## Case E: The Police Command and Control System

## The Problem Space

Civilizations since the earliest time have developed and been organized around class structure: it has been the hallmark of society. The earliest civilizations had three classes: agricultural workers and herders generally formed the lower class; merchants and shopkeepers formed the middle class; and rulers, nobles and landowners formed the upper class (Haywood, 2005). Societies as a whole were pyramid-shaped, with a large lower class, a smaller middle class and a much smaller upper class.

Civilizations through history, including present-day western civilization, have continued to be based on three classes, or tiers, although with the advent of mechanized farming, the lower classes migrated from the land to the cities to become an industrial lower class, working in factories and on shop floors, mass producing yarns, cloths, implements, automobiles, consumer goods, etc. see Figure E.1. The lower class was renamed 'the workers,' while the middle class comprised managers, teachers, shopkeepers, etc., much as before. The upper class remained the upper class, accumulating wealth and living enviable lives.

That envy led to social anger, with workers (no longer 'gatherers,' so perhaps reverting to 'hunters') angry that others benefited from their work, while they benefited little. Class structure, which had stood as the cornerstone of civilization for five thousand years was now challenged. Marxism and socialism emerged. The scene was set for an overthrow of the class structure: those driving the overthrow were aware that they were creating social upheaval, social disorder: they expected a new social order to emerge. Were they, instead heralding continuing and accelerating social disorder - even, perhaps, the breakdown of their civilization, which may have depended fundamentally upon the hated class structure?

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Figure E. 1 The Advent of De-Civilization in the West. At left, a largely agrarian population provided stable, extended family-based social structure, tied to the land, with a history of some $5000+$ years. The industrial revolution brought mechanized farming, forcing agricultural workers to go to cities seeking work, at right. No longer tied to the seasons, the tempo of city life increased inexorably, fanned by consumerism, competition, crowding and mass entertainment. No longer tied to the land, worker populations became more mobile, and instinctive hunter-gatherer behavior re-emerged. Extended families fragmented. Social bonds broke. Societies 'atomized,' with individuals, older and younger, living in fear. De-civilization had arrived. . .

## Social engineering - irresponsible liberalization?

Two books characterized and gave impetus to social change in the 20th Century. One was Adam Smith's An Inquiry into the Nature of the Wealth of Nations (Smith, 1904). Smith (1723-1790) proposed that wealth could be created for all by the promotion of free trade between nations, and the elimination of restrictive business practices. The other was Karl Marx's Das Kapital (Marx, 1887), who perceived that the mass of workers were being exploited by the capitalist upper classes, and that social upheaval would be necessary to restore balance and equity. For most of the 20th century, Marxist ideas seemed to predominate over those of Adam Smith

The second half of the 20th century has seen a progressive liberalization, with relaxation of oppressive rules, regulations and laws. Successive governments competed with each other as social engineers, although they would probably object to being so described. Unfortunately, the long-term impacts of such social engineering were not envisaged - see Social Engineering on page 389, et seq.

Much of the second half of the 20th century in the UK has been spent breaking down the so-called class system that supposedly inhibited society and social development. Conceptually,
there was a wealthy, landowning upper class, an industrious white-collar middle class and an honest-but-downtrodden, blue-collar, working class. And there were supposed divides between the classes, which inhibited movement up the ladder - everyone was supposed to 'know their place,' and stick to it: at least, that was the caricature.

In attempting to break down the perceived class structure the social engineers revised state education into a homogeneous, so-called comprehensive system, taxed inheritance to deplete the wealth of the land owning 'gentry,' and revised the House of Lords, the upper house of parliament, so that it no longer consisted primarily of lords and wealthy landowners with inherited privilege. In a recent petty, but highly emotive, act of parliament, the social engineers, or socialists, banned foxhunting with hounds on the pretext that it was cruel to the fox: many, including those opposed to foxhunting, will have seen it, however, as a further instance of using (abusing) the law to destroy the last vestiges of an upper class, believed by many city dwellers to be those enjoying traditional foxhunting activities in the country. Throughout, no one noticed that the fox was continually cruel to the chicken... and that the fox population is now, paradoxically but predictably, in decline. (Why in decline? Perhaps because the hunts generally managed to catch only the old, unfit foxes, which left more food for the next generation. Perhaps, too, because hunts needed foxes, so foxes would be effectively protected between hunts: no hunt-no protection.)

As might have been expected, social engineering has not had the expected outcome. Class structures have not gone away; they have simply changed, with a new class of celebrity forming a tinseled upper set, populated by the instantly wealthy, the publicity seekers, the flamboyant and the outrageous. Spurred on by the media, the general population is encouraged to celebrate the decadent, the disgraceful, the immoral, the bizarre, the incompetent, and - only rarely - the praiseworthy. 'Celebs' become society's role models, to be admired and emulated by the young and impressionable. The experimental comprehensive education system has not proved to be a success, not so much dragging the average level of education down across the nation, as homogenizing, of bringing all towards a median level, with little room for the very bright to succeed, while the dull remain, uh, dull.

With these major social changes has come social turbulence, which initially expressed itself as civil unrest and violence between supporters of rival factions, often football clubs. Political reaction has generally been to provide more, widespread mass entertainment, presumably to keep the youthful, more vigorous section of the population fully occupied in harmless pursuits such as outdoor rock concerts, all-night raves, greatly increased varieties of television entertainment, blockbuster movies of greater and greater disasters, and so on. Mass entertainment has become the soma of Aldous Huxley's Brave New World: 'All the advantages of Christianity and alcohol; none of their defects.' Meanwhile state religion, Christianity, Marx's 'opium of the people,' has been sidelined, disregarded and mocked: he would have approved greatly.

The net effect of this liberalization and barrier removal should have been greater freedom for the individual, greater prospects for self-determination, the establishment of a 'level playing field,' with equal opportunities for men and women, able and disabled, young and old.

However, it has to be said that the sum effect may be viewed as a progressive breakdown in civilization. The fabric of society, at first made threadbare, is showing signs of disintegration. There has been a widespread breakdown in the family, the basic building block of society. The institution of marriage is in decline. Parenting appears to be a largely forgotten skill, with children no longer being nurtured and taught how to behave socially in the family, before being launched on an unsuspecting public. Art, often an indicator of civilized culture, has gone from weird to bizarre, with the famous Turner Prize for Art recently being awarded to an unmade bed, with semen-covered bedclothes strewn over it. Fashion has gone from the elegant to the degenerate, with new trousers on sale ready soiled and worn, with tears and knee patches....


Figure E. 2 Unrestrained social engineering.

## Political correctness: the new secular religion

In place of rewards in heaven promised for good behavior on Earth, there has emerged 'political correctness' - the new, secular religion. There is certainly a need for something - see Figure E.2, which purports to show the effects of social engineering when combined with a concept of 'human rights' which is described in the figure as the Cult of the Individual, i.e., there is no such thing as society (famously stated by Margaret Thatcher, although she later tried to recant), individuals are the basic element, individuals have certain inalienable human rights as laid down in law, and so on.

Political correctness may be seen as (excessive?) zeal in the observation of these Human Rights laws, and in the interpreting them in such a way as to defy common sense: one UK police force recently refused to publish photographs of escaped criminals for fear of infringing their human rights!

This may suggest, correctly, that the police services in England and Wales are 'treading on egg shells.'

- Prisoners in jail successfully sued the government for making them go 'cold turkey' when first imprisoned, instead, presumably, of either supplying them with illegal drugs in prison, or providing some legal substitute.
- Police questioned an elderly Christian couple for an hour for stating openly that homosexuality was immoral: the couple was subsequently awarded $£ 10000(\$ 20000)$ by a court for the distress caused to them.
- Police refused to give chase to a perpetrator escaping on a motorcycle because he was not wearing a crash helmet as required by law: if, while pursued, he should crash and be injured, the police would have 'infringed his human rights!'

In Figure E.2, 'Nolan' refers to the Nolan Report on Standards in Public Life. His report identified seven Principles of Public Life:

1. Selflessness. Holders of public office should take decisions solely in terms of the public interest. They should not do so in order to gain financial or other material benefits for themselves, their family, or their friends.
2. Integrity. Holders of public office should not place themselves under any financial or other obligation to outside individuals or organizations that might influence them in the performance of their official duties.
3. Objectivity. In carrying out public business, including making public appointments, awarding contracts, or recommending individuals for rewards and benefits, holders of public office should make choices on merit.
4. Accountability. Holders of public office are accountable for their decisions and actions to the public and must submit themselves to whatever scrutiny is appropriate to their office.
5. Openness. Holders of public office should be as open as possible about all the decisions and actions that they take. They should give reasons for their decisions and restrict information only when the wider public interest clearly demands.
6. Honesty. Holders of public office have a duty to declare any private interests relating to their public duties and to take steps to resolve any conflicts arising in a way that protects the public interest.
7. Leadership. Holders of public office should promote and support these principles by leadership and example.

These principles apply to all aspects of public life. The (Nolan) Committee has set them out for the benefit of all who serve the public in any way.

It is an interesting commentary on the depths to which politics has descended that such principles should need to be stated: the occasion was brought about by a number of politicians behaving in a manner that called their integrity, and the integrity of parliament, into question. It is not unreasonable to suppose that the seven principles were set out specifically because they had not been observed, perhaps indicating the depths to which standards of behavior had fallen.

## Politics in policing - tough on crime, tough on the causes...

At the same time, and for much of the last two decades, politicians have been fond of repeating the political mantra: 'tough on crime and tough on the causes of crime.' Unfortunately, no one seems to be quite sure what the causes of crime might be, so the mantra reduces in practice to 'tough on crime. . .' As a result, the prison population has risen steadily, until the UK now has more offenders in prison per capita than any other European nation, prisons are bulging to breaking
point, and a program of building new prisons is underway. So, not much impact on the causes of crime, then. . . .

Crime has been a thorn in the flesh of successive governments since World War II. When annual crime statistics are published, they are invariably up or down on the previous set of figures. If they are up, government congratulates itself on its success. If they are down, the opposition howls in derision, and more draconian sentencing of prisoners is introduced, or the government embarks on some enterprise such as 'three strikes and you're out,' or 'zero tolerance,' and so on.

The facts are, however, that government actions seem to have little effect. The graph under the heading of Fractals on page 39 shows the reported crime statistics for a county of England over several years. Analysis of the graph shows that it is made up from two elements: an underlying, steady increase in reported crime levels, year on year: and, a highly variable element on top of this underlying 'ramp.' The variable element turned out to be fractal, i.e., weakly chaotic. This, it is reasonable to deduce, means that government actions are having little or no effect on the crime statistics, which vary chaotically, and would do with, or without, government action. The statistics on which the graph is based also show a positive correlation between reported crime clear-up rate and the numbers of police and sergeants on reactive duties. Curiously, adding in the numbers of inspectors, chief inspectors, superintendents, etc., significantly reduced the correlation. . .

## The Solution Space

## Policing in a democracy

Policing in a democracy is a contentious subject. If a democracy is 'rule of the people, by the people,' then perhaps policing should also be 'of the people, by the people.' To some, even the idea of policing is inconsistent with that of democracy and personal freedom. However, most people see the need for laws, if only to protect the weak from the strong and powerful, and consequently they see the need for police to 'enforce' the law. 'Enforce' is, of itself, a contentious word in the context of policing, implying as it does that the police may use force: so contentious that the term Police Force is now considered inappropriate, to be replaced by the more politically correct 'Police Service.' The ever-present threat of a 'police state,' looms large in some people's minds, presenting to them a distasteful image of armed police on every street corner, herding and brutalizing the cowed, downtrodden population. . . and there are such police states in the world.

Victorian London was a hotbed of crime and disorder, with cutthroats, cutpurses, highwaymen, robbers, pickpockets, prostitutes, druggies, drunks, beggars, an antiquated legal system, and bulging prisons. ('So, what's new then?') In 1829, Sir Robert Peel established the Metropolitan Police of London, the first such force in the world. Cognizant of concerns about freedom and democracy, he also set out his Principles of Law Enforcement, as follows:

1. The basic mission for which the police exist is to prevent crime and disorder (NB: prevent, not catch after the event).
2. The ability of the police to perform their duties is dependent upon public approval of police existence, action, behavior and the ability of the police to secure public respect.
3. The police must secure the willing co-operation of the public in voluntary observance of the law to be able to secure and maintain public respect.
4. The degree of co-operation of the public that can be secured diminishes, proportionately, with the use of physical force.
5. The police seek and preserve public favor, not by catering to public opinion, but by constantly demonstrating absolute impartial service to the law, in complete independence of policy, and without regard to the justice, or injustice, of the substance of individual laws; by ready offering of individual service and friendship to all members of society without regard to their race or social standing.
6. The police should use physical force to the extent necessary to secure observance of the law or to secure order only when the exercise of persuasion, advice and warning is found to be insufficient.
7. The police at all times should maintain a relationship with the public that gives reality to the historic tradition that the police are the public and the public are the police; the police are the only members of the public who are paid to give full-time attention to duties which are incumbent on every citizen in the interest of the community welfare.
8. The police should always direct their actions toward their functions and never appear to usurp the power of the judiciary by avenging individuals or the state.
9. The test of police efficiency is the absence of crime and disorder, not the visible evidence of police action dealing with them.

Reading through Sir Robert's words, they are as fresh and relevant as when he wrote them in 1829. However, these Principles do not seem to be observed today.

## Changes in policing

So what happened? Well, technology happened, for one. The invention of the car and the radio convinced police in the 1930s that they could become remote from the people, could rush to the scenes of incidents, could be alerted and directed by radio and so they didn't really need to be out there, with the public, part of the public: rapid response also meant that less police were needed, saving on costs. . . and playing with the new toys was such fun! Principle Number 7 went out the window, and never returned. With it, Principle Number 1 had to go since, with few police on patrol, there was little advance intelligence of what was going to happen; with no officer on the spot, the opportunity for 'nipping things in the bud' no longer arose. Prevention, the fundamental mission of the police, gave way to catching after the event.

The idea gradually arose that patrolling the streets was for 'wooden-tops' (uniformed patrol officers), and that 'real policing' was catching criminals: not to mention rushing around in fast cars and armed response vehicles, arriving at the scene in only minutes, but often hours after the crooks had flown.

Principle Number 5 disappeared with the advent of multicultural societies (an oxymoronic political term, since a number of adjacent cultures tends to become a number of self-segregating, separated societies, rather then one unified society). Police forces, particularly in the cities, failed to recruit members of the various ethnic cultures, and failed to understand the cultures they were attempting to police. With Number 5 went Principles 2, 3 and 4.

But perhaps the final nail in the coffin for crime prevention was the employment of statistics; this scuppered Number 9 overnight. You cannot easily measure the effect of deterrence. There is no immediate evidence that an officer has calmed things down, perhaps prevented a scuffle or worse, simply by his or her calming presence. Nor is it evident when a criminal decided not to perpetrate a crime because he saw a policeman near the scene and thought better of it. Since this deterrent effect cannot be directly measured, it cannot be entered into a statistic, so in effect, it does not exist. Hence, you cannot measure the efficiency of the police as Sir Robert, so correctly, defined
it through 'the absence of crime and disorder' - at least, not directly using statistics. But then, police officers at that time were primarily Peace Officers, not crime fighters.

As part of the general liberalization and enhancement of 'human rights,' the law change, too. Lawmaking became a political game, with political parties competing to introduce new and better laws. The death penalty for murder was abolished. More subtly, the so-called vagrancy laws were abolished, too. No longer could a policeman require someone to 'move on,' or show 'visible means of support.'

## Hawks, doves, liberals and terrorists

Modern policing operates, if at all, in this confused, contradictory moral vacuum, where laws, some of them bad laws, seek to direct and control personal behavior. In George Orwell's prophetic novel, 1984, he postulated the existence of the Thought Police, who control and regulate what we, the public, are allowed to think. The Thought Police are with us today, inhibiting freedom of speech and action, and obliging people to 'think differently.' People, it seems, do not think differently they just keep their thoughts to themselves in this 'thought police' era.

Within government there are, as always, hawks and doves. The hawks would, if they could, introduce draconian punishment for even relatively minor crimes: they would restore the death penalty; they are 'against' almost everything; and, they are generally xenophobic. The doves, on the other hand, would rather issue community work orders to criminals than imprison them, would rather encourage with carrot than beat with stick - a mixed metaphor, perhaps, but apposite. Liberals seek to reduce all constraints on personal freedoms, and are 'more concerned with the environment' than their opponents. . .

A balance is to be drawn between fear of a police state on the one hand, and fear of crime and violence on the other. Concern about excess policing is winning the day, with fewer police visible on the streets, an ever-increasing ratio of public to active police, while many other police are consumed by documentation, paperwork and mind-numbing legal procedures. . . with a population of around 60 million, England and Wales have some 130000 police, of whom only a very small proportion are visible on the streets at any time.

Terrorism changes the scene: not only terrorism, but terrorism generated from within England's much vaunted multicultural society: home-grown terrorism, even if externally sponsored and inspired. Gradually, it dawns that there is a problem, and that the erosion of Peel's Principles, together with unthinking social engineering, has opened the nation up, made it vulnerable.

## Social atomization, fear of crime, and the reactive spiral

In many communities, there are people who are afraid (Peak and Glensor, 1996). Fear of crime may be irrational, since the statistics indicate that the likelihood of being on the receiving end of criminal behavior may be relatively small, but the fear remains, repeatedly and incessantly stoked by the media. Fear is prevalent amongst the elderly and infirm, and amongst the young and vulnerable. Much of this fear is transmitted by bullying, and by reports of youths roaming the streets in gangs, particularly at night, causing mayhem. Certainly, there has been a sea change over the last 50 years, with youths seemingly ever ready to offer verbal abuse and physical violence at the drop of
a hat. And this behavioral phenomenon has spread to young females, too, fueled by alcohol and binge-drinking.

The reaction of many, especially those living on their own, is to retreat into their fortress home, apartment or condominium of an evening, and to avoid social contact. This is leading - has led - to social atomization in cities, where individuals exist, go about their business, but have no relationships with other individuals outside, perhaps, of daily work.

Such people cannot be said to live in a community: they are isolated. The most effective policing, however, comes not from established police in uniform, but from communities, which effectively police themselves, characteristically through 'neighboring,' as the police call it. Isolated individuals do not take part in neighboring, do not recognize and are not recognized by neighbors. (Kelling and Coles, 1996)

Police working in such supposed communities and societies have become largely reactive, i.e., they react to alerts. Sometimes they arrive after the incident is over, the villain is gone, etc., which does not inspire confidence in the police. As a result, it is common practice for members of the public not to report every crime to the police. Estimates vary, but typically, it seems that only some $25 \%$ of crimes are reported. Police respond to reports of crime, and produce a 'reported crime clear-up rate,' which is typically about $20-25 \%$. So, the overall rate for solving crime is about $25 \%$ of $25 \%$, which is $6.25 \%$ - far from brilliant.

Police numbers are established with this reported crime clear-up rate in mind. An associated phenomenon is known in police circles as 'the reactive spiral.' Suppose that a particular police service is doing rather well, and is catching and prosecuting more perpetrators than previously. One byproduct of this is increased public confidence in the ability of their police: the public is more likely to report incidents to the police, believing that it to be worthwhile since the police are doing so well. As a result, the better the police are at reacting to reports and incidents, the more work they attract, and the more manpower they require - this is the reactive spiral in operation.

A diagram showing the reactive spiral is at Figure E.3. If police resources are unlimited, the reported crime clear-up rate will increase, there will be more reports of crime, more demand on


Figure E. 3 The reactive spiral. Success in solving crime boosts public confidence, increasing their willingness to report crime, which increases the work of the police. Further success in crime solving will lead to spiraling demand for ever more reactive police. The spiral tops out due either to limited police resources or to suppression of crime.
police resources, more crime cleared up, and so on. Only two factors prevent the spiral from rising:

- Limited police resources. This is the usual limiting factor, and the spiral increases the demand on police until they are fully stretched, and tends to settle at that level.
- Reducing the propensity for crime. Since so little of crime is presently reported, the spiral could rise some way before the general level of crime is significantly affected. Occasionally, prolific offenders are caught and imprisoned, which temporarily reduces the crime rate, but their places are often swiftly taken by replacement 'wannabees,' so restoring the status quo.

The first bullet suggests that the reason why crime clear up is so low is simply because governments, central and local, are unprepared to pay for more policing: we get the level of crime we are prepared to tolerate as a society, and that level seems to be quite high. . . .

Reactive policing, then, is something of a failure, both in principle and in practice. Even if the police could react at the speed of light to reports of crime, they would still pick up only a small fraction of crimes. Criminals in the US soon learned to oblige their victims not to report until the perpetrators had left the scene.

## Progressive reduction in the state of stability

Over time, and particularly over the last fifty years, social turbulence has increased in the UK social turbulence, is, after all, a consequence of liberalization, which permits and encourages people to do different things, travel more, be more vociferous in opposition to 'authority,' and so on. Turbulence is an aspect of the stability of society: state of stability is a useful measure, which may be formulated over time to assess social dynamics, see Figure E.4. At the top of the figure, the population is shown in three 'compartments:' ordered society; disordered society; and, prison. Population turnover, i.e., people entering the area (county, state, country) from other areas, counties, states or countries, for whatever reason, increases the numbers in disordered society, at least initially.

Ordered society represents, hopefully, the bulk of the population, where people lead orderly lives, go to work, bring up their children, go to the cinema, concerts, sports meetings, college, etc., belong to clubs and associations, take family holidays, etc. . . . Socialized humans are creatures of habit and routine, and tend to lead ordered lives. They are also, by nature, gregarious and form groups: families, associations, clubs, teams, companies, etc., etc. These also represent order.

Disordered society is that proportion of society that is not settled into an orderly routine and that is not socially bonded to others within the society. These are the people who do not observe social norms, either because they are unable to do so, or because they are isolated from society and no longer influenced by, and grounded within, its norms. It is from this disordered section of society that, in general, crime emerges, leading to antisocial activities and to fear of crime. Fear of crime, as we have seen, can have the effect of atomizing parts of society so that people living on their own, and older people in particular, feel afraid and marginalized - this has the effect of drawing them from ordered, into disordered, society, see Social capital on page 50.

The reactive spiral is shown at the right of Figure E.4, with detected crime (rate) enhancing the reported crime (rate). Detected crime results in some small proportion, currently about $2 \%$, of perpetrators going to prison. This is police reaction, or reactive policing at work. Police may also take direct action, as indicated, to combat crime, to curb antisocial behavior, and to reassure the


Figure E. 4 Measuring society's state of stability. Home-grown terrorism adds a new dimension to antisocial activities....
public that they have no real need to fear crime. However, as the reactive spiral explains, so many police may be absorbed in reacting, that there are likely to be few left over for other activities.

A parameter, or measure, the state of stability for the area, county, state or nation, may be developed as shown in the figure. The state of stability $p$ is the ratio of disordered society to ordered society plus disordered society. Those in prison (some 70000 at the time of writing) are not included, since they are not, for the time being, in society.

The state of stability $p$ is relatively meaningless as a one-time measure. Its value is in how it varies over time. Moreover, it would be wrong to think that a fully ordered society, with a value $p=0$, is desirable: on the contrary, as the police are aware, such a society would be effectively dead. With no turbulence at all, society would be missing one of its 'vital signs!' On the other hand, a rising value of $p$ over time may be an early indicator of societal issues. Similarly, a falling value of $p$ over time may suggest either that social capital is increasing, or, if $p$ falls too far, that society is losing its dynamism. (Oppressed societies would be expected to exhibit a low value, $p$, by virtue of the heavy hand of bureaucratic control.)

Graph 2.5 on page 39 indicates that, for a particular county in England, the crime trend was increasing steadily over some twenty years, suggesting that the state of stability was falling. Over the same period, the prison population has risen, along with the fear of crime. Reactive policing using a minimum of police may satisfy the liberals, and may pacify concerns over 'police states,' but it is evidently ineffective in accommodating a progressively more turbulent and atomized society.

## The terrorism issue

In particular, and as a number of countries have experienced, reactive policing is no match for terrorism. 9/11 in the US and July 7th in the UK were wakeup calls - our policing systems are inadequate. Particularly, they are inadequate where, as in the UK, the terrorists turned out to be UK citizens, born and raised in the UK, but seemingly recruited and subverted by agents of a foreign country and an alien culture.

As any military man will know, it is impossible to mount a perfect defense. But a policing system that can, in effect, only react once a crime has been committed is of little use when trying to prevent terrorism - particularly when fanatics seem to be willing, even eager, to die while committing their acts. Then, reactive policing is no defense at all.

Looking back over the last fifty years of increasing liberalization, advances in human rights legislation, etc., it may be seen that, admirable though these advances may be, taken individually, they have resulted in creating a soft underbelly within democracy. Having rationalized that global war and international conflict are outdated, Western democracy is now so liberalized as to be in danger of being unable to defend itself, and its way of life. The pathway to hell, it seems, truly is paved with good intentions. . .

## Remedial Solution Concepts Proactive policing, gearing and reactive demand

If reactive policing is not working fully, which seems to be the case, then combining it with proactive policing will undoubtedly help - see Figure E.5. In the diagram, reactive policing is seen as largely dealing with crime. Proactive policing, which involves the police in taking an active line, operates in a variety of ways to enhance social stability and build social capital.

As the figure shows, there are two arms to this proactive approach:

- To address and help to reduce the fear of crime through neighborhood schemes, self-policing schemes such as Neighborhood Watch, increased victim support, counseling to those in fear, and visible policing. The general public has, for decades, demanded to see more police on the streets - requests that police have felt unable or unwilling to satisfy, through lack of manpower.
■ To encourage and support social groupings through education, cross-cultural association, sports, youth clubs, etc., and to positively assist with employment, e.g., of ex-convicts who need to become part of ordered society quickly so as to avoid the temptations of returning to crime.

Proactive policing does not replace reactive policing: rather, it complements it by encouraging a more cohesive society, reducing the process of social atomization and increasing social bonding. Proactive policing offers a so-called gearing effect: whereas reactive policing tends to be one-onone, with one police officer versus one offender; proactive policing tends to be one on many. So, one policeman can encourage many dissociated people to 'join in.' This effect is referred to as 'gearing,' and can help to minimize the number of police needed in an area, if only by progressively reducing social turbulence and hence reactive demand.


Figure E. 5 Proactive and reactive policing together. In this causal loop model, open arrowheads 'encourage,' close arrowheads 'discourage.'

## Terrorism changes the picture...

However, neither reactive policing, nor the kind of proactive policing outlined above, is a match for terrorism. If terrorists have determined to perpetrate crimes against the general public, and if those terrorists are virtually indistinguishable from that general public, then the only approach that affords any prospects of success is one of combined anticipation, detection and deterrence.

- Anticipation seeks to predict the terrorist events and activities and so to prevent them happening by positive interception - before the event, not after.
- Detection seeks to observe terrorist recruiting, training, development, resourcing, preparation, rehearsal and activity.
- Deterrence seeks to prevent terrorist action by being on the spot before and during the intended action and either warning the terrorist off, or catching the terrorist as he/she acts, or both.

Density of police on the ground needed for deterrence, e.g., of terrorist activity, is high. If, as may well be the case, there is no definite intelligence to warn of the location or timing of an attack, then deterrence will require police to be out on the streets in large numbers, forming a mobile, shifting network of visible individuals looking out for untoward behavior and ready to act. For such a network to be effective, policemen would have to be on street corners, patrolling residential areas, talking to people in areas of dense population such as railway stations, airports, shopping malls.

So close would policemen have to be to each other that, on alert, several could converge on a spot literally within seconds - minutes would be too slow. All of which may sound unreasonable unless, that is, one were to recall Metropolitan London in the Victorian era, where just such an arrangement was in place for crime prevention. Just such a dense network of police 'on the spot' was needed to cope with the level of street crime, petty and not so petty, that was the hallmark of Victorian London. In many ways, it is not the problem that has changed, so much as social
perceptions, the law, the level of crime and the style of policing to which we have had to become accustomed, willy-nilly, since World War II.

## Cost-effectiveness of deterrent, crime prevention policing

It might be thought that the cost of such policing would be prohibitive, and would render the notion instantly unacceptable. Not necessarily.

At present, the UK is spending significant amounts of money on prisons, prison warders, probation services, courts, lawyers, proceedings, etc; it is difficult to calculate a total figure, but it is mounting all the time. Estimates suggest that it costs $£ 100 \mathrm{k} / \$ 200 \mathrm{k}$ to keep a prisoner in jail per annum: with 70000 prisoners in UK jails, that amounts to $£ 7$ billion $/ \$ 14$ billion. That does not account for costs to the state of the 'headless' family: if the breadwinner is imprisoned, spouse and children are likely to need state support for food, education, healthcare, etc. It gets worse: children brought up in an environment where one or more parents, or older siblings, are criminals and 'do time' are, themselves, more likely to turn to crime, so creating a crime family dynasty. Once sent to prison, the so-called crime academy, offenders are more likely to offend again. This may be one reason why the numbers in prison are rising, seemingly inexorably. . . £7billion/\$14billion may be the tip of the iceberg.

If deterrent, crime prevention policing can stem and reverse the tide, then the cost of deterrent policing may be offset by the savings to the state from reduced cost of keeping ever more people in prison, operating probation services, supporting families, building new prisons, etc., etc. If deterrent, crime prevention policing can minimize the risk of terrorist attack, and reduce the fear of crime that presently paralyzes sections of the population, then the value to society would be inestimable.

Of course, there is a problem; governments of all persuasions seem remarkably reluctant to accept such 'creative accounting,' i.e., offsetting the cost of policing against savings in prisons, etc. Nevertheless, there are great savings to be made - more than sufficient to offset the cost of peace operations, Robert Peel style.

## Recruiting proactive police

How might one recruit larger numbers of police to be on the streets at all times? This is not Victorian London, and nervousness about a police state must be addressed. Robert Peel understood the problem, and the answer is, in part, given in his seven principles. In particular, the police are the people, and the people are the police. So, the increased police presence that would be needed can only be derived from the communities and societies to be policed. As was always done in medieval times, the people should nominate their peace officers.

In a modern twist, however, this notion may be turned to society's advantage. Conceptually, it would be possible to call for volunteers, especially from young men and women who have finished schooling and are keen to go to university or further education. They could form part a 'voluntary county service:' police recruits would be selected from among the volunteers and offered full training, with full pay, as police officers. After training, they would go through a probationary period, accompanied by an experienced officer, and would spend up to two years policing their own communities. During this time, they would have the opportunity to save money and they would subsequently attend university free of tuition fees. On leaving university they would have a guaranteed position in the police force, but only if they so wished.

The advantages of such a scheme are more than the provision of much needed police numbers. Since these young men and women would be drawn from the communities that they policed, they would satisfy Robert Peel's principles, and could hardly be said to be part of some 'police state.' Moreover, their time in the police service would instill within them a self discipline, self-respect and understanding of community dynamics that would enable them to build social capital in their communities, even when no longer members of the police service.

## Peacemaking, peacekeeping and peace building: Levels 1, 2 and 3 policing

The UN approach to Peace Operations is to address them in three phases: peacemaking, peacekeeping and peace building, see Social Engineering on page 389. Conceptually, the UN regards these three phases as sequential, i.e., non-overlapping.

The idea of Peace Operations may be applied to policing. In police terms, peace is order, and the task of a peace officer is the maintenance of order - or, as it used to be quaintly referred to, 'maintenance of the Queen's Peace.'

- Peacemaking is the activity of restoring order, where disorder has broken out. So, reacting to crime, responding to incidents such as brawls, domestic violence, football riots, etc; all of these and many more would be peacemaking.
- Peacekeeping is maintaining order, preventing crime, nipping an altercation in the bud before it flares into violence, deterring disorder and criminal behavior, preventing terrorist acts, etc.
- Peace building is to build social cohesion and social capital, to reduce the fear of crime, to encourage cross-community and cross-cultural cooperation, to support people in need and at risk, and so on.

In policing, unlike UN Peace Operations, the three activities occur at the same time, rather than sequentially:

- Peacemaking corresponds with reactive policing. As such, it is fast response, and often invokes the use of police toys: fast cars, flashing lights, sirens, etc.
- Peacekeeping corresponds with proactive policing, including deterrent, crime prevention policing. In priority terms, it follows on behind peacemaking, which has first call on manpower. Unless, that is, terrorism is taken into account. . . then, peacekeeping has first call on police availability
- Peace building corresponds with building social cohesion and social capital. Peace building is a longer-term activity, with projects perhaps taking months or years to come to fruition.

Although the three peace activities may not be sequential, they evidently call upon police manpower with different priorities. This encourages the concept of 'levels of policing,' as follows:

- Level 1 policing. Essentially peacemaking, with fast response to incidents, emergency calls, etc.
- Level 2 policing, corresponding to peacekeeping operations. Visible security patrols, operational intelligence gathering, intervening to calm disputes, reassuring vulnerable people, deterring terrorists, catching perpetrators in the act, etc.
- Level 3 policing, corresponding to peace building operations.


## Concepts of Operations

## Policing models

The various concepts presented above can be drawn together into a notional organization - see Figure E.6. The figure shows an organizational diagram in which the three levels of policing are represented. The objective of the police is to improve the state of stability, which is shown at the top of the diagram. The organization is intelligence driven, with intelligence having been derived from a number of sources, including - but not limited to - that garnered by patrol officers as they do their rounds, talk to people, build profiles of individuals, places and things, and look for deviations from the established profile - 'deltas' - that indicate unusual behavior.

India (intelligence) officers support patrol officers in real time by radio. India officers are able to advise patrol officers about the profile of the area/person, what to expect, known associates of individuals, escape routes from areas that the patrol officer is approaching, etc.

The area sergeant prepares a so-called menu of task for each patrol officer. How and in what order, the patrol officer undertakes the tasks is at his or her discretion, since they may at any time be diverted for a Level 1 response; this explains the term menu, indicating that the patrol officer may, to some extent, pick and choose the order, so long as all of the tasks are addressed by the end of the period of duty - if possible.


Figure E. 6 Conceptual organization of Levels 2 and 3, for intelligence-led police operations. N.B. India Officer equates to intelligence officer. Menu is a term denoting the range of tasks allocated to individual officers, which they can address when not required for instant-response, Level 1 activities.


Figure E. 7 Functional architecture of intelligence-led policing.

## Intelligence-led proactive policing

If there is to be a significant increase in the number of patrol officers, consistent with terrorist crime prevention as well as with crime fighting, then the opportunity arises to make better use of operational intelligence. This will be especially important, since the patrol officers are unlikely to welcome 'strolling about aimlessly,' as the general public might see it.

One approach to organization might be as in Figure E.7. Two kinds of intelligence are indicated: crime intelligence and beat intelligence. Crime intelligence is gathered largely from investigating crimes, from infiltration and from 'contacts.' Beat intelligence is picked up by patrol officers as part of their daily activities: while they may pick up information by chance, patrol officers will also be tasked to find out particular things - the intelligence collection plan - as requested by the analysis of intelligence, which will highlight shortfalls and profile deltas, which are suggestive of change and disorder. Intelligence might also be needed about places, buildings, utilities, resources, and a host of other things with which the patrol officer has to deal. Patrol officers will also be 'prefects' for groups of people, perhaps 100-200 in number, with special responsibilities for knowing about their people (relationships, occupations, associates, etc.) and for looking after them.

As the figure shows, the various aspects complement each other to create a system for detecting and solving problems, for reducing disorder and fear of crime.

## Designing a Solution System

An overall system for police peace operations might look as shown conceptually in Figure E.8. A police command and control system allocates police resources (police, vehicles, dogs, helicopters,


Figure E. 8 Overview of conceptual policing system. At the heart of the system is command and control ( $\left.\mathrm{C}^{2} / \mathrm{C}^{3} \mathrm{I}\right)$, including a computer assisted dispatch facility for allocating resources - generally police officers to incidents, tasks, problem solving, etc.
etc., etc.) seamlessly between reactive and proactive policing. It may be the intent that an individual policeman or woman might be working on Levels 1, 2 and 3 policing throughout the course of a day, i.e., peacemaking, peacekeeping and peace-building.

Figure E. 9 shows part of an $N^{2}$ chart for intelligence-led police Peace Operations. The chart shows dispatch, towards top left, allocating resources in real time to deal with incidents, and to allocate levels 2 and 3 assignments. In the normal course of events, patrol officers advise the dispatcher which of their menu task they are undertaking, and the dispatcher may organize support if needed. India officers (intelligence) liaise with dispatchers and provide real time intelligence to patrol officers on Level 2 Operations. In a well-supported system, information fed back from patrol officers would be largely automatic, using video cameras to transmit situation, scenes of crime, and other data automatically and securely. Two-way electronic traffic would allow the peace officer on patrol to receive graphic layouts of streets, buildings, utilities, etc. from the India officer, using a police digital assistant, a PDA, not forgetting images of suspects, known terrorists, etc., to which the officer could refer if in doubt.


Figure E. 9 Police peace operations $N^{2}$ chart for intelligence-led operations.

## Summary and Conclusion

Policing in a liberal democracy is a delicate business, requiring sensitivity and a 'light touch.' From being originally concerned with crime prevention, the burden of policing has switched to crime fighting. The law has similarly shifted, in line with increasingly liberal notions of personal freedom and human rights, from an emphasis on crime prevention to one on crime fighting. Police resources are kept low, seemingly, to avoid any suggestions of there being a 'police state.' Consequently, crime levels are higher than they might otherwise be with greater numbers of police.

This is not a situation with which the general public is happy. Few relish the fact that the police are generally powerless to prevent a crime, but are there only to catch perpetrators: this brings little comfort to victims; indeed, it ensures that there are victims. The public has insisted for many years that they want to see visible policing, with uniformed officers patrolling the streets. Politicians ignore such requests, choosing instead to limit police numbers and face down challenges that they are not coping with rising crime statistics.

The advent of homegrown terrorist bombings changes the situation. Detecting and preventing such terrorist activities will always be a high priority, but it is unrealistic to believe that detection and prevention can be perfect, when the terrorists are seemingly well-adjusted members of their local communities, born and raised in the country, well educated and with rewarding jobs. . . .

That suggests that, in addition to efforts to anticipate, detect and prevent terrorist activities, it will be necessary to prevent such activities as they happen, out on the street, in railway stations, airports, bus queues, shopping malls, etc. And for that, there will be a need for a different approach to police organization and manning. In a sense, it means a return to the original philosophy of
policing - that the police are out on the streets in strength primarily to prevent crime, either by deterrence, or be catching perpetrators 'in the act.'

Instead of police numbers being determined by some arbitrary formula related to 'reported crime clear up rate,' they would be determined instead by the need to set up a dynamic network of officers patrolling streets, residential areas, business parks, centers of congregation, etc. As in Victorian times, any patrol officer coming across something suspicious could call for assistance and it would arrive in seconds from his or her adjacent patrol officers in the network.

Greatly increased numbers of police on the streets, performing 'intelligence-led policing' would, of course, cost more money than is presently spent on policing. However, a phenomenal and increasing amount of money is being spent on locking up offenders and keeping them in jail for longer and longer periods. Not only are there costs in housing prisoners securely, but in building new prisons, in enhanced probation services and, less obviously, in state support to the 'headless families' left to fend for themselves while the breadwinner is locked up.

Putting more officers on the streets would both deter would-be criminals and catch petty criminals before they graduated to become bigger 'operators.' So, instead of having a continually rising prison population, it would fall, more than offsetting the costs of the increased policing. Increasing police numbers would also reduce the fear of crime, a major source of social atomization especially among the young, old and vulnerable elements of society. Fear of crime, it seems, is a major source of social disorder - yet, like crime deterrence, it does not appear on police statistics, and so is largely ignored by liberal politicians.

Organization of a larger, intelligence-led police service could sensibly employ the same concept as that proposed by the UN for Peace Operations, i.e., comprised of peacemaking, peacekeeping and peace-building; for police Peace Operations, these three would operate contemporaneously. Peacemaking would concern itself with reacting to incidents and disorder. Peacekeeping would concern itself with crime prevention and deterrence, including terrorist activities. Peace-building would concern itself, on a longer timescale, with building social capital in the form of cross community and cross-cultural ties, associations, youth clubs, neighboring schemes, etc.

With this concept of operations in mind, the case goes on to present a notional intelligence system architecture and a full system architecture for Peace Operations. The resulting policing system is consistent with liberal attitudes and developments in human rights: but, it also addresses fear of crime and of terrorism, it deters so reducing the levels of perpetrated crimes, and it proactively rebuilds social harmony and social capital. And it seems to come potentially cost-free. ...

Would the resulting policing system constitute a police state? Well, there certainly would be many more police on the streets, night and day. And the police would maintain profiles of people, places and things, so that they could detect deviations from normal behavior. On the other hand, the police service would remain county-based, and policemen and policewomen would necessarily be recruited from local communities, many of them for relatively short periods between leaving school and going to university. Since they would, in effect, be policing their own communities, it is difficult to see them as agents of a police state. Although, some would always see police in that light. . . .


[^0]:    Systems Engineering: A 21st Century Systems Methodology Derek K. Hitchins
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