become a cliché of environmentally unfriendly design and illustrates what we mean by (i) 'over-determined fortification.' If the car is perceived as an assault vehicle what is the precise risk this vehicle is defending against. Is the risk to the car driver greater than the threat of SUV to pedestrians and other road users such as cyclists?

The need to stop cars (and car bombs) being driven into High Risk buildings has produced some well designed (as well some ugly) bollards/ barriers. The crash barriers retro-fitted onto the Houses of Parliament at Westminster are particularly awful and exemplify our first category of 'over-determined/ fortified design.'


They connote fear and defensiveness about terrorism and in our opinion denote paranoia in the way they communicate. Alain De Botton (2006) makes a similar point when he talks about design's overall 'communicative message' the notion that objects speak beyond their functionality. The Houses of Parliament are not just a High

Risk Target but a significant architectural building, and tourist stop for visitors to London.
The authorities could have made much better use of design to deliver a robust but discrete 'temporary' shield for Parliament, instead of creating more paranoid fortress aesthetics. The argument from Westminster for using hideous concrete block is that they are 'temporary' fittings despite the fact that they have been there for several years now. Westminster could have done a much better design job on the barriers they specified. Companies such as TRL have produced more aesthetically pleasing objects for this purpose (barriers, planters and more). These have been attack tested for hostile vehicle mitigation, and are made of materials less likely than concrete to cause human casualties if there was an actual bomb blast.

Any design that makes a city or its buildings look like a war zone or fortress including ugly prison style bars on domestic windows to keep out burglars merits the label 'fortress design.' The argument we are making against fortress aesthetics relates to the old cliché that 'private affluence breeds public squalor', and that we need to look beyond individual environmental solutions to resolve our collective problems. Such arguments finds support not just from architects and designers, but also surprisingly from economists.

Richard Layard's (2005) account of the economics of happiness, suggests that despite unprecedented prosperity in the West, people do not 'feel'
'happier', in part due to fear of crime and feelings of insecurity. This seems to us to be significant evidence of the need for a collective approach to environmental and economic matters, even though we accept that some readings of "fear of crime" are problematic because 'evidence about how best to assess fear of crime is contradictory' (Gabriel and Greve 2003). We interpret Layard's account, to reinforce the fact that fortress living militates against personal happiness. Worse, the media, in over determining the significance of crime, has some responsibility to the public for destabilising their experience of "well being"

Strong designs against crime/ terrorism, can deliver objects that are easy to use, and easy on the eye, that protect us without promoting feelings of insecurity. Good design can address the potential, though unlikely, threat of terrorist or other violent crimes, without signalling this functionality in an over determined way, and in so doing escalating fear. Ill-considered anti-terrorist design can produce (ii) 'moral panic' products (Cohen 2002) such as the Commuter Pak below.


Equipment list for this product includes:

1 Ultra bright aluminium flashlight
1 High Intensity Whistle
1 Disposable FFP3 Bio protection mask
1 Nylon carry bag with belt loop and strap
2 pairs of latex gloves
2 chemical light sticks
2 Anti septic wipes

We are pleased to report that the Commuter Pak despite its 'high durability fabric containing essential items to assist during an emergency event' is currently on 48% sale. The market has spoken to manufacturers about the short shelf life of innovation inspired from the desire to profit from paranoia and moral panic, and in so doing get the nature of the perceived threat so wrong.

'Delusional design' (iii) is a category devised to explain problematic designs such as that illustrated by the new breed of NYC subway card vending machine which can sniff trace amounts of explosives on customers' hands.

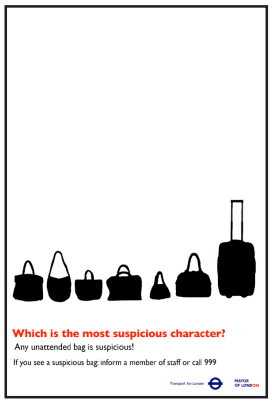
Although the above machine doesn't look any more frightening than other machines out there (it is about to be tested in Baltimore) it automatically scans all subway users who buy tickets. Its problems include the assumption that bomb-making terrorists are not creative enough to buy their subway tickets from other outlets or via someone else, and that at the present time there appears to be no clear data about the false alarm rate and the impact this may have on innocent commuters. In our opinion, this new design is delusional in terms of what it can really achieve and will make the public more fearful about terrorism. Particularly if they see that new machines like these are really needed.

The Anti Terror Bag & Tag illustrates our (iv) category of products that 'normalize emergency conditions'. It is a waterproof PVC, clear/ see-through duffle style bag. The manufacturers argue that the bag is 'perfect for use under the current climate of terror threats at airports and many other commuter areas.'

Evidently, this bag 'will allow you and your friends, family and fellow passengers a much smoother, faster and hassle free journey.' A jokey version with a sticker that says 'Say No to Bin Laden' went round on the Internet, after 7/7 as desirable wear for the male bearded Muslim backpacker. Because of negative stereotypes, bearded Muslim men travelling on the London tube with backpacks found themselves suspected of being terrorists, by fellow commuters who left the carriage and went further down the train.

In designating the functionality or aesthetics of the above design responses as 'paranoid', we don't just want to provoke discussion about our specific examples, but use them to make broader arguments. To begin to question how far fear and anxiety about terrorism (or exaggerated perceptions) should inform product design and in particular government funded design for public space. Obviously transparent information and communication about terrorism from the authorities, needs to be delivered through clear overt strategies that don't alarm but inform. For example, clear information about what to do about a discarded bag on the tube, is written using directional and non-alarmist language.






But covert strategies have a role to play for the authorities too (not just terrorists) and designers should be leading these interventions. Future design against crimes of terror for public space, in our opinion, should not exaggerate the threat of terrorism but use discreet covert strategies to in-build anti terror functionality and avoid escalating fear. This will occur by emphasizing not just the anti terrorist

aspects of the product, but its ultimate performance in relation to a friendly user centred design that is ultimately linked to its functionality.

What we are saying is that all anti terrorist design needs to be thought through carefully before design commences, or designers will find themselves unwittingly contributing to a paranoid society. Or contributing to what the sociologist Frank Furedi (2002) had described as a 'culture of fear' that can 'lead the authorities to terrorise themselves and us far better than terrorists' (Gearson 2002 cited Durodié 2002, p.16), and thus compromise our mental freedom while trying to protect our physical bodies.
For, as Andrew Bolton (2002, p.81) has pointed out:

It is unlikely that we will be run over, mugged or sexually assaulted [or victim of a terrorist attack]. It is equally unlikely that we will be shot by gang members or have our throats slit by a sociopath. But it is likely that we will come face to face with our anxiety about any one of these dangers.

## 2. So why 'Bomb Proof' Rubbish Bins for public space?

Following a bomb in Victoria Station, London in 1991 that killed one person and injured 40, public dustbins were assessed as a potential target of terrorism. They were banned from underground and mainline stations in and around London and other British cities (ATOC 2005). This strategy has also been adopted by other regulated 'crowded places', including some shopping centres[5], who like the London underground, in key geographic areas have replaced dustbins – with either no provision at all or a ring that holds a see-thru plastic bag. These temporary bins have to be attended by regular cleaning staff to empty, or if there is no plastic refuse bag in place, to go round and sweep up discarded rubbish.

Anti rubbish bin strategies have also been adopted by many other European cities, in addition to London. One critic observes that 'in some tourist areas of Paris, such as the Champs-Elysées, rubbish bins are simply non-existent…. The problem is not the inefficiency of the local authorities, but a fear of terrorist attack. There is nothing simpler, for a terrorist, than to hide an explosive device in a rubbish bin' (Mariani 2006).

In order to address the perceived problem of terrorism, and thereby limit or exclude such terrorist behaviour from some public contexts, several design companies have tried to create a bombproof dustbin. We will review two of these designs herein. The first is called 'Blastshield' designed and manufactured by Aigis, Derby, Britain (2001). The second is called 'Trashshark' designed and manufactured by Bruco, Zurich, Switzerland (2002), which won the 2006 Reddot Design Award, a prestigious
Swiss product design award.
Blastshield was marketed in 2001 as offering features that help it absorb a blast 'big enough to blow up a car' (Graham-Rowe 2001). It is made of thick glass-reinforced

plastic with an inner layer of Tabre. Tabre is a smart material that appears as a stonelike substance, but whose porosity and permeability allow shock waves to be broken down by the material, thus absorbing blast energy and slowing it down. Its casing has been likened to a 'gun-barrel' that forces the blast upwards where it encounters 'a dome lid containing water and air…. When the shock wave penetrates the lid, the water is converted into steam, absorbing all the energy' (Graham-Rowe 2001).

The flaps on the Blastshield have been strongly engineered so that there is no exit route for the blast. However, the size of these openings limits user experience in order to control the size of any bomb that could be planted. In addition to aperture restrictions, the cost of these bombproof bins may be prohibitive, compared to
standard public rubbish bins sold by British companies such as Broxap.6 But as New Scientist (Graham-Rowe 2001) has already pointed out, costs may not be so troubling if we take into account 'the costs of not having adequate refuse collection at stations, or of employing more station cleaners and the inconvenience to the public' (Graham-Rowe 2001).
The Zurich company Bruco are also currently marketing a bomb unfriendly rubbish bin, called the Trashshark, whose design (shown above) is allegedly suggestive of a shark's head. According to 2006 press reports, Bruco are

currently selling up to 5,000 a year to European cities (Mariani 2006). An explosives expert at Armasuisse – the Swiss army agency which purchases and assesses military equipment – set off a handgrenade inside one of the rubbish bins. The bin split in two, but it was effective in absorbing almost all 1,700 fragments of the handgrenade (Mariani 2006).

The bin is made of five-millimetre stainless steel plating, and like the British design directs blast upwards, thereby limiting the effects of the explosion. At extra cost the bin can be made with tough transparent polycarbonate 'windows', so that its contents can be seen, without compromising the efficacy of the design.

## Strengths and Weaknesses of 'Bomb Proof' Rubbish Bins

Blastshield and Trashshark design in our view are not needed except in high risk contexts, even though they mask their anti-terrorist functionality. To assess what these contexts are, we should not solely rely on the manufacturer's own recommendations, or press reports, or even our aesthetic and user focussed analysis. Ekblom's (2003) framework of crime/terrorist prevention principles, originally published as the Conjunction of Criminal Opportunity or CCO (Ekblom 2001) and put forward by the Design Council when promoting the need for design to engage with designing out crime, is more appropriate (Design Council 2003), it offers a rigorous approach for addressing such crime prevention questions.[7]
In CCO, Ekblom (2001) argues that 11 generic princples of intervention in crime will provide a way of understanding all criminal events or crime stories (Design Council 2003). CCO construes offenders as predisposed, motivated and resourced, who encounter or engineer, 'a crime situation comprising a vulnerable and attractive target of crime, in a favourable environment and in the absence of motivated and capable guardians' (Ekblom 2001).

The principles are further developed by Roach et al. (2005, p.22), as CTO, to offer a diagnosis wheel of the 11 immediate causes of acts of terrorism:

### 1. Reducing terrorist predisposition

This can entail intervening in the early lives of potential terrorists (upstream) in order to reduce identified 'risk factors' and to promote known 'protective factors'. These measures could involve working with families, schools or peer groups to promote for example diversity and racial, cultural, religious and political tolerance. Reducing terrorist predisposition will have an effect on factors such as terrorist recruitment. Interventions to reduce the degree to which individuals and communities are socialised in or converted to a particular ideology associated with terrorism, are also possible, as may be remedial interventions aimed at converting them to peaceful ways of achieving goals. Interventions aimed at changing an entire ideology or movement are too ambitious (although they happened with the de-Nazification effort in Germany after World War 2), but knocking out individual props of an underpinning belief system may not be – in theory. However, even this could have unpredictable, perhaps counterproductive, results and it may be both less risky and more appropriate to tackle remoter causes which are driving people towards extremist versions of belief, rather than directly targeting those beliefs themselves. Whatever the case, some kind of ethical framework would need to be developed to set acceptable limits on this.

### 2. Supplying resources to avoid terrorism

[N]ot just to individuals but to institutions and cultures as well. This includes providing potential terrorists with non-violent means of pursuing their causes (e.g. debating, media, negotiating and lobbying skills). Terrorism is a form of political action and interventions must be developed that open more democratic avenues that terrorists might perceive as 'just' and worth pursuing. But the extremist views held by terrorists make these types of interventions particularly hard to develop and successfully implement. Contentious, but the IRA agreed to give up their use of terror to concentrate more on mainstream politics, and would not have done so had they thought that the democratic process in Northern Ireland still held no prospect of progress for them. An alternative example of supplying resources would be finding rewarding and dignified employment for ex-Soviet scientists and military

personnel.

### 3. Reducing the readiness to use terror

[T]his covers such interventions as reducing conflicts (both domestically and internationally) and reducing 'stressors' such as perceived religious intolerance and injustice (political, economic and social).

### 4. Restricting the resources available to the terrorist

[T]his covers such interventions as controlling the weaponry, tools and information (e.g. targets and tactics) available; detecting/penetrating offenders' enclosures; and controlling the promoters who may supply them. An international clampdown on arms smuggling, with increased international intelligence exchange, is an example of a situational measure which addresses global issues. Control of recruitment is of obvious importance, as is the group size, growth and efficiency to carry out their acts. Interventions that disrupt the organised crime which funds terrorist groups (or those states that sponsor terrorist organisations) are further examples.

### 5. Excluding terrorists from the situation

[F]or example detaining suspected terrorists using legislative powers, extraditing suspected terrorists and co-operating with other states to prevent suspects entering the country. Excluding suspects from places within a country is also possible (e.g. injunctions to stop suspected animal rights activists from going near the homes of pharmaceutical company employees).

### 6. Deterrence

[R]aises the perceived risk of getting caught or failure for terrorists; discouragement makes the terrorist think that the effort to commit the act is too great for the reward to be gained. As previously mentioned, rewards are personal to the terrorist and range from having a product withdrawn from sale to achieving glory in heaven. Discouragement interventions need to be specifically targeted to the individual motivations, as do interventions involving awakening conscience and increasing empathy, implemented to counter the terrorists' strategies for neutralising the pain, shame and guilt caused by their acts (for example, through condemnation by their community leaders/members). These interventions have to be designed in full awareness of the 'ideological predisposition' they are intended to counter. As such, they require deep knowledge of cultural anthropology to minimise the risk of backfiring, (e.g. by misinterpretation of quotations from religious texts). On the situational side are a range of familiar techniques to: increase the effort for the terrorist, increase the risk, reduce the reward, reduce provocations, remove excuses and enhance empathy.

### 7. Target vectors

Interventions that prevent people and things becoming target vectors will be largely situational. The targeting of builders in Northern Ireland during the troubles led to them receiving protection from the British Army and police. The use of the twin towers in New York by Al Quaeda as a target vehicle (and the concern about nuclear powerplants becoming targets) has led to the introduction of many situational prevention measures (e.g. increased airport screening and the increased monitoring of pilot training, anti-aircraft installations etc) to reduce the likelihood of such a tragedy happening again. Construction of buildings which are not obviously 'head and shoulders above the rest' or with names that are not symbolically provocative to anti-capitalist or anti-Western movements may be prudent. But there is again a trade-off between being prudent versus giving some kind of 'surrender' message to target audience and the enemy. Dispersal of targets is a method used (e.g. with the components of expensive car radios, which are distributed around a vehicle, and the same approach can be applied to buildings and facilities). However, too much dispersal in some cases can pose difficulties too. Entire networks, physical, such as electricity grids or water supplies need to be protected - new attack-monitoring systems developed (e.g. CBRN) and procedures for limiting the damage once an attack is happening (secondary safety) or has happened (tertiary safety). Some principles can be developed to aid the selection of which targets to protect. Clarke (1999) introduced the concept of 'hot products' to identify and predict features of things like mobile phones, cash etc which are likely to make them at risk of being stolen – characterised by the acronym CRAVED (Concealable, Removable, Accessible, Valuable, Enjoyable, Disposable). It should be possible to identify some similar features of products, places, systems, people or organisations that make them prone to use as target vehicles of terror.

### 8. Target audience

Interventions to protect target audiences are hard to define. The target audience for the Warrington bombing (IRA) was the British Government, probably because a previous attack in the North East of England had been foiled the previous week.

The Government did not need protecting in the literal sense of the word their vulnerability was a political one, with the public's dismay at why the bombers had got through. More recently the bombing of Madrid can be seen as a contributory factor in the incumbent Spanish

Government failing to win an election, when they had been forecast to do so.

### 9. Target enclosure

[W]ell-established techniques such as 'target hardening' and 'access control' used to modify situations to prevent crime, are applicable to preventing acts of terrorism. Multi-layered target enclosures and associated access control (the 'onion skin' approach) can confer defence in depth.

### 10.The wider environment

[C]hanges which make the environment less attractive, less likely to generate offending or less logistically/tactically favourable for offenders. Preventing ordinary crime by environmental interventions normally has a local focus. Antiterrorism interventions however range from changes for example, in the design and management of shopping centres, stations and airports to ones of a much grander scale, extending to national and international levels. Areas containing specific national icons may attract terrorist attention; so may require broad protection via surveillance, redesign of road layouts, access points etc. Reducing conflict is a major intervention principle on the social side which bridges environment and 'readiness to offend'. Methods include various kinds of mediation and arbitration.

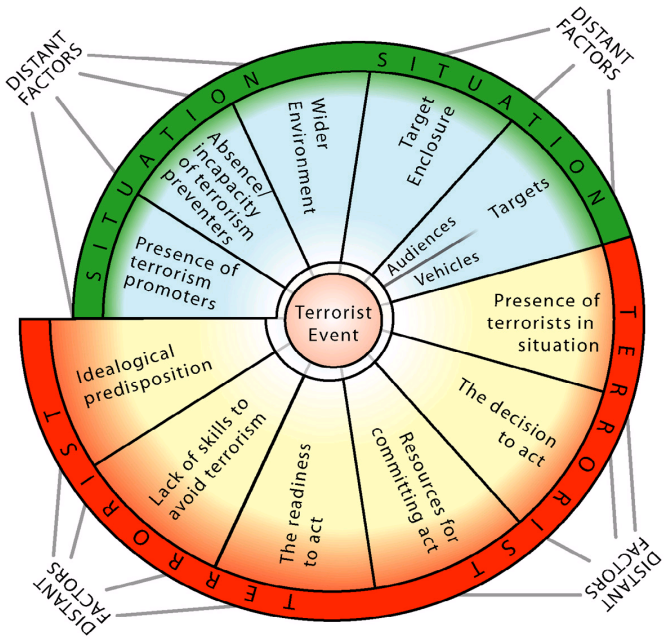
### 11.Boosting preventers (including 'capable guardians').

[T]his can be through 'formal control' (e.g. increased security patrolling, surveillance, intelligence-gathering and investigation, and the acquisition/placement of informants) or 'informal social control' (e.g. increased employee and public vigilance).

### Discouraging and deterring terrorism promoters.

[W]here promotion is deliberate and knowing, these interventions can include measures that awaken the conscience of any supporting community (e.g. supplying images of innocent people mourning their lost ones) or tough legislation to deal with active sympathisers. Positive 'hearts and minds' actions can be implemented alongside sanctions. Measures against careless promoters can include anything from reminding people to lock doors or take their bags when leaving trains, to campaigns warning that purchasing pirate DVDs may be funding terrorists.

We believe the above categories can be useful in focussing discussion of the strengths and weaknesses of the Blastshield and Trashshark design interventions. Indeed, we feel that the functional design attributes of these anti bomb rubbish bins address 2, 4 and 6, above, i.e. intervening to stop at least three of what Roach et al. (2005) define as the eleven principal causes of terrorism.




Significantly too, the UK and Swiss 'bomb-proof' dustbins, whilst clearly more expensive, than those public rubbish bins that do not help contain bomb blasts, do not look 'paranoid' or defensive, even though they offer anti terrorist protection by design. In our opinion they are unlikely to be noticed as 'defensive' crime signal and thus promote even more public fears about crimes of terrorism, but instead discreetly fit into the contexts they have been designed for. Paola Antonelli (2005), however, sees the situation very differently to us. She comments, that she feels bombproof plastic bins, are less user friendly than see-thru plastic bags. She says 'a perfectly transparent plastic bag hanging from a steel ring allows everybody to see everything, creating the sort of defensible collective space hailed by Jane Jacobs (1961) in her 'eyes on the street' theory which advocates involvement of citizens in their own protection program' (Antonelli 2005).

Our concern would be that in actively relying on an 'eyes on the street' to watch out for bombs in bins, we may be promoting a paranoid placebo one that incites the public to think about terrorism without providing a solution that is sure to detect or avoid it.

After all how would you be able to tell the difference between a discarded super size shake container which conceals a bomb and one that doesn't, when viewed through a clear plastic bag? Though the design solutions may be equally low tech, we propose that the interrogation of the design proposals and their context should be rigorous and structured so as to ensure effective address to user desires and avoid opportunities

for mis-use and abuse.
We feel therefore that the Blastshield and Trashshark bins offer a 'stealth utility' aspect, defined elsewhere by designers from Vexed Generation, as a way of offering protection against adverse or challenging conditions, without promoting their presence.

Stealth Utility: …secret procedure; surreptitiously utility: usefulness; profitableness; useful thing; severely practical. These pieces [of the collection] are semi -tailored with subtle detailing providing maximum utility to the wearer e.g. folded collars become full hoods, concealed pockets are capable of carrying A4 documents. All pocketing is fitted with concealed zip entry for maximum security. A contemporary classic appearance is equipped with fully functioning stealth utility… (Thorpe and Hunter 2001)

In the context of Design Against Terrorism, this design strategy might require hidden or silent features to act as 'preventers' of crimes/ terror, designed to thwart criminal/terrorist MO's. Such solutions offer prevention capacity, explicitly NOT by alerting, motivated and empowered public members to act as crime preventers, but rather through the 'invisible hand' of the designer to aid anti terrorist objectives.

It is also our contention that when designing against the crimes of terrorism, it is important to fully understand both terrorist perpetrator techniques and terrorism prevention principles and to establish the myths and realities relating to 'fear of terrorism', before catalyzing new design against terrorism innovations.

One of the central arguments of this paper is that designers need to be aware of issues about fear of crime. In particular to understand the relationship between crime and terror tactics, and to take care to inform their own perceptions with robust research and significant evidence. Our contention is that without complex appropriate design forethought, linked to a clear framework of questions about crime and terror tactics, inappropriate design and paranoid products are likely to be the result.

## 3. How design against crime thinking has relevance for design against terrorism.

Whilst the model for catalyzing Design Against Crime (DAC) Innovation can't simply be mapped onto the design of anti-terror design response, with some adjustment we believe they could be of great use. So we should define what is meant by DAC, as referred to above. DAC at University of the Arts, London (UAL) is a socially responsive, practice-based research initiative that uses the processes and products of design to reduce all kinds of crime and promote community safety whilst improving quality-of-life.8 It is linked to the theory of situational crime prevention (summarized in Clarke 1992) and in a nutshell suggests that crime is primarily about opportunity, and that IF we can design out opportunity for crimes to occur in the first place, we can reduce crime, and perhaps also the number of people who become victimized and criminalized. DAC is a relatively new, interdisciplinary area of enquiry developed through innovative national and intenational research collaborations that commenced in the UK in 2000.9 It has three overarching aims:

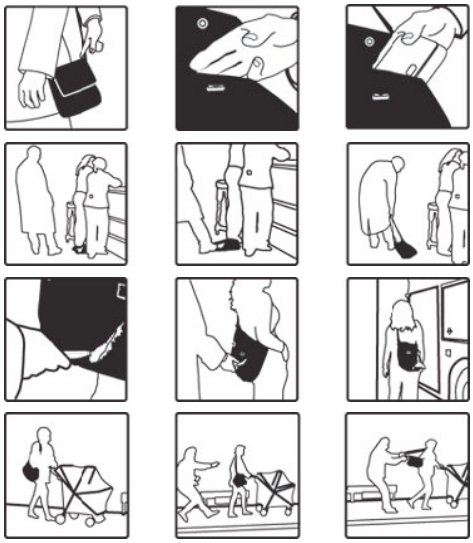
1. To reduce the incidence, impact and fear of crime through the design of products, services and environments that are 'fit for the purpose' in all other respects;
2. To equip design practitioners with the cognitive and practical tools and resources necessary to achieve 1 (above);
3. To promote the social and commercial benefits of designing out crime to manufacturing and service industries, local and national government, and society at large.

To realize these aims requires linking two worlds; helping designers to 'think thief' and aiding crime prevention and security experts to 'draw on design'. Recently completed design research projects that embody both the theory and practice of DAC emanating from UAL include: Karrysafe anti theft bags and accessories (Figures 10- 12), Stop Thief anti theft chairs and Bike Off – anti theft communication solutions (Figure 13) and more recently Holborn Gateway bike parking solutions.


The philosophy behind DAC as a practice led design research agenda is linked to the understanding that design should address security issues without compromising functionality, aesthetics or other forms of performance,

i.e. the simple idea that 'secure design doesn't have to look criminal or ugly'. Our research projects attempt to think 'abuser' and 'mis-user', as well as 'user' and to '... help designers keep up with the adaptive criminal in a changing world' (Ekblom, 2000).
This generative design approach has led to much product design innovation and many DAC design exhibitions. Over the last five years a number of DAC objects, including an anti theft bike, have been presented to the international design arena, most recently at Safe: Design Takes

on Risk – Museum of Modern Art, New York, 16 October 2005 – 2 January 2006 (Antonelli 2005).
DAC at UAL has adopted a research methodology based on the user focus of interaction design, associated with design consultancies such as IDEO (Myerson 2001) who fully research user needs, but additionally addresses 'mis-use' as well as 'abuse' in terms of the 'ethnographic' review of factors to be drawn upon in the design process. This process has been described by Barab et al. (2004) as 'critical design ethnography...' which differs from straightforward ethnography, 'because it involves action as well as critical reflection, aimed at transform things...' In order to move beyond experiential data and interviews with users at the research stages, DAC
coalesces the conceptual frameworks, methodologies and practices of situational crime prevention, social anthropology, and cognitive psychology in terms of usercentred design, to offer an interdisciplinary account. It introduces: theory, many forms of empirical research, as well as user data, and an understanding of criminal perpetrator tech-



niques, into the design process (see Figures 15-18 linked to bag theft).
The DAC process is an iterative design process, one that has been evolved at UAL, to enable designers to test out design concepts (or hypothesis) in context of a design advisory panel, made up of experts including crime prevention advisors and other user as experts, who have strategic knowledge of the use, mis-use and abuse of objects in every day life.
Like all approaches to design that contain some aspect of 'forecasting' DAC advisors and designers engage, as Ekblom has pointed out with 'practical consideration in handling the uncertainty which by definition surrounds the estimated risk. It is pretty likely that on average, some types of product will be riskier than others' (Ekblom 2005, p.222). The strategic 'consultation' process that occurs at stages during the development of design iterations can help manage such risks. The diagram below created in 2004-510 visualizes the iterative DAC process, and shows the stages of prototype creation where the de-

signer designs the product, system or service, in order to anticipate the interaction of many types of users (including victims) as well as abusers and mis-users (criminal perpetrator data), before showing it to the advisory panel for feedback.
fig 19
Several prototypes are amended before the final iteration is agreed upon. Focus is maintained on ensuring the design is friendly to users, in terms of the product's primary function, in addition to other mis-use or abuse the product might respond to.
In order to ensure the object, service or system has achieved its aim, some testing is necessitated by the process, and it is here that research funding is crucial, because it is often too expensive for the market to really do anti crime testing properly. Indeed, the testing of objects for public spaces, in particular, needs to be undertaken to exacting standards to ensure that anti crime functionality is perfected.

## 4. How Design Against Terrorism can learn from DAC?

As explained earlier Ekblom's CCO framework (2001) has been adapted to address the conjunction of terrorist opportunity. We believe the DAC methodology of the design process can evolve for similar use. DAC uses CCO at the research stage, and goes on to review perpetrator techniques, and apply an iterative design methodology, one that has been proven across various design projects. It has already proven effective in the realization of user-friendly products that do not sacrifice user freedoms in their pursuit and delivery of increased security.
The DAC design process therefore may assist the anti terrorist in avoiding the creation of paranoid products though the consideration and comparison of user requirements with mis-user and abuser modus operandi, and through the expert review process. Paranoid products should only be created if the designers consciously choose to use excess as an aesthetic device to deliver social comment. Even then, designers need to think very carefully about the context the design is aimed at before design work commences.

## Parody and Paranoia

Insert Figure 20. here

The Vexed Parka, shown earlier, ostensibly provides riot clothing for party goers and was originated with the aim of aesthetically parodying the unnecessary use of riot gear by British police to break up parties (rather than actual riots) in the 1990s. The designers say it mimics riot gear in a deliberately over-determined way to critique/ provoke a discussion about paranoid policing. This is what is meant by a fashion statement. Industrial design is traditionally less dramatic and transitory than fashion; its production costs (e.g. of tooling-up as well as materials used) are often far more expensive than a fashion run. Its outputs are also expected to function in a userfriendly way, as well as solve problems, and to have great longevity, as well as low maintenance costs. For all these reasons, the integrity of a product's use and function in public space should always come first in the designer's mind, including the way it communicates.
Increasingly more products delivered by small product design companies, such as Suck UK have adopted an almost situationist approach within society. Primarily, here the comment/ attitude of the product is usually more significant than the function of the object, which may end up as ornament. Some products go even further, for example they parody functionality itself; see Hulger handset; where a large 1940s British Telecom black handset has been adapted to fit a small mobile phone. We enjoy such playful and humorous design which is often aimed at social expression and/or used in domestic or semi private space. We would not dream of prescribing against enjoying 'wicked' or what Bates and James (2002) have described 'evil' design or prescribing against its existence. But the anti terrorist design objects, discussed here, offer no polemical social comment, and are clearly not objects with attitude aimed at creating a political debate, or even fun. Often, such design language exists because designers haven't completely thought through the contextual implication of their designs, and have, perhaps unwittingly, made a design contribution to a paranoid society. The design tragedy of many paranoid products, in our opinion, could have been avoided if the designers had access to the rigorous questioning of the DAC research framework/ and design process, which we argue can be adapted to deliver appropriate design against terrorism for public spaces.

## Conclusion

We have shown how designers need to understand what Frank Furedi (2002) describes as the 'culture of fear' and what Bill Durodié (2002) defines as 'vulnerability-led' responses that may lead to paranoid products before beginning to design against terrorism. Indeed, government warnings may produce anxiety-led demands from the public, but we vehemently believe that a good industrial

designer should be socially responsive and responsible, and not simply respond with products like the emergency kit shown earlier but more carefully think through what it is actually needed. We note that in Britain the individual is statistically more likely to win the lottery than to be blown up by a terrorist bomb, and we believe our design and architecture should reflect this fact.

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