Linking political systems and war systems—systemic risks, paradoxes and blind spots

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Abstract

Decisive parts of the Western political system have demonstrated a seemingly surprising misinterpretation of military might. As Madelaine Albright has suggested, the mighty perceived themselves as "almighty". Political power seems to have invested in instrumental coercive power relations and found military coercion to be the appropriate mean. Using the system theory and the theory of systemic risks displayed by the German sociologist Niklas Luhmann the article demonstrates how military systems due to their own autonomy and autopoiesis do not fit into the idea of political government. The Clausewitzian ideal of a political system that could continue its power games by means of war was moderated by Clausewitz' own analysis of "friction". How can a political system be so blind towards the possibilities of another system? What are the risks of systemic blind spots? The argument of the paper proceeds using actual as well as historical materials inside the framework of recent system theory.

Introduction

Since the end of World War I, the Western political system has been caught between two narratives about political ideals and the realities of power. The one has roots back to Jean-Jacques Rousseau and tells a seemingly beautiful story about democracy as sovereign self-determination. With the negotiations leading to the Versailles Treaty, the American President Woodrow Wilson succeeded to raise this idea to a principle of statehood. Empires should be overthrown and people's independency and autonomy used as yardstick for a new world order. Since this "Peace to end all wars" the West has fought to install and constitute democracies all over the world (Rice 2005; The White House 2002, I, 1,). The freedom of democratic self-determination has been seen as one of the most legitimated principles for warfare and power politics, if not the most legitimate. Since the Versailles Peace Treaty in 1919, democracy as self-determination has been suggested as the political goal that should be attained for Western strategies for state formation and state reforms.

However, as ideally this principle appears, as diabolic are its paradoxes and consequences. Wilson's secretary of state, Robert Lansing, lucidly wrote in his diaries, December 20 and 30, 1918:

> "When the President talks of 'self-determination' what unit has he in mind? Does he mean a race, a territorial area, or a community? Without a definite unit which is practical, application of this principle is dangerous to peace and stability(…)What effect will it have on the Irish, the Indians, the Egyptians, and the nationalists among the Boers? Will it not spread discontent, disorder, and rebellion? Will not the Mohammedans of Syria and Palestine and possibly of Morocco and Tripoli rely on it? How can it be harmonized with Zionism, to which the President is practically committed? The phrase is simply loaded with dynamite. It will raise hopes which can never be realized. It will, I fear, cost thousands of lives. In the end it is bound to be discredited, to be called the dream of an idealist who failed to realize the danger until too late to check those who attempt to put the principle in force. What a calamity that the phrase was ever uttered! What a misery it will cause!" (Lansing 1921, 97 – 98, internet version chap 7).

Not only the Austrian Empire, but also the Ottoman Empire dissolved immediately after and we still do not have seen all the consequences of the infinite number of secessions that have followed. Hence, David Fromkin in his book about the dissolution of the Ottoman Empire has coined the phrase *A Peace to End All Peace*, as the book title says. Often civil wars and dictatorships have been the result. The problem was to use this idea as the unconditional constituent principle for state formation.

At the same time another reality caught Western democracies by their throat and has tended to stifle democratic power in favour of the realities of power, whether economic or military. Most famously this risk has been outspoken by Dwight D. Eisenhower in his final presidential speech: where he warned against the military-industrial complex:

> "We can no longer risk emergency improvisation of national defense; we have been compelled to create a permanent armaments industry of vast proportions. Added to this, three and a half million men and women are directly engaged in the defense establishment. We annually spend on military security more than the net income of all United States corporations. This conjunction of an immense military establishment and a large arms industry is new in the American experience. The total influence -- economic, political, even spiritual -- is felt in every city, every State house, every office of the Federal government. We recognize the imperative need for this development. Yet we must not fail to comprehend its grave implications. Our toil, resources and livelihood are all involved; so is the very structure of our society. In the councils of government, we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist."
> (Eisenhower, Presidential Speech, January 1961)

The political system can not determine its own fate by its own will. The goal of the political system might be self-determination, but the foundation in the famous military-industrial complex enforces demands and claims that can not be suspended. On the one hand, the input base of what the American political scientist David Easton with Talcott Parsons called the political system differs from the willed goals and output of the American democratic political system. On the other hand, democratic selfdetermination might simply be forwarded by principles inherent to a military-industrial complex. Power might enforce democracy as if they are interrelated I some kind of linear causality. Democratic might and military power may be in harmony. A number of praises to such a well-ordered balanced democracy has been exposed, not least with Francis Fukuyama's now famous exposition in *The End of History and the Last Man* written in the euphoria after the fall of the Soviet Empire and the Gulf War. According to some kind of Kantian philosophy of history military might evolves as liberal power.

This message however, was not what Immanuel Kant, the famous German philosopher, intended in his writings *Toward Perpetual Peace* some 200 years ago in 1795. Kant's argument was far more sophisticated, more complex, more realist, more occupied with risks and differences than with harmonious unities. His philosophy for sure emerged as responses to Rousseau's theory of a sovereign selfdeterminant will formation. But it was also methodologically a predecessor to Carl von Clausewitz' exposition of the "grammar" of war in *Vom Kriege*, published posthumous in 1832. As Clausewitz, Kant reflected on the practice of warfare and peace-building of the Prussian King, Fredrick the Great, who was king from 1740 to 1786 and, probably more than Napoleon Bonaparte, the greatest strategist in modern society (Frédéric 1736; 1762; 1788b).

Today, whether we think about political selfdetermination or military determinations of power, our dilemmas and problems are not only recent following consequences of September 11 or the fall of the Soviet Empire. If we go back to classic formations of democratic ideas and military might, we should pose the Clausewitzean question how a war system could evolve in continuity with a political system, though with other means, in another medium. More than Clausewitz, Kant and even Fredrick developed their political and military thought in reflections about system theory and I will use system theory and the most recent developments in system theory to analyse the risks and paradoxes of Western military might. I shall later elaborate a distinction between functions of a war system and the organisations of military systems. The problem is that there is no linear political control of the war system through means of the military organisational system.

The modern risk is that the political system and the war system are not in harmonized concert. Whether we take the departure in Lansing's or in Eisenhower's warnings, a structural continuity between the two systems is risky. If the military system simply follows the political lead of democratic self-determination we might end up with an infinite number of civil wars as we actually see as a consequence of the Iraq war that in some fora was legitimised as a violent establishment of democracy according to principles of democratic peace. On the other hand, if

the political system simply continues the strategies of a huge military-industrial complex system, the inputs to political strategies might follow the self-celebrating linear dynamics of a road to military victory, substituting peace with victory and strategy with tactics.

It is my suggestion that a second order analysis of the systemic descriptions that have been in use over the last decades in Western military strategy can enlighten some of the pitfalls in Western security politics after 1991, especially as we observe the blatant failures in Western strategies towards Iraq. Not only do we have to re-establish some Clausewitzean ideas but we have to redescribe links, continuities and discontinuities among systems and especially among political and military systems. As already Kant did, we also have to observe the role of economic systems. War is extremely expensive, in economic cost as well as human (Stiglitz, Bilmes 2008). Now, system analysis is a recent theory that very recently has developed far beyond most of those methodological ideas about systems that has been common in social science since the 1950s; - at the same time, advanced system analysis is indeed a very old discipline.

My proposal is that a well informed second order system theoretical analysis of some of the shortly outlined paradoxes between power realities and political ideas can enlighten some of the risks and opportunities in our Western understanding of security. Thus my analysis firstly exposes the undoubtedly most advanced system theory elaborated by the German sociologist Niklas Luhmann and a luhmannian way of describing risks in a structural coupling between political and military systems (I). Secondly, I re-describe the Clausewitzean definition of war as a continuation of politics but through other means (II). Thirdly, I review some discussions in especially American warfare strategy (III – VI). Some will object that this is not an easy task, but it is not an easy task to survive in good health in Iraq either.

I. Luhmann's theory of functionally differentiated systems

Whenever social analysis observes combinations between several social systems, the framework will be social theory. The first modern analysis of relations between political, legal, military, economic, religious, educational and other forms of functions was established by the court president Charles Montesquieu in his *L'esprit des loix* from 1748. This book is most famous for its description of separated powers, but in fact its argument is that a legally described separation of legislative, juridical and executive powers is only a subdivision of a bigger number of separated functions of which military power indeed is decisive for the anti-despotic Montesquieu. Because of such a separation in functions, Rousseau a decade later could claim a political possibility that a people could determine over a people itself ("le people statue sur tout le people", Rousseau 1762/1971, 530).

These thoughts precede great if not dominant parts of later social analysis about the functional contexts to political systems. Many steps and a great number of authors have followed. I shall only use what might be the latest grand theory, that of Niklas Luhmann's theory of general system theory and functionally differentiated systems that got its final form in the 1990s (Luhmann 1993; 1997; 2000a; 2000b; 2000c; King and Thornhill 2003). A few introductory remarks might be needed since Luhmann's extremely advanced system theory still is not always well known though it simply has swept all other social system theories (Parsons, Deutsch, Easton, Morin etc.) of the ground or, at least, advanced their approaches far more into recent theoretical development.

Luhmann observes systems separated from their environment. Systems are not observed as adaptive to an environment, rather they form an autonomous, or better defined, a self-referential, self-organising, self-observing and "autopoietic" difference to their environment. At the same time they establish this difference by coping with their own

reinterpretation of their environments. In that reinterpretation the environment and its systems can "re-enter" into a given system.

Systems, as for instance research systems, legal systems or art systems, are observation systems. All observations can only get stable meaning according to the degree that they can be observed in systems. Social systems are communication systems, but communication is not observed as transition of messages, ideas, or good or evil will. Rather communication is to be seen as a self-referential establishment of distinctions in communication that enable communication to communicate about itself. Social systems establish meaning through communication and code communications in order to reduce the complexity of all those contingent observations that otherwise float around.

This stabilisation is indeed an evolutionary process embedded in infinite historical semantics and much of Luhmann's empirical work has been about these historical semantic conceptualisations that emerged as forms of distinctions still more coded into still more self-referential communication systems (Luhmann 1980 – 1995). Examples are religious, legal, political, educational, economic, and organisational systems. Not all of them are operationally closed function systems; the organisation system that had its take off from the 15th to the 17th century formed decisions in the hierarchical form of a stratified society and nominated members to be accountable for communication. Communication with different function systems have been established in organisation systems and interaction systems. But many organisation systems only specialise in one form of functional communication, as for example Courts in communication about the legal system; parliaments in communication about the political system; and the military organisation system in communication about the system of war.

Luhmann, as a German born in 1927, did not felt himself at a sufficient distance to a morally cool re-description of war systems. Though, the codes of war and peace were important to his analysis of the contingencies of systems. But others have established that part of his theory (Dammann 2001, Harste 2003a). Now, all those systems are evolutionary improbable, things could have evolved otherwise in strategy, in technology, in organisation, and in wars. Nevertheless historical self-descriptions are semantic facts. There are systems.

For instance, military systems have evolved along with a great number of self-descriptions in the form of manuals for all kinds of operations and especially for strategies in warfare. Clausewitz' *Vom Kriege* is an excellent example of such a self-description. Clausewitz' analysis might be neutral and distant to the actual historical war system. But through military academies and strategic thought its codes and self-description of warfare re-enters into the warfare system. In turn war systems get stabilised by means of such descriptions from Xenophon and Cesar over Machiavelli to Clausewitz, Jomini and, as we shall see, today's strategic thinkers and planners. In this way the social system of war establishes itself by its own communicative operations. Books as well as trenches are operations in warfare. As all communication, also warfare is build up upon the improbability of a certain codified form of communication and communication in this way has a double contingency: It might be as implausible that Great Britain enters into a war system (codified in war and peace) with Argentina, or into a commercial relationship or an exchange of students or research results, but historical codifications of commerce, student exchange and warfare facilitates such evolutionary improbable possibilities.

One hypothesis that flows from this theoretical re-description of modernity is that political systems tend to establish a code of control over other systems; central to political systems is the binary asymmetric code governors/governed (Luhmann 1990, chap. 5; 2000a, 96). This is only possible by means of the hierarchical organisation system. However, all other functional systems try to establish their own self-referential autopoiesis in difference to other functional systems, i.e. also to the political system. Some, like art and research are more obsessed by such a self-referential self-reliance than others. With the separation of powers, of course, legal systems try to establish a kind of autopoiesis (Teubner 1989, 93 - 96; King and

Thornhill 2003, 80 - 81; Luhmann 1993, 477). Some functional systems are even radically severed from political control. A lot of research has shown that this is the case for learning capacities in the educational system: politicians simply do not teach children to read.

Probably no other functional system is so difficult to control as the system of war. War means friction. Warfare simply is about disturbing control, plans and strategies. Thus, controlled warfare does only take place in an abstract world where there are no opponents, no enemies and no disturbances. In warfare, disturbances are all over. As the excellent American system theoretical strategist Harry Yarger has remarked, strategic thought is about what it signifies, that all strategic plans do not function as they were planned (Yarger 2006, 5ff). Strategic planning is about absorption of chaos and not about ignoring chaos. Planning has to include change of plans and to open for surprising learning processes.

It is important to distinguish between military systems as organisational systems, and systems of war and warfare as functional systems. The military system might be subject to controlled decisions since it is ordered in hierarchical ways that include members offered positions (Huntington 1957, 59 - 80; Vandergriff 1999; vom Hagen 2005; Soeters, Winslow, Weibull 2006). Military systems are supposed to be professional in their observations about contingencies of warfare. Nevertheless typically, after long periods of relative peace, as between 1870 – 1914, contingencies and disasters are forgotten and a new self-reliance fixed by new military weapon systems emerges. Thus, indeed we observe a systemic tendency for discontinuities or even conflicts between political beliefs in governed wars and realities of warfare. The political legitimacy of clean wars without suffering and disasters is an abstract dream without any historical reality and without any sense of the situation of the opponent as enemy.

Twelve comments can summarize the system theory of a functionally differentiated war system:

a) No learning system follows an evolutionary muster as irreversible as the war system.

b) It is a question of life and death to copy and imitate the military system of the opponent and to learn from it and exploit own advantages.

c) From Sun Tzu and Vegetius to von Clausewitz, Jomini, T.E. Lawrence, John Boyd and Bin Laden, military strategies are concerned with how one system should be capable of creating a chaos to the opponent and absorbing the chaos and the complexity inflicted by the opponent subsystem.

d) The absorption of insecurity developed through the build-up of internal military complexity and, hence, internal capacities to describe and encounter the externally inflicted chaos.

e) Attribution of chaos most effectively incurs through damaging the communication centres used to construct the complexity that shall inflict and absorb chaos.

f) Accordingly, war systems are double contingent systems.

g) Throughout evolution, striking convergences often take place among military systems. Furthermore, this also applies to all those structurally coupled organisational and functional systems that are differentiated as parts in the logistic supplies and the political management of the evolutionary still more complex system.

h) Therefore, a war system develops a strong evolutionary self-reference, self-organisation and autopoiesis. It creates itself by means of its own operations.

i) Therefore military subsystems threaten other military subsystems to construct military capacity to threaten the first ones. Thus the functional system of war in society can be observed as a communication system with codes created linguistically as well as materially. The form of material offers significant meanings to observers, and this meaning constitutes the form of the material.

j) Hence, historically, arguments for the necessity (”necessitas”) of further contributions are created as estate contributions, extraordinary taxes, development of credits and conquests where plunder, pillage and higher taxes can take place.

k) Elites as estates, political groups, officer staffs or industrial magnates as well as workers unions have interests in participating and furthering a continuing military and logistic growth as well as growth in financial and other forms of organisation supporting the military complex.

l) However, the systemic growth also brings about asymmetrical responses as ”snaphanerne” who went against the Swedish army under general Horn in Southern Sweden in 1644, the guerrilla (= “little war”) in Spain during Napoleon’s occupation, or as the Arab partisans who made sabotage against the Turks in the First World War, as Tito’s partisans, Vietcong guerrilla or Al Qaeda’s decentred cells.

Military systems are dangerous, of course. And it is dangerous for a state not to have an organised military system. From the point of view of Luhmann’s system theory, all systems are risky in the sense that they observe themselves and their environments only according to their own codes of communication. Thus we might call it a risk that some danger might occur in the horizon of a system environment, *but* in system theory the risk simply is that we have the observation systems we have. We observe security by means of the military systems, diplomatic system, political system and system of mass media we have. This is a risk, an unavoidable risk. Equally we observe ecological crises through the systems that communicate about ecology (Luhmann 1986; 1991; 1993).

We might be tempted to analyse peace systems and diplomatic communication too. Of course peace treatises, peace negotiations and diplomatic concern has a long history as well as a number of concerns. A well known, semantic has been developed in terms of law of peoples and philosophy. From Saint Augustin, Thomas Aquinas, Francisco Vitoria, Hugo Grotius, Samuel Pufendorff, the Westphalian Treatises and later treatises by Abbot Saint-Pierre, Elmar Vattel and Kant, philosophies as well as practices and recently even court practice has developed. A number of codes and criteria can be described and textbooks flourish.

From the point of view of recent system theory we can even reverse Sun Zu and describe communication codes in terms of concerns

- for the (former) enemy situation and
- learning processes about how significant past conflicts still are,
- how they are ruptured by discontinuities of peace processes,
- how past tensions are put into oblivion,
- and about the importance of admitting compromises and offers to former enemies

- as well as exposition of ones own future concerns about limitations to compromise. Etc.

Unfortunately, the analysis of evolutionary conditions to what Saint-Pierre called "a system of peace" has not found a stable set of self-referential communication codes with anything comparable to the weight of a military-industrial complex. When politicians speak about power they speak about war and not about peace. Though, in fact, Saint-Pierre's and Kant's theories about a European unification process might have some systemic dynamics and a number of very discussed and analysed functional spill-over effects between legal, organisational, economic and political integration (Harste 2009; Lindberg and Scheingold 1970; Pentland 1973, 64 – 146)

III. Warfare as the continuation of politically controlled supply lines

Since the murderous Thirty Years War, war has been a continuation of political communication though waged in another medium of communication. Clausewitz' famous analysis of this relation is descriptive though certainly also normatively committed to a Kantian methodology of judging means and goals in chaotic real situations as well as in abstract theory. Without an asymmetric preference for peace, as a goal to every military campaign, warfare strategy is lost. Thus, warfare without normative guidance is lost into its own self-referential blindness and, hence, trusts only its own means.

Since the advent of those military, political, communicative and religious transformations that preceded the by all measures decisive military revolution of which the Thirty Years War was a part, small (technologically limited) military revolutions can be controlled. Technological or organisational innovation is, so to say, identifiable and can be reflected strategically. But major revolutions include overall transformations in all kind of systems, scientific, mass media, political, financial etc (Rogers 1995, 157; Knox, Murray 2001; Parker 1996; Porter 1994, 58; Downing 1992, 73; Corvisier 1995, 200 - 235). They transform the strategy and the strategic observation. Therefore, they expose system observation to new risks. In the sense of Luhmann's theory of system risks, they are embedded into the dynamics of a number of systems that observe their needs, their codes, their programmes according to those codes and programmes themselves (Luhmann 1986; 1991; 1993a).

During the Westphalian System, warfare was submitted to a politically controlled complex system of logistics (Biloghi 1998). Under these modern conditions, the famous Clausewitz thesis can described as a doctrine about warfare as a continuation of politically controlled supply lines into another field of engagement. Because politics could control the use and limits of the often exhausted means of military supply, warfare was submitted to politics (Münkler 2006, 292 - 298).

The strength of this fragile condition was exactly what Eisenhower put in doubt. Comparable to the Swedish army that simply plundered Prague in 1647 because it could, the "reason of (the military e)states" in the Cold War continued to increase salaries, jobs, investments and armament programmes beyond any reasonable necessity. The Cold War consisted of huge weapon industries with working places, investments, local elites and politicians, groups and symbolic means of self-representation in movies, propaganda and even toys and, later on, video-games, fascinations, binary codes of friend/enemy-communication etc. that created a complex self-supporting and self-legitimizing system of functionally coupled subsystems.

In the aftermath of the Napoleon wars not only Clausewitz but also Antoine-Henri Jomini formulated a political theory of warfare strategy for instance in *Précis de l'art de la guerre* from 1838. In fact, it seems that the logic of the relation between the military system and warfare did continue less on the premises of Clausewitzean political strategies for coping with

chaotic risks and more on the premises of Jominiean Napoleonic strategies. Jomini's way of thinking strategy more than Clausewitz' dominated until the First World War. The former Swiss-French chief of staff Jomini forwarded the Napoleonic idea about speed, strength and decisive battle against the central communication lines of the adversary. It was a strategy about winning wars through victory in battles while peace strategies were more neglected. Though the US army under Elihu Root, influenced by Emery Upton and Spencer Wilkinson, directly copied Prussian military organisation bureaucratic system (Huntington 1957, 54 – 55, 232 – 254), it was ideas as Jomini's that marked the guiding principles in US strategies well beyond 1914. It is a strategy for the strongest and dominant power, i.e. the military system that takes the lead in military evolutions and revolutions.

The problem is if today's ongoing military revolution runs out of control. It invented a so called "war on terror" that expanded a normal asymmetric system of warfare into a system of warfare without political, legal or human limits. Terrorists were not observed as a new form of warriors or even soldiers, but external to a war that paradoxically was conducted with normal means of "attack". Still in 2002 the NSS stated that "our priority will be first to disrupt and destroy terrorist organizations of global reach and attack their leadership; command, control, and communications; material support; and finances. This will have a disabling effect upon the terrorists' ability to plan and operate." (NSS 2002, 5) Warfare was normalised with instrumental means. At the same time asymmetries in regular military capacities forwarded "preventive wars", lead to the, by any means, illegal attack on Iraq and turned warfare into a "state of exception", emphasized by the Italian philosopher Georgio Agamben recapitulating the famous Nazi professor of law, Carl Schmitt (Agamben 2005; Schmitt 1963, 50 ; 1934, 13 - 21). The "necessities" of a state of exception and "reason of state" recalls the despotic unlimited increase of power known from the heydays of Richelieu's, Mazarin's and Louis XIVs absolutism (Thuau 2000, 116 - 120; Cornette 1992, 138). To all standards of modern political theory (Held 1995, 51, 143 - 158; Friedrich 1948, 173 - 188; Habermas 1992, 166 – 182, 229 - 237), favouring such a "state" in the name of democracy in a struggle against rogue states, despotism and tyranny is to betray modern links between rule of law, balance of power, complex democracy and law of peoples.

Typical to the many enlightened specialists in strategy in the United States, a 1995-report on the ongoing RMA by Steven Metz and James Kievit from Strategic Studies Institute concluded that

> "the U.S. military must inspire and lead continued refinement of the theory of military revolutions, cultivate internal creativity and expand debate on the RMA outside the military and defense community. It is particularly important to consider the normative dimension of strategy. American leaders must decide not only what the United States *can do* with a more effective military force, but also what it *should do*."(Metz; Kievit 1995, ix)

In March 2003, US and a small Western coalition (UK, Spain, Italy, Poland, the Netherlands, Denmark, Australia, Japan, South Korea) invaded Iraq in a so called "preventive war". Simply because it *could*. Not because it should. All arguments were opaque, insufficient and directly hollow; and a foreseen mass murder began (Mann 2003/2005, 206 - 251). Resources from the more legitimised pre-emptive war in Afghanistan were drawn away. About everything was wrong and was predicted wrong already in spring 2003 as a great number of analyses have demonstrated (Record 2004; 2002; 2003; Mann 2003/2005; Kolko 2002; Blix 2005; Risen 2006; Gray 2006a; 2006b; Galbraith 2006; Lindorff and Olshansky 2006; Zalloum 2007; Ritter 2007; Allawi 2007).

While the logic of such a self-referential self-reliance could seem fatale and inescapable until 1991, its amazing evolutionary logic continued its power game during the

1990s and was even reinforced with the US National Defence Strategy proposed already before 9/11. As Madelaine Albright has suggested the mighty power holders thought that power was "almighty" (Albright 2007).

Military observers of US warfare under George W. Bush and Donald Rumsfeld have pointed towards such a form of self-reference. Security environments have been ignored in favour of the complex transformation from large scale cold warfare and hyper armament before 1991 towards a kind of warfare that never seemed to be clear to some of the more civic parts of the Department of Defence (Comment #499 October 29, 2003, www.d-n-i.net/fcs/comments/c4999.htm offers an outstanding clear exposition of CARE-director Paul Barker's account about the situation in the Afghan security environment (October 27,2003) compared with the October 16, 2003 Rumsfeld memo to Joint Chief of Staff Dick Meyers about the needs of the internal transformation program in DoD).

IV. Linear "system-of-systems"

Roughly, we can identify three ways or methods that cope with systems of warfare in US strategic debate. The first two of them conceive war systems as open systems though they diverge rather a lot in their analysis about what input and output are and how systems operate. Roughly the first I will describe seem to think in a rather linear way about input and output, means and goals, or first and after. The second has a much more explicit view about systems as to what synchronisation is and about what is first and what follows as consequences after an operation (Beckerman 1999). While the first strategy has its centre of gravity in instrumental warfare, the second is occupied with orientation, and the third with a "battle of ideas" and culture.

In fact the first I will mention is hardly strategic and only in some narrow sense tactical. It concerns technical interpretations of a revolution in military affairs (RMA). Back in the 1970s Soviet military strategists were the first to speak about a technological revolution in military systems. But in the aftermath of Operation Desert Storm in 1991 a rather intense debate about a RMA began and about 1995 a certain form of a system description of a RMA had its first overall proponents though some, as Alfred Marshall vice chairman of the department of military assessments at Pentagon had launched some of the ideas also since he took an important lead in developments already in the 1970s. Former vice chairman of the Joint Chief of Staff, Admiral William Owens was concerned about the role of the navy since the American Navy should integrate a number of operations and new systems on far away distance from home bases. Thus he coined the idea of a "system-of-systems": All kind of new information based systems should be joined together in an overall integration of systems. This integration itself was driven by a number of internet systems that all had to be integrated into one big system (Owens 1996; Manthorpe 1996; Haffa, Patton 1999).

Not separately discussed by Owens - but in fact subsumed in the system of systems idea - is a set of categories that have been proposed as the major contributing elements to an RMA. These categories include information warfare, space, stealth, and advanced computer technologies, including more sophisticated sensors and more realistic modelling and simulation. This group also appears on the following page (Galdi 1995; definitions can be found in Appendix I).

Figure 1. PROPOSED ELEMENTS OF RMA

Since the middle of the 1990s, still a number of C4I systems, weapon systems and surveillance systems have developed and still more will follow. Some have been abandoned as too costly,

too much directed towards the Soviet Union, while others are reappraised in perspective of a rising Chinese superpower. Of course, such enormous programmes have to be financed and involve political programmes. When, at the end of the 1990s Russia did not realise fascist tendencies in any strong sense anymore, military forces began to risk financial cut down. It was then that new political rearmament ideas began to display their powergames. For instance a neo-conservative group with Robert Kagan, Donald Kagan, John Bolton, Gary Schmitt, Thomas Donnelly, Devon Cross and Bruce Jackson around Project for the New American Century wrote an extensive report, *Rebuilding America's Defenses. Strategy, Forces and Resources For a New Century*, published exactly one year before 9-11 (Kagan et al. 2000). In continuity with Dick Cheney's ideas as secretary of DoD under the old Bush presidency, the report demonstrates leading ideas behind the Bush government elected two months later. This project is about inclusion and exclusion, those who are in and those who should be left out. It is not surprising that the list of 27 project participants only includes men. It is a report that breaks with the (republican!) Eisenhower warning, plans an increased defence spending and enters a new RMA-influenced rhetoric of winning wars. It is a strategy of Pax Americana and it offers justice to confuse preventive and pre-emptive wars (Silverstone 2007; Gray 2006).

Jeremy Shapiro has analysed a number of questions and doubts raised by the idea of an information revolution in warfare. He describes the contexts of such a transformation in these terms:

> "In strategic information warfare, the battleground is the information infrastructure upon which modern societies have become so dependent, including the electric power grid, the financial system, the air traffic control system, and a variety of sensitive computer systems. Strategic information warfare draws its inspiration from the Internet and makes widespread use of the Internet metaphor. The interconnectivity of these systems renders them vulnerable to systemic disruptions"(Shapiro 1999, 131)

To theories of self-referential systems the problem is obvious. Information about information offers no communication and terrorist networks can use the internet as well to inform, recruit, finding technical solutions, make propaganda etc. (Thornton 2007, 30). A major revolution that includes organisational, political, educational, financial and other forms of system transformation are about emergence of new forms of communication codes. In itself this does not happen with a mere accumulation of 5, 10, 27 or 50 advanced military information systems.

In their extensive report Michael Vickers and Robert Martinage, who participated in seminars on the Project for the New American Century, expose, perhaps somewhat unwillingly, that problem (Vickers and Martinage 2004). Their more recent analysis exposes the possible point of a "revolution inside the revolution" in the sense that a number of transformations are still not brought about. Nanotechnologies, transformations from information platforms to information networks still are to come. However, they may have a point they have not exposed: One thing is how military observers and participants have used information system well into the 1990s. A very different phenomena is how coming generations will handle and especially shape networks with former networks in new evolutionary processes and in continuation with the computer networks they have learned as computer-playing children since their *habitus* was formed as part of their bodily and linguistic skills. Whether in the first idea of a system-of-systems or a more revolutionised communicative network form we will find a number of cultural macho forms that correspond to attitudes of dominance, killing without expense, aggression and new even post-modern forms of cynicism (Jelusic 2005; Bourke 2005, 287ff.).

One the one hand the relevance of such an extremely costly system-of-systems simply might appear outdated since the end of the Cold War. On the other hand China is emerging as a coming superpower with still increasing military capabilities and military

expenditures that are only 10% of those of US, but so are the Chinese salaries. This does not mean that a new Cold War will emerge, but the risk is that we will still have extremely costly and even more to the point extremely dangerous forms of system evolution.

Now, allow me to make a distant, system theoretically informed observation of such a system-of systems and compare it to the Eisenhower warning about a huge military-complex and the Jominiean strategies that might follow it. If we apply Luhmann's theory of a risky relation between system and environment ("Umwelt") we will turn up with a scheme as in figure 2.

Using Luhmann's general theory of risk observation I have identified six risks belonging to the particular military system described in figure 2. The basic observation is the distinction between social systems and environment. The social system communicates above all with itself and only with this epistemic background it can open its observations to get informed by events in its environment.

Figure 2. The six risks of systems – in general and in particular

The problem in the relation between a system and its environment is that it is mediated by the relation of the system has to itself (Harste 2003b). Elsewhere I have argued that a certain metaphysical blindness may have occurred throughout the decades from say mid 50s to the fall of the Soviet Union. The blindness was a result of the overwhelming threat, to not only governmental forms but existence and even the metaphysical and meta-biological life conditions for our thought. This was an almighty power constituted on a level never experienced before, or since. Thus, there is no possibility to assure that such an overwhelming threat and almighty power is at the disposition of the US military organisation. This limitation in system power, however, is difficult to observe from the system itself. It continues its own experience of almightiness because it observes that it won all that power. But it has infinitely less power than it had in those three decades of the 1960s, 70s and 80s.

Of course, during the last decade a number of strategists such as Colin Gray, Jeffrey Record, Harry Yarger, Robert Leonhard, Rod Thornton and many others have warned against the inherent linear thought in the instrumentalist idea of an information revolution in warfare. After Vietnam, Clausewitz became popular among senior officers in US and elsewhere, not only due to a new translation, but also because Clausewitz essentially is a non-linear thinker. However, as the distinguished military historian Williamson Murray warned in 1997, by the beginning of the 21st century the expensive lesson from Vietnam will have vanished and be simply retired:

> "The emerging system of systems promises the capacity to use military force without the same risks as before – it suggests we will dissipate the 'fog of war'. Owens is not alone; his views represent a major trend in the culture of the American military. This new *Weltanschauung* represents in essence a return to the McNamara paradigm, a belief that American technological superiority will allow U.S. forces to achieve quick, easy victories over their opponents with relatively few casualties. The air force is leading the charge toward the technological utopia of "battlespace dominance"; its New World Vistas suggests: 'The power of the new information systems will lie in their ability to correlate data automatically and rapidly from many sources to form a complete picture of the operational area, whether it be a battlefield or the site of a mobility operation.'[New world Vistas, USAF, 1995] But the air force is not alone. In 1995 a senior army general announced to a group of marine officers that 'the digitization of the battlefield means the end of Clausewitz.' And just recently the army chief of staff has

> commented that if the U.S. Army had possessed the information technologies available today, the United States might well have prevailed in Vietnam." (Murray 1997)

This warning against naivity has in depth been repeated by Jeffrey Record who simply has stated that US military with its army of today again would have lost in Vietnam anno 1965 – 1975, though probably with more casualties on the Vietcong side. Since the obvious failure in Iraq, Clausewitz has returned. But, in fact, another trend in systemic thought in US certainly did not dismiss Clausewitz nor analyses of chaotic systems, namely that of Colonel John Boyd, probably the most original strategic thinker in US since the Second World War.

V. John Boyd's strategic OODA-loop system

From the outset the most pedagogical description John Boyd offered of his strategic thought do resemble classic open system theory for instance in the input-output information processing model proposed by Karl Deutsch in *The Nerves of Government* (1966, 258 – 261). Though, as Deutsch's way of thinking systems clearly was underestimated by most political scientists (for example Young 1968, 50 – 62), so is a view on Boyd's theory as one only describing input, output and feed-back mechanisms. I can not say if Boyd has been inspired by Deutsch, but both thinkers do emphasize the importance of time as a non-linear problem. Boyd's well known short figural description circulating on the internet is repeated in Figure III (http://oodacycle.com/OODA.aspx).

Figure 3. John Boyd's OODA-loop cycle

This diagram is also known as the decision cycle, the Boyd cycle, or the OODA cycle. According to John Boyd, decision making occurs in a cycle of observe-orient-decide-act. A system (either an individual or an organization) that can process this cycle quickly *can get inside the opponent's decision cycle* and gain a strategic advantage. As a former pilot in the Korea War, John Boyd (1927 – 1997) originally developed this diagram to explain to new fighter pilots how to direct their own energies to defeat their enemies and find survival for themselves. Boyd emphasised that "the loop" is actually a set of interacting loops that are to be kept in continuous operation during combat. He also indicated that the phase of the battle has an important bearing on the ideal allocation of the observer's energies.

The point is to be less disturbed by chaos than the opponent. Thus the point is not the feed-back process. Feed-back takes time. The point is, as far as I can see with a luhmannian system theory, the difference between the feed-back processes: On both sides as well as between the three feed-back processes shown on the figure, i.e. not to stop thinking simply because one acts and first will see the outcomes. One may say that Boyd has tried to make a drawing of Frederick the Greats brain, a brain Fredrick himself conceptualised according to a reflexive system of philosophy (Fredrick 1752, 53; 1788a). That brain later was institutionalised in the form of the famous Prussian general of staff.

A superficial interpretation of the speed in observation, orientation, decision and acting is that this is all a question of increasing speed. But temporal games are not only about speed. They are also about synchronicity, i.e. the appropriate time for coordination of observations, orientations, decisions and activities. In technical practice, of course such an increase in synchronisation of attack and defence will be facilitated immensely by the whole programme of a system-of systems. In theory, Karl Deutsch, before Luhmann, described this as

"second-order learning", or "the speed at which an organization learns to learn" (Deutsch 1966, 169; in fact von Humboldt was the first to think about learning that way). Deutsch wrote about "load", "lag", "gain" and "lead" in decision making systems. The point was to retain the inner autonomy of systems retaining time, winning time through memory, will, i.e. transforming past and future situations into present time. Deutsch warns about a "set of probabilities of pathological learning, that is to say, of the eventual self-crippling or self-destruction of any self-governing organization"(Deutsch 1966, 222). In fact, there is a lot of confusion about Boyd's much discussed strategic theory since he only wrote very few pages about it and only passed a number of, indeed, immense slide shows; however Deutsch's theory of political decision-making could be one theoretical description of a theory behind Boyd's thinking.

But Deutsch wrote about government and conditions for decision-making. Boyd talked about decision-making and above all orientation in complex and chaotic warfare. To Boyd, warfare is completely non-linear, is about surprises, chaos and accidental occurrences and how to cope with them as well as creating them. With Ilya Prigogine and Isabelle Stengers he tries to conceptualise "order out of chaos".

Boyd went through the history of warfare and of strategy in a way where, at the end, his conclusions were that we should focus on especially *Blietzkrieg* in the German tradition from Fredrick the Great to Panzergeneral Heinz Guderian, and on guerrilla strategy from T.E. Lawrence and Mao Zedong to General Giap. Both together present not only speed and chaos but also the creation of overload, mistrust, friction, lack of control and disillusion because of synchronicity. Boyd's main theory got its final form in 1987 (Boyd 1987; Hammond 2001). Probably, still the Vietnam War was in his mind. Though, since all those problems with asymmetric war experienced not only in Somalia but especially in Afghanistan and Iraq, Boyd's way of combining *Blietzkrieg* and *Guerilla* in a penetrating outline of non-linear warfare has gained momentum. Even peace protagonists learn about Boyd's OODA cycle (Ritter 2007, 41 - 49). Much US strategy has been concerned with the it-revolution of the Blietzkrieg.

Guerilla strategies have been neglected, but not by Boyd. However, counterinsurgency strategies were not at the fore of his theory and the blind spot of Boyd's theory as strategy is that it is about winning warfare, it concerns tactics. Boyd does not offer any devices as to what concerns winning a peace. As strategy this will not suffice. Boyd's extensive and intensive dias-shows leave a feeling of despair and lack of hope. In fact it is a lack of strategy too. Remember that strategy was about the asymmetry of war and peace. Boyd does not make a single word about the possibility of peace – this can be left to diplomacy.

VI. Is the supertanker turning?

Since the failed tactics in Iraq, this neglect is now compensated for in a number of reports and theoretical strategies (Metz 2007; Record 2006; Cerami, Boggs 2007; *Parameters* 2007-8). Above all the Field Manual FM3-24 explains how another form of warfare has to dominate warfare. The centre of gravity has turned away from technological superiority, to orientation and to intelligence, not to say cultural and sociological skills.

According to Record, the problem is Clausewitzean. The focus from General Douglas MacArthur to Cheney and Rumsfeld has been to win tactical battles and win wars, not to win a peace. *Pax Americana* has had a strategy of tactical superiority and substituted politics with war. To Record this "conventional wisdom is dangerously narcissistic" (Record 2006, 5). Forced power is not a substitute of constructive empowerment. US have conducted Jominiean tactics that forgot about Clausewitz and focussed on what the leading strategic paleo-conservative thinker William Lind has called 2nd and 3rd Generation Warfare (GW) (Lind et al. 1989). Jomini is not very fit for Counterinsurgency(COIN)-strategies and the political, cultural contexts and *realities* of those necessities found in COIN and 4th GW. The politically softer and

more liberal strategies about winning peace through COIN and civil-military cooperation (CIMIC) against 4th GW has furthered a "culture revolution" in American warfare.

Observed from system theory we're back in descriptions of entropy and negentropy. An organised military system adopts negentropic concentration of forces but is submitted to entropy: As heat or gas dissolves, war spreads to the rear that has still more rears, logistic supply lines established in medias still softer and more entropic. Roughly spoken, 1st GW concentrates forces to a place or point as done until well after Napoleon (1860). Until 1918 forces were spread according to lines (2ndGW) striving for numerical superiority. Then, two and even three dimensions of spaces were involved by the German manoeuvre and infiltration tactics that even was used in the air. This is typical for 3rdGW that can even use a fourth and fifth spatial dimension with satellites and hyperspace. In fact speed as well as synchronicity has always been decisive in tactics. So has surprise and contingencies that creates fear and risk sensibility.

We could say that nuclear war was all over in spatial dimensions; but especially the experience of fear was all over and even global. 4thGW invokes simultaneously space and time: No place is safe, and security is not the inner side of what systems could defend. All kinds of defences are only risky. According to Luhmann's theory of risk, danger would expose unrecognised contingencies to social systems, but they do only observe with the distinction fear/risk, with risk-management on the internal side of social systems (Luhmann 1991). All strategies are risky. Security is nowhere. While fear becomes the medium of warfare, fear absorption becomes the strategy.

Already the British Colonel T.E. Lawrence delineated tactical theories about what to do with superior military might resembled on points and advancing in lines. The idea was not only to attack in depth as in 3rdGW (Blietzkrieg), but to be all over "like a gas", to create fear and destroy the enemy's political and moral will through an unrecognisable fear that enters minds and souls. The point is to transform warfare to such a degree as if soldiers should "eat soup with a knife". Lawrence's ideas anticipated how the "strong will loose". He anticipated 4thGW though he is neglected by some of the authors using the 1st-4thGW framework who tempt to exaggerate the evolution of ideas. After some reflections on Guibert, Clausewitz, Jomini, and Moltke Lawrence writes about his experiences in 1916:

> "The Algebraic element looked to me a pure science, subject to mathematical law, inhuman. It dealt with known variables, fixed conditions, space and time, inorganic things like hills and climates and railways, with mankind in type-masses too great for individual variety, with all artificial aids and the extensions given our faculties by mechanical invention. It was essentially formulable.
>
> Here was a pompous, professiorial beginning. My wits, hostile to the abstract, took refuge in Arabia again. Translated into Arabic, the algebraic factor would first take practical account of the area we wished to deliver, and I began idly to calculate how many square miles: sixty: eighty: one hundred: perhaps one hundred and forty thousand square mils. And how would the Turks defend all that? No doubt by a trench line across the bottom, if we came like an army with banners [GH: remember trenches were like today's star wars: a line distinguishing what is included and what is to be excluded]; but suppose we were (as we might be) an influence, an idea, a thing intangible, invulnerable, without front or back, drifting about like a gas? Armies were like plants, immobile, firm-rooted, nourished through long stems to the head. We might be a vapour, blowing were we listed. Our kingdoms lay in each man's mind, and as we wanted nothing material to live on, so we might offer nothing material to the killing. It seemed a regular soldier might be helpless without a target, owning only what he sat on, and subjugating only what, by order, he could poke his rifle at.
>
> Then I figured out how many men they would need to sit on all this ground, to save it from our attack-in-depth, sedition putting up her head in every unoccupied one of those hundred thousand square miles(…)If so, they would need six hundred thousand men to meet the ill-wills of all the Arab peoples, combined with the active hostility of a few zealots." (Lawrence 1935/1997, 181 – 182)

9/11 was not a day the strength of "system-of-systems" nor the speed of an OODA-cycle should be measured. It was a day when OODA-time as simultaneous synchronic reflections about what happened in Arab cities and populations should be considered. Or as Sun Zu states, to keep an eye on the present situation of the opponent as the opponent observes it. In February 2002 one of Osama bin Laden's lieutenants published an article on William Lind's theory of 4th GW, a theory of asymmetric warfare that 2007 finally was taken in use to observe Western warfare in Iraq and Afghanistan (http://memri.org/bin/ ; Hammes 2006, 203). Thus, Al Qaeda seems to have been inside the Western OODA-cycle loop for years. Modern society is a globalised network society of communication systems. Indeed, so it is for terrorist networks. The IT-revolution furthered the 3rd GW of system-of-systems, but it also furthered terrorist networks communicating in cryptified and coded arab languages.

The Western answer now is to follow Mao's and General Giap's lead and tries to win the hearts and minds. This however, will probably take more than a generation: Soldiers have to step outside tanks and air bases in order to become human and enter into civil military cooperation (CIMIC). They have to learn languages, history, culture, anthropology, sociology and even theology; superior technology is not the problem and is simply not worthwhile to sustain nor to underline over and over to the point of exaggerated and misdirected strategies, since the focus on RMA simply will distort observations and self-observations of own might and weaknesses.

The tactic problem however is if it is possible to turn the convoy of supertankers that supply the US forces. FM3-24 proposes a cultural revolution in the American military organisation. It is aware that the defensive always is stronger than the offensive (Clausewitz). Defenders actually live on areas offensive forces psychologically want to leave. Thus we can return to Figure 2 and expose a 7th risk that merges points 2 and 3: Social systems can not observe their own temporal horizons, i.e. when will they become able to observe that their convoy of supertankers has turned? And when will the opponent observe it? In 4th GW, defenders has time to wait, the offensive forces do not have that much time and often dissolve in internal despair. The FM3-24 proposes that American forces shall expose themselves to risks, shall ask and not shoot "protecting the populace, not the COIN force" (Petraeus a.o. 2007, 48). Combining these insights with Hammes' descriptions of the long term, 4thGW reveals the long term risk: Officers and soldiers might abstain and recruitment turn impossible since families at home will not accept high level risks.

Warfare can only be controlled through the functional and organisational systems supplying war. The US problem is that the military organisational system has fused into a high-tech 2nd and 3rd GW that reinforces a bureaucratic outlook that has reinforced itself since the end of the 19th century (Huntington 1957; Vandergriff 1999). The top-down Department of Defence view on intelligence, promotion, quantification, tactical victories, RMA etc. is out of touch with a 4thGW that has prevailed in Yugoslavia against Germany, China, Vietnam, Nicaragua, Afghanistan against the Soviet Union, Somalia, lead to disaster in Chechnya and made quagmires out of the Iraq and Afghanistan interventions. Now, strategic thought among US officers from General David Patraeus and downwards has really turned upside down since 2006. But from the point of view of organisational sociology, operational culture can hardly be changed overnight (Thornton 2007, 160).

VII. Conclusion: Pax triae politica

The problem is how to keep peace in mind through the disastrous battles. The tactical point might very well be to create chaos for the opponent in order to bend his will. But the *strategic* point since Clausewitz and Fredrick the Great is to establish peace (Frédéric 1736, 1762,

1788b). Not to win battles, but to win the peace and not only after the battle let some idea of peace emerge, from the very beginning, as *jus in bello*, have the first point of orientation directed towards another temporal order than that of a present warfare, namely eternal peace.

As Clausewitz, Kant and Fredrick, already Grotius, Hobbes and Saint-Pierre were brilliant system thinkers (Clausewitz 1832/1952, 82, 179, 264; Kant 1790, §§ 61 – 82; Frédéric 1752, 53; 1788a; Saint-Pierre 1713/1981, 133, 144, 145, 147, 183, 191 etc; Leibniz 1715; Hobbes 1651/1968, 274 - 280; Grotius 1625/1999, 99). To those natural law thinkers, the problem inside the war system is to re-enter codes and forms from other function systems. Peace appears as a number of not always coherent codes in for instance legal systems, religious systems, political systems and economic systems. To think peace in times of war has ever since Grotius, Hobbes, Leibniz and Saint-Pierre been to think in terms of the difference between religious order, political order, legal order, economic order, educational order – and military order.

The point is to think strategy beyond the last battle: operations must not preclude possibilities of peace. Furthermore: their form of operation have to establish possibilities to enter into cooperation with "the former enemy" as the former pilot and leading philosopher John Rawls says exactly to the point in his treatise about *The Law of Peoples* (1999, 101). Exactly because of this *strategic* point, warfare has to cope with law, and justice re-entered into warfare itself in the form of *jus in bello*.

However, already the intervention in war establishes a relation between a military system and its opponents, as well as its often innocent victims. This relation is dominated by tactics during the war operations. But this relation establishes a path dependency and a form development that will only take place once the fury of war battles have passed. Nevertheless, occupation and establishment of order often demands more resources, more soldiers, more justice and political manoeuvre than the technical success of classic warfare. A system-of-systems can handle victory, but only in regular warfare, not in asymmetric warfare against guerrillas disappearing in an occupied population. The RMA can not handle how to prevail in times of peace and can even itself establish an opposition to the peace process and the establishment of rule of law that has to dominate peace.

From the point of view of system theory it has been a failure to think about warfare in a linear way that follows an instrumental idea of military control in such a way that there can be and should be any direct one-way from a military-industrial complex of system-of systems to an output that has democratic self-determination as a political target. On the contrary, in between the input paradigm of military means and the output paradigm of political democracy there is a complex, functionally differentiated system of extremely different and even opposed systemic logics of self-reference (Luhmann 1968, 266 - 284; 1984, 624 – 631; 1990; 1997, 707 - 806; Harste 2003a). This includes complexities in very different religious systems of communication, non-simultaneous political and communicative learning processes, opposed systems of legal evolution, etc. etc. Not least we can observe extremely opposed temporal horizons of the long and short term history of political, religious, organisational, and economic. History is extremely long in Palestine, Balkan, Iraq and is endowed with a very different memory (Deutsch: load and lag) than history in Kansas and Texas.

Thus, the political conclusion is that the aim of military intervention can not strategically be to establish democracy as such. In September 2002 *The National Security Strategy of The USA* was still hesitating between democracy and rule of law. This, in fact, was relatively a strength since others, as the Danish prime minister Anders Fogh, simply reduced the complexities to the notion of democratic self-determination. If that meant majority rule, it was foreseeable that something like a civil war would be the probable outcome of a democratic Iraq since the majority of the suppressed Shia-population would rebel against the former Sunni-governors.

The strategy is to let legal, economic, political, religious, educational and other systems re-enter warfare in order to keep peace processes inside the orientation field of any OODA-loops. CIMIC (Civil Military Cooperation) is essential to COIN (Counterinsurgency warfare). The aim is not to establish simply a self-referential sovereign and democratic political system where a people can rule over itself in its own feed-back cycle. Democratic representation can only be constituted inside a separation of powers (Kant's *trias politica*; Kant 1798, §§ 45 – 48). *The aim of strategy is to establish a rule of law with a separation of powers* that include organisation system, a legal system, an economic system, a military system, an educational system, systems of art, mass media and research, and a political system. We have to establish the spirit of Montesquieu's many separated and functionally differentiated forms before we arrive to a Rousseauian system of democratic self-determination. A monolithic power system-of-systems tends to preclude such strategies of peace building. Probably the peace, and thus the war, was lost when Bush Jr. declared war in March 2003 (Allawi 2007).

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Figure 1. PROPOSED ELEMENTS OF RMA

ADMIRAL OWENS' SYSTEM OF SYSTEMS

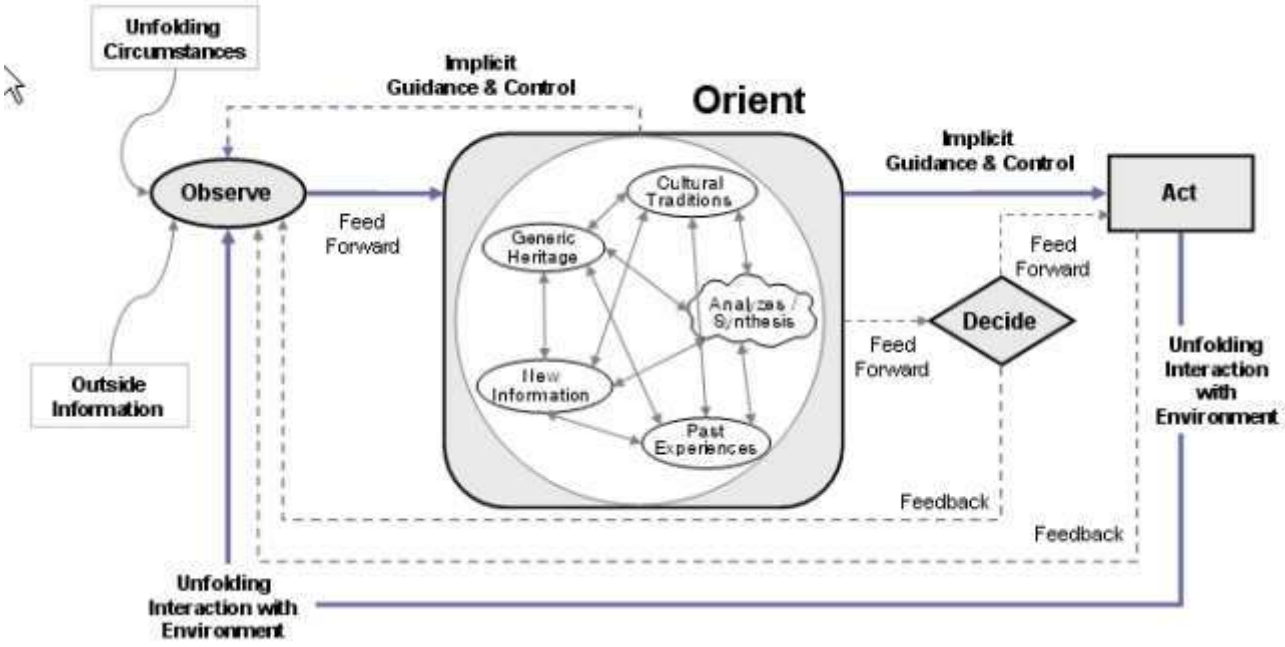
Weapons or Systems In or Entering U.S. Military Service

ISR	**C4I**	**Precision Force**
Intelligence, Surveillance, Reconnaissance	Command, Control, Computer Applications, Communications, Intelligence Processing	
AWACS	CGCS	SFW
RIVET JOINT	JSIPS	TLAM (BLK III)
JSTARS	DISN	ATACMS/BAT
HASA	C4IFTW	SLAM
SBIR	TADIL J	CALCM
ATAR	TRAP	HAVE NAP
TIER 2+	TACSAT	AGM-130
TIER 3-	JWICS	HARM
TARPS	MIDS	AIR-HAWK
MTI	SONET	SADARM
REMBAS	LINK-16	HELLFIRE II
ISAR	DMS	JAVELIN
FDS	SABER	THAAD

Figure 2. The six risks of systems – in general and in particular

General theory about system risks	The military system
1. The risk not to observe the environment	1. The military system can not observe the environment as it is, in its complexity and own dynamics. The system primarily observes its own narratives and interpretations (whether military analyses or propaganda).
2. The blind spot of the system and its limits to self-correction: It can not observe that it can not observe what it can not observe	2. Internal to the military system there are conflicts between observers and those who make decisions. There are limits to self-corrections of this differentiation.
3. Conflicts between the different temporal horizons of functional systems	3. The military-industrial complex stays committed to inerties of armament and the economy in jobs and investments as well as their programmes and codes of observation
4. Dissent in communication between functional systems: Functional systems do not communicate with each other	4. The war system does not communicate with the political system. Structural couplings, as between electoral groups and lobbyists, do only reinforce miscommunications in other areas.
5. There is no recursively entrance to a system of total vision that morally transcends, and visualises everything totally. The whole is less than the sum of its parts.	5. The prevailing military system still observes itself as almighty on the level of the total power that reign conflicts in the years around 1956 - 1991. The prevailing system does not observe that this metaphysical form of power has escaped its power. The prevailing system does not observe that there is less power than before 1991. It only observes increases in its own monopolization of power.
6. In modern society there are only those systems that operate and none other. All observations and possible reforms only establish meaning by and through the systems.	6. There is no other military superpower than that of US and its organisation of the military system as structurally coupled to other functionally differentiated subsystems.

Figure 3. John Boyd's OODA-loop cycle



Appendix 1. Components of Admiral Owens' system of systems.

AIR-HAWK---An air-to-ground version of the Tomahawk Land Attack Missile. See TLAM(BLK III) below. Range more than 350 nm.
AGM-130---An Air-to-Ground missile guided by television or infrared from the launching aircraft. Range more than 15 nm.
ATACMS/BAT---Army Tactical Missile System with Brilliant Anti-Tank sub-munition. ATACMS is an all-weather tactical missile. BAT is a self-guided submunition with acoustic and infrared sensors that autonomously locates and attacks tanks or other armored vehicles. Range more than 15 nm.
ATARS---Advanced Tactical Airborne Reconnaissance System. An airborne reconnaissance pod with a data downlink capability to be carried by tactical aircraft.
AWACS---Airborne Warning and Control System. A long-range moving aircraft detector radar carried by a Boeing 707-type airframe.
CALCM---Conventional Air-Launched Cruise Missile. A converted Air-Launched Cruise Missile guided by an inertial navigation system and the Global Positioning System. Range more than 350 nm.
CGCS---Global Command and Control System. A group of military systems to provide high-level military and civilian leaders information processing and dissemination capabilities to conduct command and control activities.
C4IFTW---Command and Control, Communications, Computers, and Intelligence For The Warrior. A conceptual framework for providing a battlefield commander the information he wants, when, where and how he wants it, anywhere in the world.
DISN---Defense Information System Network. A digital information system designed to meet all Department of Defense requirements for voice, video, and data communications.
DMS---Defense Message System. A digital system designed to replace two earlier systems for transmitting messages on the Department of Defense Internet.
FDS---Fixed Distribution System. A supplemental detection capability to be added to the SOSUS (SOund SUrveillance System) undersea submarine detection system at choke points.
HASA--High Altitude Signals Intelligence Architecture. A system for structuring the acquisition of signals intelligence from high altitude platforms.
HARM---High Speed Anti-Radiation Missile. An airborne missile designed to attack radar transmitters. Range more than 15 nm.
HAVE NAP---AGM-142 An air-to-ground medium-range precision guided missile carried by B-52 aircraft. Range more than 15 nm.
HELLFIRE II---A short-range laser-guided missile usually carried by Army and Marine Corps helicopters.
ISAR---Inverse Synthetic Aperture Radar. A type of radar especially suited for generating high-resolution images of moving targets. Carried on some Navy aircraft for surface search activities.
JAVELIN---A man portable fire-and-forget anti-tank missile.
JSIPS---Joint Service Imagery Processing System. A ground station common to all services for receiving, processing, and disseminating satellite transmissions.
JSTARS---Joint Surveillance Target Attack Radar. Similar to AWACS above, but devoted to the detection of moving and certain fixed ground targets. Based upon a Boeing 707-type airframe.
JWICS---Joint Worldwide Intelligence Communications System. A secure high speed, multi-media communications network for the defense intelligence community. Transmits voice, text, imagery, and data.
LINK-16---The NATO version of TADIL-J. See below.
MIIDS---Military Intelligence Integrated Database System. A general military data base containing information on order-of-battle and installations.
MTI---Moving Target Indicator Radar. The capability of a radar to automatically identify moving objects.
REMBAS---Remotely Monitored Battlefield Sensor System. A remote ground system capable of identifying vehicles through acoustic and seismic sensors and reporting over a data link.
RIVET JOINT---An airborne signals intelligence gathering aircraft based upon a Boeing 707-type aircraft.
SABER---Surface Analysis Branch Exploitation and Reporting. A Navy Intelligence Analysis Unit located in Suitland, Md.
SADARM---Sense and Destroy Armor. A submunition capable of detecting and destroying lightly armored vehicles. Can be launched in 155mm artillery rounds or by the multiple launch rocket system.
SBIR---Space-Based InfraRed. A satellite capability to provide improved infrared detection, location and tracking of hot infrared events such as missile launches.

SFW---Sensor Fused Weapon. An anti-tank cluster bomb capable of destroying heavy tanks by attacking their top armor. The SFW dispenser carries 10 submunitions each of which in turn carries four Skeet anti-armor warheads.
SLAM---Stand-Off Land Attack Missile. An air-to-ground missile guided by a video data link, GPS and a terminal imaging infrared seeker.
SONET---Synchronous Optical Network. A high-speed, high-capacity digital optical path for data or voice transmission.
TACSAT---Tactical Communications Satellite. The group of satellites supporting tactical ground forces.
TADIL-J---Tactical Data Information Link-J. A secure anti-jammer transceiver that provides real-time data between sensors, weapons and command and control systems.
TARPS---Tactical Air Reconnaissance Pod System. An airborne photo reconnaissance system without data downlink capability. See ATARS.
THAAD---Theater High Altitude Area Defense. A theater missile defense system designed to intercept short and intermediate-range missiles.
TIER 2+---A high-altitude, long endurance unmanned aerial vehicle for targeting or intelligence. Endurance of more than 30 hours at 12 mile altitudes.
TIER 3---A low observable (stealth) unmanned aerial vehicle. Lesser capabilities compared with Tier 2+ because of stealth tradeoffs.
TLAM(BLK III)---Tomahawk Land Attack Missile.(Block III). A long range, very accurate cruise missile with upgraded navigation and targeting capabilities. Range more than 350 nm.
TRAP---Tactical Receiver Equipment and Related Applications. A system which broadcasts time-sensitive intelligence in pre-formatted messages.