

A Science of Better Society: The Place of Operational Research Analysis in the Resolution of Societal Conflict and Regeneration

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Ian Mitchell has worked in Operational Research (OR) since 1988, following a flirtation with accountancy. For the Centre for Operational Research and Defence Analysis (CORDA) he initially produced historical data compilations. Studies of the land battle followed until 1992. After two years as an independent OR consultant to the UK Department of Social Security and European Space Agency he joined the Defence Research Agency at Fort Halstead in 1994. He managed the Battle Group War Game, and led infantry studies. He moved to Porton Down in 1998 managing OR studies until 2000 when he was seconded as the OR specialist for the Directorate of Equipment Capability, Nuclear Biological and Chemical (DEC (NBC)). As of 2004 he has supported studies of broader considerations of Chemical Biological Radiological and Nuclear (CBRN) defence. Ian served on the Council of the UK OR Society from 1994 to 2000, and was elected as Vice-President in 2002. He was commissioned into the Territorial Army in 1984 and was introduced to OR as part of a Business Studies degree during 1986.

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ABSTRACT

The paper considers the broader problem space of rebuilding damaged societies as part of a broader continuum of societal health. It identifies the organisational and physical faultlines fragmenting this space. Methods to bridge these gaps are described. These are based on experiences of Operational Research interventions and recent local initiatives for regeneration. The paper considers what enablers are required for greater contribution by the analytical communities. Outputs of past Cornwallis meetings suggest scope for analysis. The paper discusses technical approaches. It recognises that a new inclusive approach to the management of analysis may be required. It seeks to promote discussion on these technical, social and organisational issues.

INTRODUCTION

The Cornwallis Group meetings enjoy diverse perspectives. The participants from military and civilian operations reflect parties who resolve societal conflict, especially from the

military, Operational Analysis (OA, also known as Operational Research, OR) and diplomatic communities. Development of new approaches is enhanced by the diversity of interests and views represented.

This paper considers the problem space of societal conflict as a continuum with military intervention covering an extreme part of the spectrum but not offering a whole solution. It identifies the faultlines in consideration of the problem space and their causes, with reference to an experimental seminar on security. The paper draws on discussions on means to develop bridges across the faultlines based on soft analytical approaches demonstrated and discussed at Cornwallis VIII and IX. The paper also draws on current local government initiatives in the UK, which may obtain benefit from analysis in support of societal engineering.

The paper concludes on the importance of enlightened self interest for existing groups. It discusses how to address the absence of a single client controlling the resolution of societal conflict.

PROBLEM SPACE

Any society is a large and complex entity. Even the definition of what constitutes a society is problematic as it is based on the perceptions of observers. The existence of conflict does not necessarily imply problems. It can be channelled to positive applications. Armed conflict is a symptom of fundamental breakdown.

The nature of the health of Society was discussed in this author's Cornwallis VI paper, using a derivative of Maslow's hierarchy as the basis for a descriptive approach. The workshop at Cornwallis VIII identified the following as sub-systems. The top branches of the MindMap suggest key sub systems. These include Civil Society, Economic Base and Security. Thomas Hobbes identified similar issues in the introduction to his 1651 book "Leviathan." Hobbes' analogy of the body political seems to offer a view of social engineering.

“For by Art is created that great LEVIATHAN called a COMMON-WEALTH, or STATE, (in latin CIVITAS) which is but an Artificiall Man, though of greater stature and strength than the Naturall, for whose protection and defence it was intended; and in which, the *Sovereignty* is an Artificiall *Soul*, as giving life and motion to the whole body; the *Magistrates*, and other *Officers* of Judicature and Execution, atificiall *Joynts*; *Reward* and *Punishment* (by which fastened to the seate of the Sovereignty, every joynt and member is moved to performe his duty) are the *Nerves*, that do the same in the Body Naturall; The *Wealth* and *Riches* of all the particular members, are the *Strength*; *Salus Populi* (the *peoples safety*) its *Businessse*; *Counsellors*, by whom all things needfull for it to know, are suggested unto it, are the *Memory*; *Equity* and *Lawes*, an artificiall *Reason* and *Will*; *Concord*, *Health*; *Sedition*, *Sicknessse*; and *Civill war*, *Death*.

The influence of the English Civil War is immediately apparent from Hobbes' last phrase, equating civil war with death of the society. The English Civil War had been immensely destructive. Hobbes suggests that armed conflict is an abyss to be avoided.

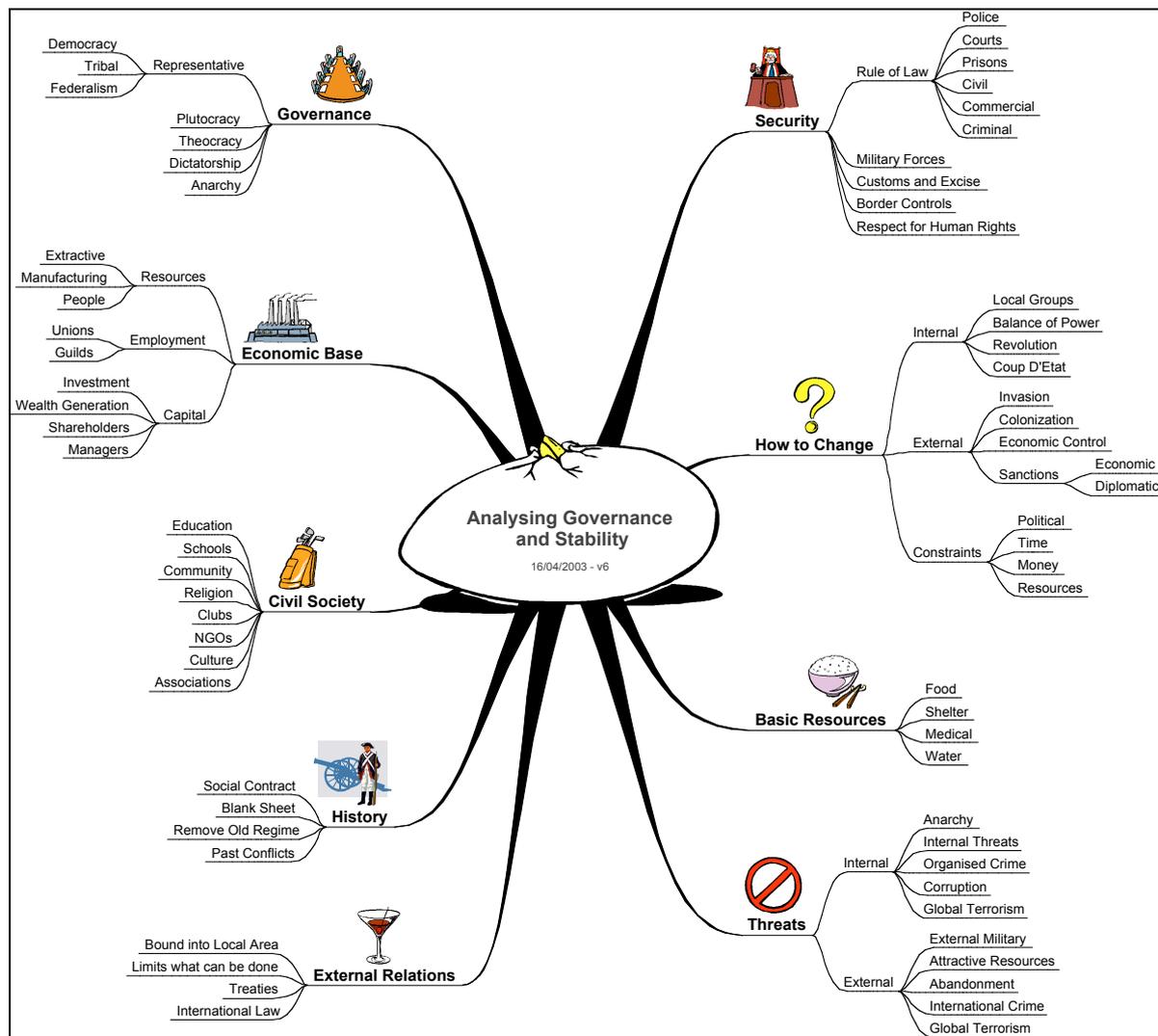


Figure 1: MindMap of Governance and Stability.

In more recent operations the terms Peace Enforcement and Peace Keeping recognise two materially different levels of conflict. The acceptance of the authority of the intervening force as valid is the main difference between the two types. Within western democracies such as the UK the requirement to apply armed force is the exception to the norms of debate via civil and criminal legal procedures. Armed force will be used by a western democracy, in extremis, if its jurisdiction is flouted, as demonstrated by the assault on the Iranian embassy siege in London during 1980.

There is a spectrum of conflict leading to co-operation. The form of conflict resolution moves from violence to debate as the health of society improves. The mechanism used acts as an index of its overall health. The spectrum is illustrated below for two examples below.

Society X is a failing state in crisis, whilst Society A is functioning well (Figure 2). Whilst Utopian Society has yet to be achieved there are many examples of Dystopian societies. Interventions including Peace Support Operations and disaster relief move these away from Dystopia towards co-operation. Within a society are sub-groups whose activities span parts of this spectrum. The UK currently occupies the middle of the range with most

geographical areas subject to the rule of law, occasional disputes and crimes but also groups involved in co-operative activities.

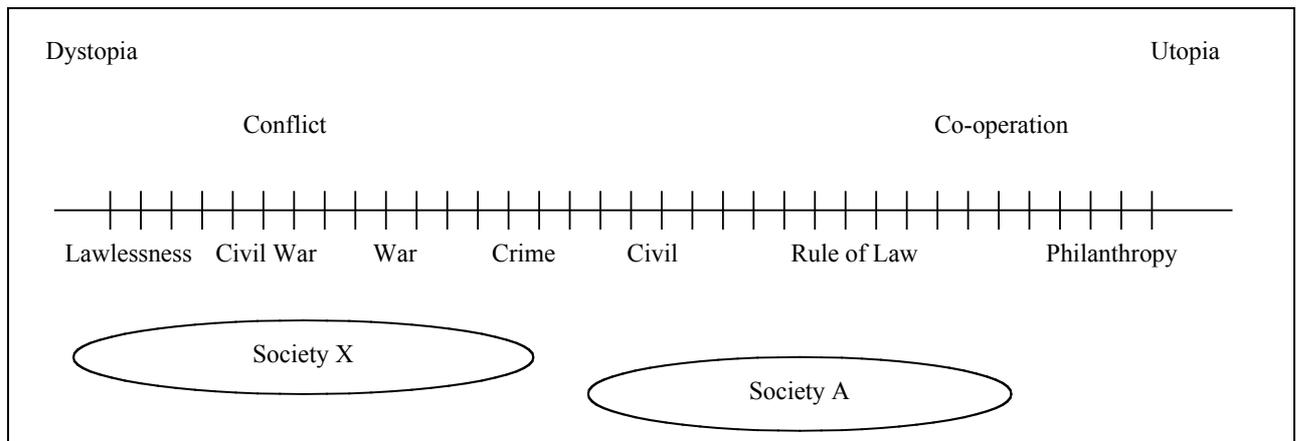


Figure 2: Spectrum of conflict and co-operation.

The presence of factions instead of a Rousseauvian Lawgiver in reality and the rise and fall of personalities mean that societies are ever in flux as observed by Machiavelli, Orwell, and Sampson. Equilibria can exist but only where enough interests of enough participants are adequately met simultaneously for these to support and protect that state of the society. This suggests that health of any society is fractured by faultlines.

FAULTLINES

Breaks in the problem space exist between political, military, economic, administrative, transport, education and commercial areas within states. States themselves have their own interests, some of which conflict with those of other states.

The first Cornwallis Group meeting considered the nature of future conflict. Military conflict covers one part of the spectrum. The military aspect of conflict has been well represented in analysis. The problem is that the absence of armed conflict is an essential foundation to a healthy society but not its total solution. Operational Research (OR, the civilian equivalent of OA) covers other aspects of society.

Faultlines lead to fragmentation preventing Pareto's constraint that no harm is done elsewhere by actions directed to the improvement of one or more areas. Optimisation in terms of local solutions may lead to a dysfunctional effect on the whole system.

Rousseau's Social Contract addresses this problem by his proposal of the Lawgiver. The Lawgiver's opinion is accepted by all members of all fields thus allowing central direction. No Lawgiver has existed in recent operations, or indeed at any point in recent history. With the diverse areas present within modern society it is unlikely that there could be.

In the field of disaster relief discussed by Van Wassenhove the absence of a central director causes similar problems. A central view allows flexible application of funds to obtain best effect overall. Without it funds are constrained to various specific purposes, such

as the immediate relief of the Boxing Day 2004 tsunami victims rather than preparation for the next incident likely in an area, even if greater benefit lies there.

Recognising the boundaries of the groups and developing means for communication across these, enables the development of partnerships based on mutual interest. Means of communication are the essential support to the development of understanding of system implications of local courses of action. These must also allow communication of the perspectives of stakeholders.

Finding means for the development of contact between the stakeholders is essential. In July 2003 such an event took place at the University of Cambridge which pioneered a new approach.

A NEW SECURITY PARADIGM

The Cambridge Programme for Security in International Society (C-SIS) in association with UK Government Departments ran the Cambridge Security Seminar in July 2003. Its purpose was to help key policy-makers improve their long-term strategic vision and thinking in order to provide greater security, by examination of emerging trans-national threats with a view to helping formulate improved policies of prevention and/or better policy responses.

It was based on a unique collaboration across government departments, the military, police, academia and the corporate sector, including international delegates. It was followed up with a political military game in order to develop better policies.

In his opening address Dr. Anton Obholzer of the Tavistock Centre emphasised one of the greatest obstacles to development of new approaches. "The desire not to hear, see or think anything new is powerful and is responsible for many of the difficulties we, in society, currently face when we think about and prepare for the future."

Dr. Obholzer also described the importance of psychological aspects such as the need for respect as perceived by participants and the dangerous combination of fear, envy and violence.

Key points that emerged were the importance of networks in transcending and bypassing national boundaries. These networks include financial, economic and political systems. The authority of international organisations like the UN to adjudicate and constrain other entities is being eroded. The subsequent political military game that was run in October 2003 suggested that the West needed "to negotiate across its own value sets, to communicate with the 'Other' and to be open to change-institutional, cultural and structural."

Conclusions reached at the seminar included:

"The competence of international organisations to plan for and solve complex, multifaceted crises remains, to some extent, dysfunctional."

“...the military will need to engage to a greater extent with other government departments, non-governmental organisations and multinational corporations in a more holistic approach.”

Including these bodies at the planning stage might lead to a more coherent approach for influencing perceptions, a more effective use of soft levers, and less reliance on force.

“..the conclusion that military action can no longer, if indeed it ever could, be planned and executed without compromise, informed and sensitive consultation with other arms of the state and with a wide and sensitive consultation with other arms of the state with a wide range of allied and interested governments and agencies.”

The follow up activity of the July 2003 Seminar was a Policy Military Game run at the Joint Doctrine and Concepts Centre (JDCC) at Shrivenham a few months later. Gaming has been a constant staple for the development of military ideas since the nineteenth century. The JDCC game explored issues of information and the perceptions of ‘Others’ of Western led actions using military, diplomatic and economic levers. This shows the advantage of analysis in developing policy.

The seminar emphasised the importance of the seventh step in the Operational Research method, that of implementation of actions decided upon in the light of findings from the studies:

‘So what? What do we now do with the information that flows from stimulating debates? Does anybody do anything as a result and does it change minds?’ Extended networks were seen to be a source of flexibility of policy-making and logistics. It was also noted that building these networks is a long term activity so that they can be relied upon when crisis emerges. The development of networks has been pursued in a slower paced and lower profile part of the spectrum of societal engineering in the UK via the Market and Coastal Towns Initiative.

A NETWORK-BASED INITIATIVE FOR SOCIAL REGENERATION

Activities by Amesbury Town Council led to the establishment of the Amesbury Market Town Partnership (AMTP) as part of the Market and Coastal Towns Initiative (MCTi) in 2004. This initiative aims to regenerate rural economies by identifying requirements and priming those interested in projects to build better quality of life. This may be seen as establishing new sub-systems and so expanding mutually supporting activities of a society.

Those supporting and carrying out the projects have their own interests, with commercial interest as a key driver for many. There are dozens of partnerships covering Parishes or Market Towns across the UK. The partnerships are volunteer bodies often drawing off the Town, District and County councilors but are separate from these organs.

AMTP seeks to generate a Local Community Strategy Action Plan (LCSAP) for Amesbury and its hinterland. The term hinterland is deliberately open, allowing the

recognition of those groupings and processes that function independently of existing administrative areas, such as parishes, districts or counties. The approach leads to a broad representation of those interested in improving the state of the local society.

Broad consultation is the foundation to the LCSAP. MCTi has funded conferences for the partnerships and recognises capacity building, training in facilitation and knowledge elicitation techniques, as essential.

The use of a volunteer organisation with professional support for some activities maintains commitment as a key aspect. It is also cheaper than the use of consultants who have supported similar types of activity. Those of a more Machiavellian view may recognise the advantage of voluntary over mercenary motivation. As suggested by the Cambridge Security Seminar many fields must participate in order to cover enough of the problem space, even in a relatively small area.

BENEFITS OF ANALYSIS

Drawing together a diverse range of stakeholders in order to identify courses of action for inter-related but separately directed systems is beyond any of the individual entities, if acting alone. OA can generate first the means to describe the context for these entities allowing communication between them. Secondly, identification of the range of feasible courses of actions. The third application is the assessment of these to suggest where the greatest benefit can be obtained.

Hobbes defines science as the “Knowledge of Consequences.” This definition appears to describe Operational Research especially well. Lambert’s description of the assessment of “normality” is an example of the establishment of mean to gather and communicate assessment on a coherent basis. For the AMTP analysis of the data which it seeks to collect and exploration of the implications of possible projects is likely to take place in 2006. It will inform the prioritisation of projects.

A systems approach to representation is anticipated to be used, as suggested by Christensson, Woodcock, Hitchins, and Cobb at Cornwallis VIII. As with military OA, this Community OR will provide information for the decision-makers via the LCSAP. It should be noted that the AMTP has no executive authority. The authorities include the County and District councils as well as National agencies. Analysis acts as a means of communication as well as a guide and source of evidence for proposals made to them, both in the plan related projects and other initiatives.

WAY AHEAD

In order to produce a viable sustainable system co-operation across a broad range of interests is required. Supply has recognised the concept of prime contractor, drawing together a group of other enterprises providing the range of services and products to produce a deliverable beyond the reach of any individual supplier.

It may be that a prime customer would achieve a similar effect for the various entities interested for their own reasons. Networks are the essential enabler to achieve progress whether to avoid dystopia or to build a better society.

REFERENCES

- Christensson SA, Woodcock, Alexander E.R, Hitchins DK, Cobb L, 2004, Modeling the Governance and Stability of Political Dynamical Systems pages 123 – 161 in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group VIII: Analysis for Governance and Stability. Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Cobb L, 2001. NATIONLAB 1999: Creating a Vision for the Economic and Social Reconstruction of Bolivia pages 166-173 in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group II: Analysis for Crisis Response and Societal Reconstruction. Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Hobbes T., 1651. reprinted 1987, 'Leviathan' Penguin books, London pages 81 and 149.
- Lambert N.J, 1998. Operational Analysis in the field: The utility of campaign monitoring to the IFOR operation in Bosnia and Herzegovina 1995-1996 page 302 in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group III: Analysis for Peace Operations. Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Machiavelli N., 1981. The Prince and other political writings, selected and translated by Bruce Penman, Everyman p225.
- Mitchell IM, 2000. Drafting A Bottom Line — Currencies For The Inputs And Outputs Of Discretionary Operations in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group VI: Analysis for Assessment, Evaluation, and Crisis Management Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Mitchell IM and Medhurst J., 2004. Political Cartography pages 100-107 in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group VIII: Analysis for Governance and Stability. Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Orwell G., 1984, New English Library 1979.
- Rose G, Neighbour M.R. Compliance Assessments in the Balkans: Personal perspectives page 23 in Woodcock, Alexander E.R. and David Davis (eds.): The Cornwallis Group VII: Analysis for Compliance and peace building. Cornwallis Park Nova Scotia, Canada: The Canadian Peacekeeping Press.
- Rousseau J-J, The Social Contract, 1762, <http://history-world.org/rousseau.htm>.
- Sampson A, 2004, 'Who runs this place? The anatomy of Britain in the 21st Century', John Murray (Publishers) vi –vii.
- University of Cambridge, 2004. The Cambridge Security Seminar 30 and 31 July 2003 A Seminar Record The Cambridge Programme for Security in International Society (C-SIS) in association with UK Government Departments Cambridge Printing 2004. Pages 17, and 79-83.
- Van Wassenhove L., 2005. 'Humanitarian Disaster Logistics: Supply Chain Management in high gear' Operational Research Society Blackett Memorial Lecture. OR Society Newsletter No 413 May 2005 pages 15-16.