Co-opting Chaos: The Role of Complexity Discourse in the War on Terror

Ryan O'Kane
University of Birmingham

> "Creative destruction is our middle name, both within our society and abroad. We tear down the old order every day. ... Our enemies have always hated this whirlwind of energy and creativity, which menaces their traditions. ... [We] must destroy them to advance our historic mission." - Michael Ledeen (2002)

As part of a wider research interest in the role of strategic paradigms in the construction and implementation of US foreign policy, this paper attempts to relate policy shifts associated with the War on Terror to the emergence of a radical new conceptualisation of social organisation and dynamics originating in the mathematics of nonlinear or chaotic systems. The central argument is that this "complexity discourse" may provide the missing strategic rationale behind, what is to some, the reckless foreign policy stance of the Bush administration.

Newton's Clockwork Universe

As Michael Foley (1990) has observed, much of the language of public political discourse is rooted in the physics of Isaac Newton. Newton's clockwork universe is comprehensible, deterministic and theoretically predictable. In his efforts to discover the "harmony" behind God's design, Newton concluded that the apparent diversity of the universe is composed of separate, individual building blocks organised and reorganised according to the immutable laws of nature. Newton's mechanistic vision was just one of a number of philosophical steps that inspired the positivist dream that

human behaviour and social organisation could be analysed, explained and ultimately controlled like any other physical phenomenon.

From the checks and balances of the American Constitution to the "machinery" of international law, the Newtonian metaphor of a rational social machine, composed of separate social objects (such as nations and citizens) with essential properties (or "rights") and governed by laws, has underpinned the formal political ethics of liberal democracy (Foley 1990).

However, US foreign policy throughout the latter 20th century has rarely been constrained by these formal ethics. Instead, drawing legitimacy from the "higher ethics" of waging the Cold War and stabilising the global political economy, pragmatic practitioners of foreign affairs regularly saw the need to compromise the sovereignty of other states, the rights of citizens or otherwise act outside the limits of international law. In this context it was found that the language of Newtonian mechanics was inadequate, both to *describe* changing cultural and political realities and to construct effective strategies of intervention. Instead, US intelligence agencies and foreign policy strategists throughout the 50s and 60s worked with academia and quasi-private research foundations (such as RAND) to develop and apply new models of "social physics" based on concepts from systems theory and cybernetics (Lilienfeld 1978; Simpson 1998).

The Rise and Decline of "Systems"

Originating in the study of dynamic physical and biological systems (Skyttner 2001), the behaviour of which cannot easily be understood by applying rules to individual component parts, "general system theory" focuses on the patterns of processes and relationships (Bertalanffy 1968). It is the integration of these flows and circuits into self-regulating "feedback" mechanisms that allows such systems to maintain their internal organisation against disturbances from their disorganised environment, or "competition" from other systems. The dynamic system, though still theoretically determined by its previous state, is predictable only in terms of probabilities. For the systems theorist, political, social and economic systems are more like organisms than

clockwork machines. As bounded, self-regulating systems, there are likely patterns of development, but there is also great deal of uncertainty.

Focussing on this capacity in biological systems to tend towards equilibrium or "homeostasis", and expecting a parallel with social systems, the promise of systems theory for foreign policy strategists was that interventions could be designed to harness those patterns of social change most likely to lead to a desirable political equilibrium, while suppressing those likely to cause social chaos (Russett 1966). It was this promise of controllable intervention that gave strategic legitimacy to policies that, in terms of the formal Newtonian system, were both ethically dubious and politically irrational. This disjuncture between the formal legal machinery and the strategic imperatives for intervention therefore led to a greater emphasis on the role of covert intervention, and therefore the secret services.

However, the political turbulence of the 1960s and economic upheavals of the 1970s, presented a serious challenge to the quest for equilibrium and led to a preoccupation with the failures and unintended consequences of covert intervention – arguably the most important being the impact of CIA meddling in Cuba on the later missile crisis. Such consequences became known within the US intelligence community as "blowback", but had long been described by the technical jargon of systems theorists as "positive feedback".

Since the Nuremberg trials, the focus on the political systems – fascist, communist, fundamentalist etc. – within sovereign nation-states has created the impression that while regimes can be "changed", the social composition and boundaries of states are immutable. Despite its disregard for national sovereignty, the strategic objective of stabilisation had ensured that America's foreign interventions were at least theoretically supportive of a global order based on the continued existence of nation-states, and organised by the international legal and financial system.

However, by the time that the concepts of chaos and complexity had started to take hold in the national defence establishment during the early 1990s, the world had become a very different place.

In many countries, despite decades of US intervention, the elusive goal of stability had never been achieved and the frustrated dynamics of social change became channelled more and more into political violence. The deregulation of the global economy, starting with the collapse of Bretton Woods institutions in 1971, had led to a resurgence in liberal economic policies, and opened the way for an era of global economic competition largely unrestrained by international rules or a concern for social consequences. The fragmentation of the Soviet Union and the emergence of new nations put an end to that historical amnesia that saw nation-states, and national identities, as immutable, permanent and indivisible.

The literature of "globalisation" is replete with clichés about the end of the nation-state, the fragmentation (and/or globalisation) of identity and the sources of political, economic and ecological instability. But whatever words are used to describe world affairs during this era, few have chosen the word "stable".

But while many academics were still struggling to describe the world, the US military and foreign policy establishment were developing strategic tools to reassert control within it. The key conceptual shift behind these new strategies was a radical new understanding of and attitude towards chaos.

The Physics of Social Chaos

While biological systems provided the metaphor of choice for general systems theorists, complexity discourse finds much of its inspiration and applications within fluid dynamics, meteorology and high-energy particle physics. This is because systems theory was primarily concerned with the *continuity* of dynamic but bounded systems through patterns of change and development. The various theories of complexity, however, are concerned with modelling the processes by which order emerges from apparent disorder and returns to it. So while systems strategists focus on the life cycle and "health" of social systems, chaos strategists are concerned with their birth and death. Unsurprisingly then, the most immediate political utility for chaos theory is as a philosophy of war.

Enabled by advances in computing, the mathematics of complexity found their way, via weather modification experiments by the US military (House et al. 1996), through simulations of battlefield dynamics, to full adoption in the strategic doctrine of the US Marine Corps in 1994 (Alberts and Czerwinski 1997). Then, under the guidance of the National Defense University and the RAND Corporation, the potential of complexity discourse as a plausible policy framework was first publically explored in 1996 at a conference introduced by Zbigniew Brzezinski (1997b). Interestingly, this was just before Brzezinski published *The Grand Chessboard* (1997a), in which he called for an interventionist strategy to reassert "American Primacy" in the world.

In order to link the themes of that conference to current US policy this paper will cite two participants whose contributions seem directly relevant to some of the more controversial aspects of the War on Terror: Alvin Saperstein, who, in the mid-1980s, was one of the first physicists to apply chaos mathematics to the modelling of international conflict (Saperstein 1984); and Stephen Mann, a career diplomat whose recent appointments have seen him serve as Bush's senior adviser on Caspian energy diplomacy and in 2003 on Iraq's Coalition Provisional Authority. This selection is not intended to suggest that these authors have been actively involved in constructing or supporting the application of complexity discourse in current foreign policy, rather that their arguments are characteristic of the strategic framework from which these policies emerged.

Liberating Chaos

The prosecution of the War on Terror has raised serious questions over the Bush administration's attitude towards the legal and normative machinery of international relations (Sands 2005). Concerns include: the doctrine of pre-emptive war, the legal fiction of "enemy combatant", the legal "black-hole" of Guantánamo Bay, the euphemistic "renditioning" of suspects and prisoners, and of course Abu Graib and the attempt to distort the spirit of the UN Convention against Torture and legitimise the mistreatment of detainees (McCoy 2006). From an ethical perspective these examples have been widely condemned, from a legal perspective they set disturbing

and destabilising precedents, but what would be the perspective of complexity strategists?

According to such strategists the world has moved in recent decades from a situation of "crisis stability" to that of "crisis instability" or as Stephen Mann puts it, "Self-Organising Criticality" (Mann 1997). As Saperstein informs us, in contrast to the Newtonian paradigm of permanent sovereign nations structured around the state, in a chaotic world "states, armies, military and civilian units may be born grow and thrive decay die and disappear" (Saperstein 1997). As an example, Saperstein refers directly to the "unofficial" military units of the Taliban, who were later to become a significant proportion of detained "enemy combatants".

The existing system of international law was a stabilising mechanism for a system that has become not merely "unstable", but chaotic. This is an important distinction in complexity discourse for, unlike the simply unstable system, the chaotic system is fertile ground for the spontaneous emergence of new forms of order. In this view then, an attachment to the "pseudo-stability" of international laws and norms is not only inappropriate for responding to the short-term contingency of countering the threats of "unofficial military units" – i.e. terrorists - it may even be an obstacle preventing the transition of the system to a new level of stability (Mann 1997).

This puts the current US attitude towards the UN and its supporters in "Old Europe" into an interesting context. The New World Order is not a reality, not even a plan, but a "potentiality", one that will only emerge through the self-interested actions and interactions of powerful and "progressive" elements in the current global political "soup". Elements, it would seem, to be led by America itself.

Harnessing Chaos

In addition to the legal controversy over the war in Iraq, the handling of the conflict and the country's descent into civil war has focussed attention on the level and type of planning that preceded the invasion. The accusation of incompetence has, however, precluded serious analysis of the way in which the consequences in Iraq might be seen

from within the strategic paradigm of the military planners themselves. A paradigm increasingly influenced by complexity discourse.

In the title of a now classic 1972 lecture on his theories of chaos Edward Lorenz illustrated the uncertainties of chaotic systems by posing the rhetorical question "Does the flap of a butterfly's wings in Brazil set off a Tornado in Texas?". Popularised in the 1980s by James Gleick (Gleick 1987), the "Butterfly Effect" came to represent the futility of scientific positivism and led many to equate the implications of chaos and complexity mathematics with post-structural and post-modern critiques of political and scientific "meta-narratives" (Best and Kellner 1997). Indeed, Lorenz's central argument was that, given their "sensitive dependence on initial conditions", long-term predictions of chaotic systems are unfeasible. According to Saperstein, however, the complexity of chaotic systems does not alter the theoretical foundations of a deterministic universe and "the complexity scheme does allow for short-term prediction and thus offers the possibility of control" (Saperstein cited in Sakulich 2001 p26).

According to a 2001 US Air Force paper,

> …technology has provided a means of successfully managing and controlling some highly nonlinear processes using control-feedback processes that leverage short-term predictability to achieve longer term outcomes. (Sakulich 2001 p26)

War planning is therefore not about the single-minded pursuit of predetermined objectives, such as the imposition of a "blueprint" democracy. Instead, chaos planning is an iterative and interactive process involving the modelling of desirable scenarios against which actions and reactions can be evaluated and directed, through a series of short-term predictions, towards the most likely scenario.

In some ways, military strategy has always recognised the chaotic nature of war. Modern chaos strategists often attempt to position their discipline within the history of military strategy with reference to the Prussian general Carl von Clausewitz's theories on the "friction" of conflict, developed during the Napoleonic Wars (Beyerchen

1997). The traditional American response to chaotic battle situations is to overwhelm them with disproportionately superior forces (Saperstein 1997). In this way, the initial "Shock and Awe" strategy used in Iraq was nothing new. What is new however, is the acceptance that chaos may not be so easily crushed and may in fact be creative.

Almost 7 years before the invasion Saperstein stated quite bluntly: "One of the prime reasons for our failure to deal successfully with Iraq – a sovereign element in the Newtonian system – is that we fear to deal with its possible break-up" (Saperstein 1997). Even more bluntly Stephen Mann argued: "that we need to be open to ways to accelerate and exploit criticality if it serves our national interest, for example, by destroying the Iraqi military and the Saddam state" (Mann 1997).

The question raised by chaos theorists such as Saperstein and Mann is that, in a global environment where the permanence of nation states can no longer be taken for granted, and where sub-and trans-state social forces are bubbling out of control, is the stability and integrity of nation states always an achievable, or even desirable objective?

It is not necessary to argue that the break-up of Iraq was the prime objective of the invasion. However, the recognition of chaos as a creative force has diminished the fear of this consequence and allowed its integration as one of a number of possible planning scenarios. Once the situation in Iraq had entered "self-organising criticality", the tenets of complexity discourse would suggest that this process should be encouraged to complete its painful journey to a new state of stability.

At the moment, the most plausible "stable state" for Iraq seems to be a "Bosnia-style" federation along ethnic lines - i.e. Kurdish, Sunni and Shi'ite blocks. It may also be salient to point out that one of the most influential neoconservative proponents of "creative destruction", Michael Ledeen, recently hosted an American Enterpise Institute (AEI) conference with a number of representatives from Iran's diverse ethnic communities. The conference was provocatively entitled: "The Unknown Iran: Another Case for Federalism?" (American Enterprise Institute 2005).

Conclusion

There are many degrees of influence, and this paper does not suggest that the foreign policy of Bush's administration is entirely based on the rational implications of complexity mathematics. More research is needed to identify the bureaucratic points of contact between the spread of complexity discourse in the national defense establishment during the 1990s and policy-making within the Bush administration. However, if, as these prescient debates within the National Defense University suggest, Stephen Mann's view that "not all chaos is bad, and not all stability is good" is shared by many in America's increasingly militarised foreign policy establishment (at least before the Iraq experiment), then it seems likely that policy makers have felt far less constrained by the risks of foreign interventions.

As is indicated by the quote in the opening of this paper, the rhetoric of self-styled neoconservative "revolutionaries" such as Michael Ledeen and Charles Krauthammer, may have provided a valuable ideological bridge connecting the strategic realm which complexity discourse inhabits with the wider realm of public political discourse. This reactionary vanguard takes pride in the fact that the spread of "democracy" necessarily involves the overthrowal of the "old order" and the destruction of "traditions" – except their own. This kind of rhetoric also has resonance for a significant proportion of Bush's political constituency, the evangelical right. Despite an ongoing debate regarding political interpretations of Christianity (Wallis 2006), the role of eschatology in American attitudes to global - and specifically Middle Eastern - politics is beginning to receive serious academic attention (Northcott 2004). Indeed, what greater "creative destruction" could there be than the apocalypse itself?

In order to understand US foreign policy in the 21st Century we should become familiar with the strategic use of chaos, and with the political role of cultural narratives of American "exceptionalism". However, we also need to increase our scepticism towards outdated assumptions that the defence of American interests – via adventures in Afghanistan, Iraq and possibly Iran – is even *intended* to be compatible with the security and stability of the rest of the world. For, as Mann (1997) suggests, America's role in a chaotic world is to defend the "national interest, not international stability".

Bibliography

Alberts, David S., and Thomas J. Czerwinski. 1997. Preface. In *Complexity, Global Politics, and National Security*, edited by D. S. Alberts and T. J. Czerwinski. Washington, D.C.: National Defense University.

American Enterprise Institute. 2005. *The Unknown Iran: Another Case for Federalism?* [HTML]. American Enterprise Institute, October 26 2005 [cited May 17 2006]. Available from http://www.aei.org/events/eventID.1166/event_detail.asp.

Bertalanffy, Ludwig. 1968. *General System Theory: Foundations, Development, Applications*. Rev ed. New York: George Braziller.

Best, Steven, and Douglas Kellner. 1997. *The Postmodern Turn: paradigm shifts in theory, culture and science, Critical Perspectives*. London: Guilford Press.

Beyerchen, Alan D. 1997. Clausewitz, Nonlinearity and the Importance of Imagery. In *Complexity, Global Politics, and National Security*, edited by D. S. Alberts and T. J. Czerwinski. Washington, D.C.: National Defense University.

Brzezinski, Zbigniew. 1997a. *The Grand Chessboard: American primacy and its geostrategic imperatives*. New York: Basic Books.

Brzezinski, Zbigniew 1997b. America in the World Today. In *Complexity, Global Politics, and National Security*, edited by D. S. Alberts and T. J. Czerwinski. Washington, D.C.: National Defense University.

Foley, Michael. 1990. *Laws, Men and Machines: modern American government and the appeal of Newtonian mechanics*. London: Routledge.

Gleick, James. 1987. *Chaos: making a new science*. London: Abacus.

House, Tamzy J., James B. Near, William B. Shields, Ronald J. Celentano, David M. Husband, Ann E. Mercer, and James E. Pugh. 1996. *Weather as a Force Multiplier: Owning the Weather in 2025* [PDF]. Air Force Chief of Staff, August 1996 [cited May 17 2006]. Available from http://csat.au.af.mil/2025/volume3/vol3ch15.pdf.

Ledeen, Michael Arthur. 2002. *The War Against the Terror Masters: why it happened, where we are now, how we'll win*. New York: St. Martin's Press.

Lilienfeld, Robert. 1978. *The Rise of Systems Theory: an ideological analysis*. New York; Chichester: Wiley.

Mann, Stephen. 1997. The Reaction to Chaos. In *Complexity, Global Politics, and National Security*, edited by D. S. Alberts and T. J. Czerwinski. Washington, D.C.: National Defense University.

McCoy, Alfred W. 2006. *A Question of Torture: CIA interrogation, from the Cold War to the War on Terror*. New York: Metropolitan Books.

Northcott, Michael S. 2004. *An Angel Directs the Storm: apocalyptic religion and American empire*. London: I.B. Tauris.

Russett, Cynthia Eagle. 1966. *The Concept of Equilibrium in American Social Thought*. Vol. 84, *Yale Historical Publications.* New Haven: Yale University Press.

Sakulich, Timothy J. 2001. *Precision Engagement at the Strategic Level of War: Guiding Promise or Wishful Thinking* [PDF]. Air University, Maxwell Airforce Base, December 2001 [cited June 30 2006]. Available from http://www.au.af.mil/au/awc/awcgate/cst/csat25.pdf.

Sands, Philippe. 2005. *Lawless World: America and the making and breaking of global rules*. London: Allen Lane.

Saperstein, Alvin. 1984. Chaos - A Model for the Outbreak of War. *Nature* (309):303-5.

———. 1997. Complexity, Chaos, and National Security Policy: Metaphors or Tools? In *Complexity, Global Politics, and National Security*, edited by D. S. Alberts and T. J. Czerwinski. Washington, D.C.: National Defense University.

Simpson, Christopher. 1998. *Universities and Empire: money and politics in the social sciences during the Cold War*. New York: New Press, 1998.

Skyttner, Lars. 2001. *General Systems Theory: ideas & applications*. London: World Scientific.

Wallis, Jim. 2006. *God's Politics: why the right gets it wrong and the left doesn't get it*. Oxford: Lion.