



CAMPAIGNING

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History

In the 1930s, few officers were qualified, either by training or experience, to engage in joint operations. The demands of World War II brought out the urgent need for joint action by ground, sea, and air forces. To alleviate the friction and misunderstanding resulting from lack of joint experience, the Joint Chiefs of Staff established an Army and Navy Staff College (ANSCOL) in 1943. ANSCOL conducted a four-month course that was successful in training officers for joint command and staff duties.

After the war, educational requirements for the armed forces were fully examined. Although thorough contingency planning was recognized as essential for waging war on a joint and combined scale, ANSCOL, which had been established to meet the immediate needs of war, was discontinued. A joint committee was appointed to prepare a directive for a new school. This directive, which was approved by the Joint Chiefs of Staff on 28 June 1946, established the Armed Forces Staff College (AFSC).

Responsibility for the operation and maintenance of its facilities was charged to the Chief of Naval Operations. Following a temporary residence in Washington, D.C., AFSC was established in Norfolk, Virginia, on 13 August 1946. The site, formerly a U.S. Naval Receiving Station, was selected by the Secretaries of War and Navy because of its immediate availability and its proximity to varied high-level military activities.

There were 150 students from all Services in the first class. They assembled in converted administration buildings on 3 February 1947 to be greeted by the first commandant, Air Force Lieutenant General Delos C. Emmons. The faculty officers came from joint assignments in all theaters of World War II.

With the construction of Normandy Hall in 1962, AFSC completed its transition from a temporary to a permanent institution. AFSC was assigned to the National Defense University on 12 August 1981. In the summer of 1990, AFSC changed from an intermediate joint professional military education school to an institution where Phase II of the Chairman's Program for Joint Education is taught.

In 2000, the AFSC was renamed the Joint Forces Staff College (JFSC). The Joint and Combined Warfighting School proudly traces its origin back to the Army Navy Staff College. Today's JCWS educates over one thousand senior military officers from the United States and International countries as well as civilians from the interagency. We are proud of our heritage and anticipate a bright future for this great institution.



JCWS Mission

The Joint and Combined Warfighting School (JCWS) produces graduates capable of creatively and effectively planning operational level warfighting for joint and combined military forces while integrating the effects of the United States Government, non-governmental organizations, and international organizations to ensure the success of Combatant and Joint Task Force Commanders operating within an uncertain operating environment.

Disclaimer: The views expressed in this journal are those of the authors and do not represent the views of the Joint Forces Staff College, National Defense University or the Department of Defense.



Welcome to the Fall edition of your quarterly journal, *Campaigning*! We have been fortunate to have many gifted authors provide thought-provoking articles on topics of interest to warfighters and those involved in supporting with the planning and executing for the defense of our Nation.

Before I provide an overview of this edition of *Campaigning*, I would like to say a few words about our Joint and Combined Warfighting School (JCWS). To date there have been over five hundred and forty Flag and General officers who are among the esteemed graduates of our institution. Our alumni serve at the highest levels of government in both the United States and foreign nations. As alumni, you should take pride in your association with this school and the laudable contributions it has made since its inception in 1946. The current class of the JCWS marks a substantial milestone; it is our 200th class. We look forward to the next 200 classes and our continued contribution to national defense and international stability.

As we prepare for the future, the JCWS is at the cutting edge of transformational joint education for the 21st Century. Some of the recent accomplishments to achieve this objective are the re-organization of the school, implementation of a new curriculum, fielding of the eBook (electronic book) system and re-publication of Publication 1, also known as the “Purple Book”. We have established a curriculum development branch within the school to ensure our school is the best multidimensional campaign planning course available. We will ensure that planning for the integration of joint and combined military forces, as well as United States and international agencies are the core areas of our curriculum. We are in the process of designing a new curriculum that will be implemented in January of 2009. It is our goal that every graduate of the JCWS will be able to lead an Operational Planning Team in the development of theatre plans and strategies at the combatant command or joint task force level. To ensure we maintain the ability to integrate new doctrine and concepts rapidly into our curriculum, we are fielding the eBook. The Electronic Book (eBook) will store the full program of study and allow our curriculum developers to integrate, in-stride, evolving doctrine and concepts. The JCWS is also re-publishing our renowned “Purple Book”. The purpose of this publication is to reinforce the JCWS curriculum and is designed as a helpful, future reference tool for graduates. These are just a few of the exciting events taking place at JCWS.

A major component of our schools outreach is the *Campaigning* Journal. Friends and alumni are strongly encouraged to submit articles for publication. The lifeblood of a vibrant, relevant publication is the quality and breadth of its contributors as demonstrated in this edition. This current issue of *Campaigning* features publication of the address on *The Long War and the Future Joint Force* by General James N. Mattis, Commander, United States Joint Forces Command; given to the Joint Symposium on Strategic Re-Assessment at the National Defense University in June of this year. Our steadfast supporter and great friend, Dr. Milan Vego, has provided an article that addresses Objectives of Land Warfare; while Mr. Michael Collender and Lieutenant Colonel Matthew Deller have written a thoughtful piece titled *Scoping Complex Systems for the Joint Task Force Commander*. Commander Thomas A. Zwolfer, Lieutenant Colonel Jim Januszka, Major Dennis S. Rand and Mr. Steve Engler have provided their JCWS award winning paper titled *A Proposal for the Realignment of the Department of State and Department of Defense Areas of Responsibility*.



In addition to our featured articles, this issue of *Campaigning* contains an update of the activities taking place at the Joint Forces Staff College.

Finally, I would like to thank Seaman Jania Battles. Seaman Battles is truly my right-hand for without her support, the publication of *Campaigning* would not be possible.

Craig L. Bollenberg
Colonel, USA
Dean
Joint and Combined Warfighting School



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The Long War and the Future Joint Force
Address to Joint Symposium on Strategic Re-Assessment
National Defense University

By
General James N. Mattis
Introduction

By
Dr. David Fautua

Introduction

After seven long years of war in Afghanistan and Iraq, the question may rightly be asked by Joint and Coalition warriors: what have we learned? Answer: plenty; and ironically, little that we didn't already know. That's the sense the commander of U.S. Joint Forces Command General James Mattis conveyed this past summer in his address to the Joint Symposium on Strategic Re-Assessment at the National Defense University. If anything, warfare over these last seven years has been less a showcase of American technological might than a re-education on the savagery of close-in battle. In places like Fallujah, Mosul, Tal Afar, Shahi Khot and Kandahar, armored divisions, nuclear-powered warships and supersonic fighter aircraft seem not to matter as much as individual valor, skill craft and ingenuity among joint and coalition warriors at the squad level. How did this happen? What changed?

The undertone of GEN Mattis' words convey the sense that perhaps the military inadvertently "dumbed" itself down by an overreliance on advanced technologies, which, paradoxically, was supposed to make it "smarter." The "science of war" was trumping the "art of war" with the consequence being the fighting force was unprepared for the fight that was looming. The enemy, meanwhile, saw its opportunity. They changed the operational conditions of warfare from the predictable patterns of the Cold War to the terrifying randomness of irregular warfare. They redefined the battlefield away from the open plains of Europe to the jammed-packed cities, towns and villages of the Middle East. Innocent civilians were used as shields; women as suicide bombers; markets, restaurants and schools as primary targets. All of this was done, in part, to blunt the technological superiority of the West that some futurists promised would ensure "information dominance." Instead, the conditions on the ground resembled something out of the Thirty Years War of Medieval era; warfare at the level of building-to-building, room-to-room, hand-to-hand. The attack against the U.S. homeland on "9/11" was hatched, planned and executed not by a Leviathan nation-state that planners in the early 1990s envisioned but rather by a cell of fiercely committed violent extremists operating in a backwater country half a world away. That "cell" has grown into a transnational and global network.

It is perhaps a testament to the extraordinary professionalism of the fighting force that our Joint and Coalition warriors are turning the tables on the enemy. Al Qaeda is being decimated in Iraq and Afghanistan. The Anbar Awakening signals as much a turn in mindset as it is a turn in the



corner for quelling the violence. And the political ground favors a chance for peace that was thought impossible just a year ago. But this “transformation” has come at a steep cost. The joint force continues to learn and evolve, adapting new techniques and developing a cognitive frequency to sense for nuances in cultural and tribal customs, practices and history. What should we learn from this? Mattis’ message is straightforward: refocus on the warrior. Enabling capabilities that represent the “science of war” should do just that: enable the warrior; or to be precise, empower the commander. Training regimes must be devised where joint warriors can still “sense” the battlespace despite degraded ISR (intelligence, surveillance, reconnaissance) technologies and where the power to act is delegated down the ranks to the point of discomfort for the higher ups. This type of battlecraft represents the new standards for a competent joint force of today and tomorrow.

For as much attention the JFCOM Commander places on the warrior ethos, he reveals a depth of understanding on the nature of war that goes beyond the battlespace. The “power of inspiration” is more important than the “power of intimidation,” he warns; and if planners can factor that insight into their strategies the U.S. would fight “fewer wars.” The General talks about the “narrative realm,” “values realm” and “information realm” as though they were vital weapon systems. And he states that “jointness is not a natural state” and that understanding “coalition warfare” is “10 times more difficult.” Had these insights come from a diplomat, the audience (and reader) might excuse its loftiness. These thoughts emanate instead from a confessed warrior monk who has thought on the nature of war over a lifetime.

GEN Mattis heads the Combatant Command that is the Department of Defense’s proponent not only for joint training, force providing and joint command and control but also joint transformation. How the joint community positions itself for the fight against global terrorism intellectually and morally will be as important, if not moreso, as it’s organizational and technological advancement. For these reasons alone, General Mattis’s thoughts about where the joint force is headed is worthy for inclusion in this issue and your considered attention.

Dr. Dave Fautua is the Joint Forces Command Academic Chair at the Joint Forces Staff College.



General James N. Mattis
The Long War and the Future Joint Force
Address to the Joint Symposium on Strategic Re-Assessment
National Defense University
5 June 2008

This officer has great potential for advancement with that sort of judgment. Well done, young man. Well done. And all of you – I know we’re starting a little bit early. The purpose is to make certain that we have plenty of time for questions. Ladies and gentlemen, my strategist, Admiral John Richardson has been here and said this is not a shy group this time, so I want to leave plenty of time for Q&A. But, it is Washington, D.C., I got a free lunch – I feel somewhat obligated to at least say something to you all as a gesture of thanks for feeding me here today.

The subject I was given was about creating tomorrow’s joint forces. And guess what? Tomorrow’s here, isn’t it? I mean, we’ve had to create them on the fly by painting a subway train as it goes by, trying to make it look good in the midst of a pretty fast orbit there on the Metro. And I think what I would do is just discuss a few things. I’ll try to throw out enough that you can challenge me or go after me or question me and save most of the time for questions here. But if at any point any one of you – we’ll act like this is a patrol in Indian country – if anybody sees something they don’t like, they can stop the patrol – private, general, it doesn’t matter.

So if anyone here gets bored, raise your hand, I will stop, and we’ll go to Q&A. How’s that? It is a democracy and we’ll give that rule of the road a shot here. And please, I’m serious, feel free to do it. I’d much rather have been here for the last couple of days with you and when I come in like this and I haven’t had a chance to do that, I’m always amazed when I get to sit through a conference how some speakers come in, they repeat things that have already been decided, they don’t address things that are contentious, and I’d really rather get to your ideas.

The operating environment that you all know for our forces has changed – the threats have changed. We know our strategy must change and our forces have got to change as well. I think that right now there’s no denying that more and more people in the world, more and more groups, are turning to violence. Maybe it’s just we have the 24 hour news cycle that it seems to me that we are going to deal with an increasing amount of violence in the world as the old rules of civilization seem to get frayed and people who have, for one reason or another, no desire to reconcile or compromise on any issue, are going to continue to dominate the initiatives in the world. And I say that because although I recognize some people want to say, look let’s hold our breath, the irregular world will go away and we can get back to good old soldiering again.

Unfortunately in war, the enemy gets a vote. And for us to opt out, we have seen the Western democracies opt out once before in the last century and we watched the result of it and we paid millions of lives in this world in order to stop what we had allowed ourselves to be fooled about.



So I don't think you can ignore the enemy's choices in this world and say somehow we're going to use only our symmetric advantages, we just won't fight in other areas.

I think that a nation state in conventional war is certainly in a period of perhaps hibernation. I don't think it's gone away, but the most likely threats probably today are not going to be conventional or from another state. Now recently – I'm going to just speak to it right up front – Secretary Gates has warned us to avoid that trap of next war-itis and I could not agree with him more. Now let's be very clear about the message and let's accept it. He's a rather intellectual man who knows the world better than many.

His target audience, I think in this case, are those who would refuse to recognize the challenge of our current fight. Those who do want to wait until we can get back to good old soldiering, iconic weapon system against iconic weapon system – this is just an interlude right now. This is not an interlude and he's quite right to say we are going to focus on it. But at the same time, I have no doubt we will look at the future. He expects us to look at the future. We will not allow our enemies to steal a march on us and be prepared to conduct a different style of war that we have not yet prepared for.

So the answer, I believe, ladies and gentlemen, is we take a balanced approach. We accept there's a certain amount of conventional and state-on-state warfare that's in hibernation. It's going to come back again. We assume that. For one thing, if we don't want to have it happen, we have to be ready for it. But at the same time, we marry our time. We don't deny the reality. As I was reading here very recently about "shock and awe," there's still at least one believer, still, in shock and awe, believe it or not. He had not read the front page of *The New York Times* in six years, I'm convinced, but he's still holding out for shock and awe. And I just suggest to you that the reality is one that we have got to address and not keep painting bumper stickers up there that sound good and that we can gain a certain amount of traction with people who don't study what war is all about.

We are working to articulate this vision for the future. And I think you may have heard some of this, so Wilbur, if you would hit the first slide for a minute. And what we're talking about here is in the Joint Operating Environment, ladies and gentlemen, we're going to describe what we think are the alternative futures and those military implications. As difficult as it is to forecast the future, we know that we've got to study this, because if we don't, we certainly will be caught flat-footed. That's all there is to it.

Now, none of us have a crystal ball, but history's a pretty big help. And when you look at Bosnia, you look at Chechnya, you flash forward to Iraq and Afghanistan, and especially something we are focusing on heavily right now with some of our friends in NATO and elsewhere, is what happened in the second Lebanon war. The dim signposts are starting to come sharply into focus. And as they come into focus, we have to remember we're always looking backwards somewhat, but that is the best possible signpost we can find. Then we apply our military judgment, our study, our experimentation, our concept development, in order to flesh it



out and determine if this is really where we need to go. Is the joint operating environment really going to look like this in the future?

We're going to take that vision of the future and we are going to then turn around and say, "OK what about it"? It's going to be the intellectual underpinning for the Capstone Concept for Joint Operations. And this is how we are going to articulate how the joint force will operate and fight in the future. And one point again, I want to reiterate here; I'm not sure what we want to call it. We'll use irregular war for this talk because in here, we are going to articulate some of those terms. You may not be interested in irregular war, to paraphrase Trotsky, but irregular war is very interested in you. And so, it will be key to the Capstone Concept on Joint Operations.

What we're going to use is an evidence-based approach. It's going to consider history, including the current operations, war-gaming, and experimentation. An example for you, ladies and gentlemen, if you look back at the Germans' Condor Legion in Spain, during the Spanish Civil War, where basically the Germans put what you and I would call a brigade combat team into Spain with air support, an air/ground team, Stukas overhead, and they experimented. They harvested a lot of results. They found one good thing. Put a radio in the tank, talk to the airplane overhead, you get a lot more than one plus one operating separately. You get synergy.

Our Condor Legion right now is run by a guy by the name of Dave Petraeus, it's a heck of an experiment. It's much better than some of the experiments we've run down in Norfolk in the past and we're going to harvest those lessons. We've got a specialized team that's been flown into Baghdad with his full support here about four months ago. And it is sending back to us what we need to change in terms of joint doctrine and this sort of thing.

My point to you is the lessons are out there. Are we going to look at them? Are we going to study them and do something about it? This is the process. I hate getting into process, but I think in this case it might give you a certain amount of confidence that we do have an intellectually sound way to harvest those lessons, study what's going on, take them forward, and form how we will fight and operate the force in the future.

We know we're not going to get this exactly right. Our intent is not to get it completely wrong. If you were in my office in Hampton Roads, 200 years ago today, and we were scratching our heads, and we're all pretty bright folks and we're trying to figure out where are we going to fight next, say in the next ten years, nobody anticipated that the Royal Navy was going to sail right up past my office and burn this town to the ground. They were not dumb people. They had created a country, they had beaten the Redcoats, who had beat Napoleon a few years later. They had written a Constitution that stood the test of time. They were not dumb people. Surprise will remain a primary factor in national security affairs and if anything, those who think that the fog and friction of war was going to disappear because of American technology, if they haven't been convinced otherwise by now, all we can do is send them off to the old folks home and get them out of the way because they are out of touch with reality.



A point I would make here is that we're going to have to define, here in the joint operating environment and carry it forward to the CCJO, what is the problem we're trying to solve? Every force that's transformed – Where's Wick Murray? I read your book – every force in history that has transformed has done so based on a clear identification of what is the problem we're trying to solve.

The Germans in World War I were tired of putting their boys against barbed wire and machine guns and getting them blown away. They wanted to restore maneuver to the battlefield. They started with storm troops and 20 years later with what we call Blitzkrieg, they unleashed hell on Europe. U.S. Navy could not, in its war games, beat Japan in what they thought was coming in the '20s and '30s, a fight across the Pacific. In those days, we didn't do demonstration of American might, we really did experiments and war games, unlike today. And in those cases, they eventually created fast carrier strike forces and amphibious troops and logistic capability and they started winning their war games. They identified a problem and they solved the problem. It goes back to Alexander's day, by the way. I think you get the idea.

That same Navy missed a problem. They didn't figure out how to conduct long-range submarine operations and they lost an enormous number of our lads because they didn't figure out the problem and solve it. So you've got to get this part straight or I don't care how short you Marines cut your hair or how fast you run your three miles, you're going to waste your boys. And if you sign up for the wrong concept – ask Israel after the second Lebanon war, who had rushed headlong into effects-based ops, you can get your people blown away for the silliest, stupidest, reasons imaginable if you don't have some degree of intellectual underpinning to what you're doing.

Just to give you an idea of where we're going with this: When we get done with this, we're going to have a constellation of three additional Joint Operating Concepts. And these three are looked at, ladies and gentlemen, because nuclear, conventional, and irregular are significantly different in their character. They are all war. I don't get into a whole lot of definition other than pointing out where the character of war is sufficiently different that you have got to have a different concept to fight nuclear war than you have to have to fight irregular war or conventional war. Conventional war – conventional in terms of legal rules about war, in terms of the kind of systems, the weapon systems we use, and of course there are a lot of people out there who decide that's good, you mastered that. You dominate that, so I won't fight you there. I'll go over here in the usual paradox of war.

Now what does this mean to you and I? It means to be a leader in the world, whether you want to be or not – I just came back from three days in Walla Walla, Washington, my hometown. And while I was out there, there are very few Americans who think that we have a need to be the leader militarily in the world. I'll tell you, we have done such a poor job of explaining why we have a responsibility here that there is very little grassroots support, from my perspective on this. Part of this will allow us to inform the public policy people, the new administration, our own officer corps, our coalition allies on whom we are so dependent, how we see ourselves fighting.



Nuclear is different, conventional, and of course this irregular thing. Those are three very different types of war. Here's the problem. There's another guy sitting back here who wrote an article about hybrid war. And the enemy is very likely, from what we saw in the second Lebanon war, to say 'I'll take one of those, I'll pull one from over here, and we're going to put it all together into a nice tapestry of conflict.' And if you try to set up – I heard the question by the young lady as she was designated, the lady in glasses, but she asked what should we have – I think two different forces. Someone asked about two different forces to do this fighting.

A guy out in Lawton, Kansas by the name of Rich Sinnreich just wrote an article on this. It's very well done, by the way. And he said "you know, the British Empire did not take two different kinds of forces to do its fighting against conventional enemies and do its internal policing." The Roman Empire didn't do it. And I assure you, ladies and gentlemen, if you look at the agility – and let's just take the U.S. Army over the last, say from Bosnia on, look at what they did in Bosnia with a Cold War force, fast forward to Afghanistan, a very different kind of war. Go into Iraq, watch that war morph, and look at Afghanistan today. Anyone who has been reading enough self-critical stuff about this country's military's inability to adapt is going to be looking back at history some day and saying, in a matter of those few years, the U.S. Army wound its way through all those things and did very, very well.

And you can sit back and say well, they could have done better. Yes, they could have. And anyone who's studied history knows that everybody could have done better except for the person who was there at that moment who was doing the best they could. So I think this is the right way to go right here. It's going to be a persuasive view of future military operations and it's going to provide the broad description. And it's not going to tell you how to do everything. It can't be everything to all people. It's going to have to be something much broader than that. We'll get into a little more detail with the next three and we'll use these for what capstone concepts should be, not trying to make them detailed primers for how to do everything.

It will help us to build this balanced force and the security challenges, as I see them right now, it's still in process here. You've got this conventional war, you've got irregular war, you've got peacetime engagement, which I believe includes deterrence, and then you've got stabilization, which includes reconstruction.

This is, I think, one of the best statements I've seen yet by certainly one of the most thoughtful people. *(Makes reference in the presentation to a quote by Colin Gray: "Defence planning should seek to achieve and sustain a military posture that is flexible and adaptable, and not geared to a single, preclusive vision/doctrine of future warfare."*

But notice he said it's got to be flexible and adaptable of military posture. It cannot be geared to a single – and look at that word – preclusive. Preclusive. If we go preclusive, the paradox of war means what? That's exactly where the enemy goes to. So let's not be foolish and all run to the other side of the boat here, say it's all irregular warfare now, and tip the boat over and wonder why we're all in water angry about one another saying again, in this remarkable country,



who messed it up. We're great at that, but why don't we just anticipate it and say we're not going that far.

Dr. John Hamre said something interesting, too, recently. He said there is no country that's more capable of using the powers of inspiration. Something to think about before we use the powers of intimidation. Remember that we're working a strategy here and the ultimate use of strategy has to do with reducing the number of fights you have to go through. I mean, if you sit back and say what do you really want your strategy to do, you want to fight fewer wars. Because you have a strategy that works. You checkmate the enemy. Your narrative beats the enemy's narrative. You create friends and coalition partners because you allow yourself to be persuaded by others, not always dictating. And by the time you're done, you've woven a tapestry of shared interest to a point that you create a more peaceful world.

Now, do you have to have the sword ready to go? Believe me, I've not gone soft-hearted. I believe there are some people who need to be whacked. I've been quite blunt about it; I've never withdrawn that statement. But between two irreconcilable world views, when you are up against people, who in a false religious garb decide women have no human rights, and remember they don't just talk about it, they mean it, I believe we've got to be able to go after them. And we've got to be able to defend the realm. And the realm today, it's a narrative realm. It's an information realm. It's a values realm. It's not a physical realm. And if we cannot do that, if the military cannot do that, if it can not adapt so that our policy makers can use this military, if it insists on doing things that internally make it feel good, and are not useful to the policy makers, then we will become dominant and irrelevant at the same time. And we don't need that sort of a military. And the American people are not dumb. They will relieve us of the awful burden of keeping a military like that. So either we adapt to our times, or we become irrelevant. We're going to adapt, and we're going to improvise and overcome.

Jointness is not a natural state. I don't know, Bob, (*LTG Bob Wood, USJFCOM deputy commander*) if you used it earlier. Jointness is not a natural state for military officers. We are brought up, and I'm very comfortable leading a rifle platoon through a tree line at night. I know friends who can take off from carrier decks at night, find their way back, and land on that little postage stamp. There are people who can do low level flying, and there are tank commanders in the army who can take a tank battalion through any enemy, and those formative years are very, very influential on you. So you have to fight after that to always bring others into your thinking, and that's a good thing. Diversity is good even in the military, despite some people wanting jointness to be some communist manifesto that we all sign up for, we start teaching army privates the value of Air Force B-52s or something like that.

But at the same time, when you go to coalition warfare – and here is a point I want to make very strong of the American officers, wearing my NATO hat now – if joint warfare is difficult, coalition warfare is a factor of 10 times more difficult. And we have got to find a way to use everybody who comes to the fight. I had breakfast this morning with former Gen. George Joulwan, and he was explaining that Iceland didn't have a military, but at one point going in to Bosnia was willing to give four doctors for the effort. He got on his airplane, flew to Iceland to



thank them personally. If we don't have officers who can create harmony and trust across the coalition battlefield, their leadership is obsolete. I don't give a damn how tactically brilliant they are, I want them to go home right away. We don't need them. I'd rather have someone more junior, more plastic, more flexible in their approach, who can bring people on board and create a sense of teamwork. And that's the sort of force we're going to have to turn out.

What that means is, when the CCJO is done, for those of you in this room who are working on it, and the JOE itself, it is going to prioritize things like training, and education beyond what it has ever been given in terms of a priority in the past. That is where we're going to adapt to this war. It's not a new tank, not a new airplane. It's a new way to think, and it's a more inclusive way of going after the enemy.

There is a value I think that we can never forget, to the dominant U.S. conventional, and NATO conventional forces. There are things in this world, nations in this world that are not part of NATO, not even perhaps friends of the United States, that are relieved from fear of conventional war because of U.S. conventional dominance and nuclear dominance. We do not want to give up those kinds of advantages, and then wonder why we created another problem. As expensive as it is, it is nowhere near as expensive as fighting a conventional war. And I think especially as we try to – with a new administration coming in, we try to perhaps get a fresh start on some things. Every new administration gives us this opportunity; we're going to have to use a more persuasive narrative ourselves, in the American side that does not rely on technology to solve a human problem, a social problem that needs human solutions. That problem is war. We're going to have to be more willing to be persuaded by our friends, and create common cause with people, and recognize that history is still on our side.

The nations that grew out of the enlightenment, mostly out of Europe and certainly America, Canada, each nation has a dominant position in terms of the radical ideas of this world, and we should never be conservative or shy about standing up for them. We should use our powers of inspiration, and we should make certain people know in history, nothing is new under the sun. The first time I could find the jihad word by the way, in American political papers, comes, believe it or not, from two guys by the name of Thomas Jefferson and John Adams. And one was the ambassador to France, one was the ambassador to England. But basically they were writing about the Barbary pirates, and talking about how jihad's a pretty crummy excuse to enslave free seamen on the high seas. And for those of you in the Marine Corps, you got "to the shores of Tripoli" in your hymn, some 17 years after it was used in 1786 for the first time.

So we actually have in many cases opportunities given us by history, and by the enemy, to create friendships. I'll give you an example. When those school children, hundreds of Russian school children were murdered in Southern Russia, why didn't we have the director of Scotland Yard, and the director of FBI on the next plane to Moscow to say we know you're proud, we know you don't want our help right now because you're angry, but we're going to give you every bit of help we can to hunt these guys down to the ends of the Earth and kill every one of them? There are opportunities the enemy will give us, to make friends with people we have not been friends with before. The question is, will we be willing to do so? Will our military be constructed for



the joint fight of the future in a manner that will permit us to fight non-military forces. You cannot say, “Sorry, I only fight someone who looks like me, organized like me, and equipped like me.”

On that, I hope I’ve said enough to at least insight some degree of skepticism and challenge, so let me open it to questions please. Thank you.



Objectives of Land Warfare

By
Dr. Milan Vego

There are many good generals in Europe, but they see too much at the same time. As for me, I see only one thing, and that is the masses of men. I seek to destroy them, because I am certain that with that everything else falls at the same time.

Napoleon I

The outcome of any war is decided by the accomplishment of the military strategic objectives on land. Hence, the objectives in land warfare are invariably the most critical for the successful war effort whether in offense or defense. At the strategic level, the war's objectives are determined by the top national or alliance/coalition leadership. In the modern era, the accomplishment of the ultimate objective on land in a high-intensity conflict largely depends on one's ability to achieve the required degree of the control in the air and at sea. The determination of the militarily achievable objectives in land warfare can be a difficult and time-consuming process because numerous aspects of the factors of space, time and force on both the enemy's and friendly side must be properly evaluated.

In a high-intensity conflict, the objectives of war on land depend on the scope and content of the political strategic objectives, which in turn depend mainly on whether one's political strategic objective is limited or unlimited; offensive or defensive; or low or high-intensity. It also depends on the size and characteristics of the physical features of terrain and weather/climate, nonmilitary aspects of land theater, and the size and composition of the opposing ground forces. In general, the objectives in land warfare can include destroying or annihilating the enemy army; temporarily or permanently seizing some piece of land, dominant geographic position, or critically important economic area; destroying the enemy's will to fight; or trying to win the ultimate victory without fighting (see Figure 1). Obviously, the objectives on land in a low intensity conflict such as counterinsurgency are very much different from those in a high-intensity conflict. Among other things, control of the population and enhancing the legitimacy of the indigenous government is generally much more important than the destruction of the insurgents. Yet the political objectives of a counterinsurgency campaign simply cannot be achieved without providing a secure environment within which all the nonmilitary objectives can be accomplished. Likewise, the objectives on land in peace operations are much more limited because the predominant aspects of the political objective in such operations are nonmilitary. This, in turn, requires much more careful and judicious employment of one's ground forces.



Here, the main focus will be on the objectives on land in a high-intensity conflict.

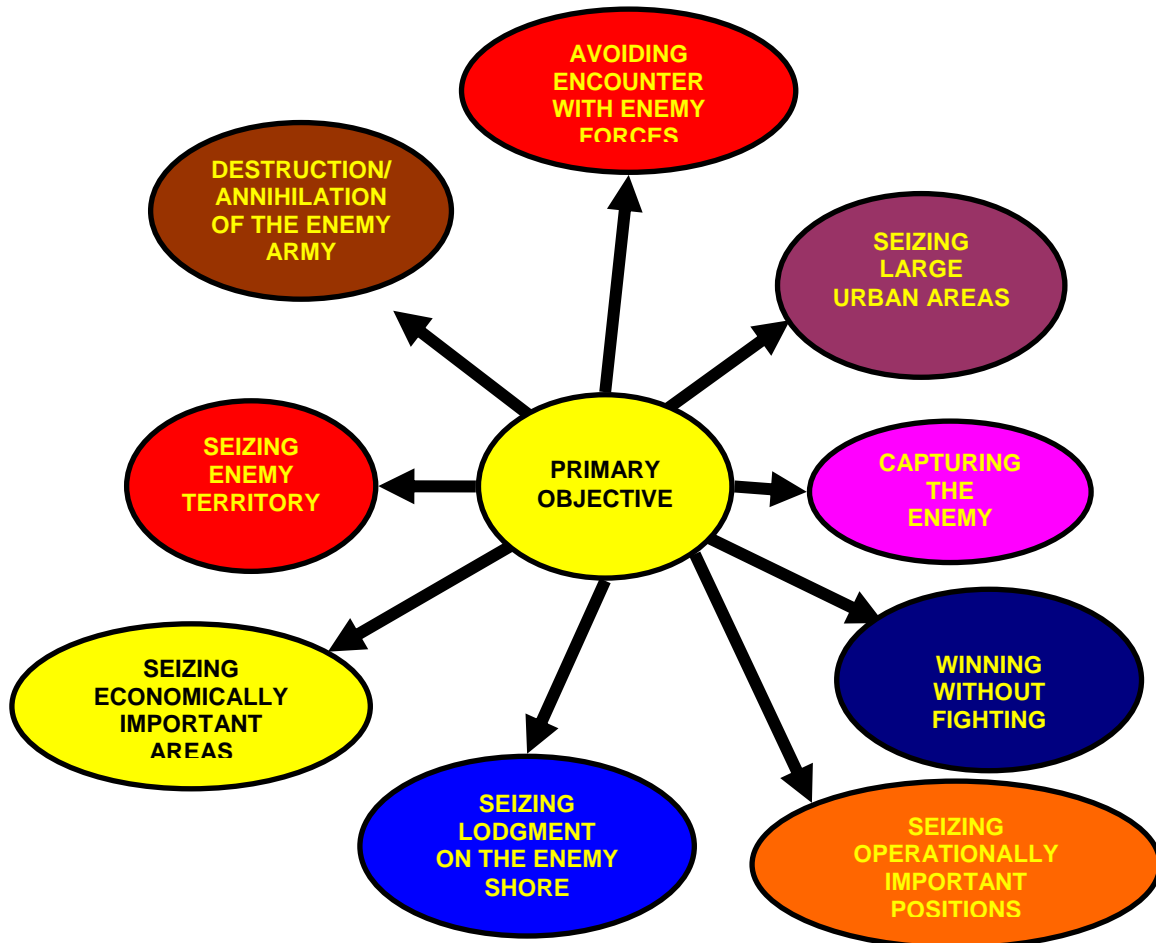


Figure 1 Objectives of Land Warfare

Destroying the Enemy Army

In the past, most successful commanders focused a major part of their efforts on destroying the enemy army. They intuitively understood that by destroying an enemy's main source of power, all other objectives in war would be accomplished. With the destruction of the enemy army as the focus, capturing the territory and seizing the enemy capital is the last and highest objective of the war.¹ For example, Alexander the Great (356–323 BC) in all his campaigns invariably tried first to destroy the enemy's army. He led his forces toward the enemy, overcame terrain obstacles, secured his base of operations and his communications, gave due considerations to his supplies, waited until the preparations and equipping were completed, went on the attack, and pursued the enemy until the point of the most extreme exhaustion of his own forces.² For example, his objective was not to bring the Persian king Darius III Codomannus (Old Persian Dârayavauš) (380-330 BC) to terms; it was to appropriate his empire. However, he had not only



to defeat the Persian army but also to win acceptance in the eyes of the Persian people. Hence, there was no question of suing for peace, which, after his crushing defeat at Issus in November 333 BC, Darius vainly tried to do. Alexander the Great intended to achieve his objective with the minimum employment of his forces and the least dislocation of and damage to the Persian Empire. His aim was to achieve, as far as it was possible, a bloodless conquest so he drew a distinct line between the Persian army and the Persian people. Expressed differently, defeating the enemy army was Alexander the Great's strategic objective; winning over the Persian population was his political objective. The first was the means to attain the second, because as long as the Persian army held the field, there was no certainty that the people would willingly accept him.³

The Carthaginian general Hannibal (247–182 BC) in the Second Punic War (218–202 BC) attempted primarily to destroy the Roman army, not to capture territory. Likewise, the Roman statesman—and one of the great military captains—Julius Caesar (100–44 BC) in his numerous conquests invariably tried to destroy his enemies. However, when in difficulties he also sometimes resorted to a policy of moderation in dealing with the subjected population.⁴

The Italian general Raimondo Montecuccoli (1609–1680), in the service of the Holy Roman Empire (800-1806), was one of the ablest military commanders during the Thirty Years' War (1618-1648) and against the Ottomans in Hungary. He was also one of the leading military intellectuals of his era. Montecuccoli wrote that “whoever believes he can make progress without battles and can conquer anything worthwhile contradicts himself or at least expresses such a fantastic opinion that he evokes ridicule.” In his view, “whoever wins a battle wins not only the campaign but also a large piece of territory.”⁵

Frederick the Great (1712–1786) is considered by many historians to be one of the firm proponents of the war of annihilation. In his *General Principles of War* (*General-Prinzipien vom Kriege*), written in 1748, Frederick the Great noted that “battles decide the fate of a nation. When one wages war, one must, of course, come to decisive moments, either to withdraw from the embarrassment of the war, or to place his enemy in similar embarrassment, or to settle the quarrels which would otherwise never come to an end.”⁶ Prussia was much smaller than its main opponents, the Austrian Empire, France, and Russia. For their country to survive as a state, the Prussians were forced to focus the major part of their efforts on defeating their enemies' armies, not seizing parts of enemy territory.

Frederick the Great generally tried to exploit the superior mobility, discipline, and firepower of his army by throwing the weight of his force against a portion—usually a wing—of the enemy line of battle.⁷ One of his maxims was that for an offensive war the commander should formulate ambitious plans so that if they succeed they will produce really significant results; hit the enemy hard, and do not be content merely to harass him on his frontiers. For Frederick the Great, the only purpose of war is to force the enemy to concentrate to an advantageous place as soon as possible; one should never lose sight of this idea.⁸ However, he was more ambivalent about what should be the principal objective in war than many of his biographers and theoreticians indicate. In his observations on the military talent and character of the Swedish king Charles XII (1682–



1718) in 1759, he wrote that “there are, of course, situations where one has to fight, but one should decide to do this only if one has less to lose than to win, if the enemy either in his camps or on his marches is negligent, or if one can force him by a decisive blow to accept peace. While many generals let themselves be easily drawn into a battle, they resort to this solution only because they do not know what else to do. Far from considering this as a credit to them, we regard it rather as the sign of a lack of genius.”⁹

During the Seven Years’ War (1756–1763) the Austrian emperor Francis I intuitively realized that the main objective in war was the destruction of the enemy army. He wrote to his brother, Charles of Lorraine, on 31 July 1757, “we must not think of the conquest of land but only of the destruction of his [Frederick the Great’s] army, for if we can ruin his army, the lands will automatically fall to us.”¹⁰

The Prussian general and theoretician Georg Heinrich von Berenhorst (1733–1814), in contrast to many of his contemporaries, called for a more determined conduct of war. He had little patience with the battle-avoiding maneuvers advocated by the leading proponents of the so-called geometrical school of warfare. Berenhorst wanted one’s army to march straight at the enemy and beat him, in order to terminate the war with a single blow. Once the enemy was brought in, his army must be destroyed. Berenhorst’s emphasis was on the short war and the battle of annihilation.¹¹

The armies of the *ancien régime* (the political and social system that existed in France before the Revolution of 1789) were too small and had low mobility. They were unable to maneuver quickly because they had to carry rations with them. They could not protect large areas, and they could not guard and secure lines of communications with their base under all circumstances.¹² The entire situation changed dramatically with the French Revolution and Napoleon I (1769-1821). War’s aims became unlimited, because the French tried to destroy the enemy armies, occupy the enemy’s territory, and change the enemy’s social system. Hence, wars were fought to the finish.

Napoleon I almost invariably directed all his efforts against the enemy army. He based everything from the start not only on attacking the enemy army but on destroying it.¹³ The legacy of Napoleon I was that the objective in warfare was not a province or the enemy’s capital, but the enemy army. War had to be conducted offensively, thereby preserving one’s own freedom to act.¹⁴ For Napoleon I everything was subordinate to tactical victory on the battlefield.¹⁵ He believed that the enemy must be attacked everywhere he is encountered. In his view, “to imagine that it is possible to perform great military deeds without fighting is just empty dreams.”¹⁶ Although he did not invent pursuit, he systematized it. Pursuit of the defeated opponent was an integral part of Napoleon I’s way of warfare.¹⁷

The Napoleonic Wars (1804-1815) amply demonstrated that the defeat of the enemy army and even the occupation of his country will not result in a final peace agreement as long as the enemy government and population have the will to go on fighting. Hence, under most circumstances the



destruction of the enemy army and the occupation of his country will bring the enemy to the negotiating table.¹⁸

The Austrian general and military thinker Archduke Charles (1771–1847) wrote that major objectives may be achieved only by decisive attacks. Therefore, the most important art of a general consists of correctly determining the moment when and points where such decisive attacks can be delivered with the greatest probability of favorable results.¹⁹

The Prussian general and military reformer Gerhard Johann David von Scharnhorst (1755–1813) was also a staunch proponent of destroying the enemy army as the principal objective in a war. He demanded more determined preparation and campaigning; as a necessary concomitant of universal conscription, the martial spirit of the population should be aroused. Like Frederick the Great, Scharnhorst insisted that the beaten enemy must be pursued and routed.²⁰

Carl von Clausewitz (1780–1831) is widely considered one of the strongest proponents of the battle of annihilation. He observed that “one succeeds by defeating the enemy army; destroying the enemy forces’ ability to function properly eliminates what stands in the way of military victory. Victory on the battlefield renders attainment of the political objective possible, triggering and sustaining the conflict.”²¹ Clausewitz wrote in his *On War* that no matter what may be the central feature of the enemy’s power—the point on which your efforts must converge—the defeat and destruction of his fighting forces remain the best way to begin and, in all cases, the most important part.²² The destruction of the enemy army is the purpose of any operation.²³ Clausewitz insisted that the enemy armies must be destroyed. They must be put in such a condition that they can no longer carry on the fight. This must be followed by the occupation of the enemy’s territory; otherwise, the enemy could renew hostilities in the interior of the country. Clausewitz considered breaking the enemy’s will to continue fighting to be the most important factor.

In Clausewitz’s view, “the first and the most important [principle] is to employ all the forces that can be made available with the utmost energy. The second is to concentrate one’s force at the point where the decisive blows are to be struck, even at the risk of being at a disadvantage at other points, in order to make sure of the result at the decisive point. Success at the decisive point will compensate for all defeats at secondary points. The third principle is not to lose time. By rapidity many measures of the enemy are nipped in the bud, and public opinion is gained in one’s favor. The fourth is surprise—the most powerful element of victory. The fifth is to follow up the success one gains with the utmost energy.” For Clausewitz, pursuit of the enemy when he is defeated is the only means of consolidating the fruits of victory.²⁴

Clausewitz observed that nonviolent methods can succeed only if the enemy also intends to rely on a similar strategy; otherwise, the advantage will always accrue to the side that is, or at least appears to be, ready to do battle despite the high cost in lives and resources. In his view, one’s desire to win without bloodshed only emboldens one’s enemy. In war, an effort that is too small can result not just in failure but in positive harm, where each side is driven to outdo the other,



which sets up a chain reaction.²⁵ Clausewitz conceded that it is possible to win without combat, but he considered that possibility to be so remote that it can be relegated to the realm of theory.²⁶

Despite the claims of his critics, Clausewitz was not a rigid advocate of annihilation. Among other things, he wrote that the aim of disarming the enemy is in fact not always encountered in reality and need not be fully achieved as a condition of peace. Outright defeat of the enemy is not always necessary to subdue him. Yet Clausewitz insisted that if the military clash becomes unavoidable, then it should be clear that the primary object of great battles must be the destruction of the enemy forces. He also did not carry this thought to the other extreme. Clausewitz duly took note of the negative side of the destruction of the enemy forces—the preservation of one's forces. While the effort “to destroy the enemy forces has a positive purpose and leads to positive results, whose final aim is the enemy's collapse, it is obvious that pressing our own forces has a negative purpose—it frustrates the enemy intentions.”²⁷

General Antoine Henri de Jomini (1779–1869), another great interpreter of Napoleon I, was also a proponent of the destruction/annihilation of the enemy army as the main objective in war on land. He included among his principles of war the need to maneuver so that one's main forces operate only against units of the enemy army.²⁸ He insisted that one's forces should be employed with the utmost determination against the enemy army. The first principle for a general is that he must seize the initiative and thereby force the enemy to conform to his actions. Annihilation of the hostile army in battle and pursuit were the only focus for all his military thinking. He contended that in an attack on enemy communications the objective should be to cut off enemy supplies and enemy lines of retreat, beat the enemy, and thus completely annihilate, capture, or disperse him.²⁹

In the American Civil War (1861–1865), the most successful commanders, notably generals Ulysses S. Grant (1822–1885), William Tecumseh Sherman (1820–1891), Phillip Henry Sheridan (1831–1888), and Confederate General Robert E. Lee (1807–1870), all directed their efforts to the destruction of the opposing armies. Lee, as the commander of the most important Confederate army, the Army of Northern Virginia, remained devoted to offense, always searching for that elusive battlefield opportunity to destroy the enemy.³⁰

After being appointed General-in-Chief of all the federal armies in the early 1863, General Grant at once decided to use the greatest number of troops practicable against the armed force of the enemy. The cardinal principle with which he began his campaigns as General-in-Chief was to employ all the force of all the armies continually and simultaneously, so that there should be no recuperation on the part of the rebels, no rest from attack, no opportunity to reinforce first one and then another point with the same troops at different seasons. Grant's central idea was the concentration of his forces, from which he intended to conduct a ceaseless offensive against the enemy armies and the resources of the Confederacy's morale.³¹ President Abraham Lincoln (1809–1865), although without professional military experience, clearly understood that the strength of the rebellion was its military—its army—and not its capital, its territory, or even its population. He adhered to this view consistently, beginning with his insistence on operations



against the Confederate army around Manassas in the summer of 1861 and continuing to the end of the war.³²

The Prussian chief of the general staff, Field Marshal Helmuth von Moltke, Sr. (1800–1891), like Napoleon I, was a firm adherent of the idea that the principal military objective is the destruction of the enemy army. He insisted that one must distinguish between the object of the war and the object of the operation. The former is not the army but the landmass and the enemy's capital, and, within them, the resources and political power of the state. It comprises what one desires to hold or that for which one will subsequently trade. The object of an operation is the hostile army, insofar as it defends the object of the war. This condition can cease if the defensive army is shaken by combat, if it is too weak, or if it stands too far away to be of effect or in terrain that precludes offensive action. In such a case, a piece of terrain or the capital may gain greater importance than even the hostile army; this means that as far as the attack is concerned, war and operations objectives are one and the same thing.³³

In the Austro-Prussian war against Denmark in 1864, Moltke, Sr., learned the difficulty of achieving the political objective—the defeat of Denmark—without accomplishing what he called the operational (actually military strategic) objective—the destruction of the Danish army.³⁴ The main difficulty was that Prussia had to defeat Denmark quickly before either the Eider River (*Ejderen* in Danish; flows south of Kiel for about 120 miles to the North Sea) or Schleswig, which was key to intercepting the retreating army. The war with Denmark started in February 1864. Moltke, Sr., was not sent to the field but remained in Berlin. His plan was improperly executed, and the Danes managed to escape to their fortresses of Dueppel and Fredericia. Each of these fortresses controlled communications to an island. Dueppel was taken by a ground assault, while Fredericia was abandoned by the Danes. However, the Prussian and Austrian armies were checked, because the Danish army retired further to the islands of Alsen and Fuenen, as Moltke, Sr., had feared they might do.³⁵

By the end of April 1864, Moltke, Sr., took to the field as the chief of the combined Prussian-Austrian forces. After the landing on Alsen the Danes evacuated the island. Moltke, Sr., next planned to land on Fuenen. However, that action proved to be unnecessary, because the Danes decided to sue for peace.³⁶

Moltke, Sr., wrote that victory in a decisive battle is the crucial moment in a war. “Victory alone breaks the will of the enemy and compels him to submit to our will. It is not the occupation of a stretch of a land or conquest of a fortified stronghold; it is the destruction of the enemy armed forces alone that, as a rule, will decide war's outcome.”³⁷ Passive waiting will not achieve a war's purpose.³⁸ The objective of war is not an enemy province or capital city, but the enemy army. War must be conducted offensively to preserve one's freedom to act. For Moltke, Sr., the first question is where the enemy is, what he is going to do, and where one's main weight (focus) of effort (*Schwerpunkt*) will be. This is the key for correctly handling the enemy.³⁹ The operational objective is to achieve the decision of breaking the will of the enemy. This, in turn, will then serve the needs of strategy.⁴⁰



Field Marshal Alfred von Schlieffen (1833–1913) was also a firm believer that the principal objective in a war is the destruction or annihilation of the enemy army. He wrote in 1909 that the battle of annihilation alone is the desirable battle. Based on his interpretation of the battle of Cannae of 216 BC in the Second Punic War (218-202 BC) Schlieffen rather dogmatically believed that one's attack against the enemy flank is the essential substance of the whole history of war. The complete destruction of the opponent is always most advantageous, because it sets the whole of the victor's forces free for other duties, and that really counts in a war on two fronts. Schlieffen believed that the best way to achieve the enemy's annihilation is encirclement and attack in the rear; while enveloping both wings demands large forces, a small force may be satisfied with action against only one wing. An ordinary victory over one of the opponents is not enough. Complete destruction is necessary in order to prevent, once and for all, the opponent's recovery and the possibility of a rush to his ally's aid.⁴¹

The Soviets and all other communist-ruled regimes embraced Clausewitz and his ideas on the nature of war and the relationship between policy and strategy. Vladimir Ilych Ulanov Lenin (1870–1924), like Karl Marx (1818–1883) and Friedrich Engels (1820–1895), was fascinated by Clausewitz and his *On War*. He agreed with Clausewitz that war is a means of policy. War belongs to the province of social life. It is an expression of the conflict of the ideas, objectives, and way of life of an entire society with those of some other society. Yet while Clausewitz never questioned that morality, as understood by civilized peoples, was a factor of social life, Lenin completely ignored it. He in fact reduced war to a purely animal struggle. Lenin wrote, "We repudiate all morality derived from nonhuman and class concepts; we say that it is deception, a fraud in the interests of landlords and capitalists; we say that our morality is entirely subordinated to the interests of the class struggle of the proletariat; we say morality is what serves to destroy the old exploiting society and to unite all toilers around the proletariat, which is creating a new communist society; we do not believe in eternal morality." Lenin wrote in his "Advice of an Onlooker" on 21 October 1917 that in fomenting and executing an insurgency "you must concentrate a great superiority of forces at the decisive point; otherwise the enemy has the advantage of better preparation and organization. Once the insurrection [has] started you must take the offensive. You must take the enemy by surprise and seize the moment when his forces are scattered."⁴²

According to Marxist theory, "war" and "revolution" are interchangeable terms. The Marxist-Leninists aimed to transform what they called an imperialist conflict into civil war, that is, a war in which the enemy destroys itself. The aim of these conflicts was to make them the "midwife of revolution by unceasing political and psychological attack; by systematic propaganda, the fomenting of strikes, mass fraternization, and by stimulating mutiny and desertion." The Red Army was trained from the very beginning as not only a military but also a revolutionary instrument.⁴³ The Soviet strategy was offensive, and its focus was on attacking the enemy's weaknesses. It entailed extensive maneuvers to deliver the main blow at a weak point in the enemy's defenses or upon the flanks or rear of the defender. The Soviets emphasized speed, surprise, and maneuver more than massive numerical superiority. The fundamental aim was to kill or capture the enemy troops and to destroy or seize their equipment, within the assigned area and within a stated period.⁴⁴



Avoiding the Enemy's Army

The proponents of the so-called “geometrical” school of warfare in the late eighteenth century asserted that in order to win a war it was necessary only to conduct skillful maneuvers to put the opponent in a hopeless position. Because war was supposed to be conducted by maneuvering, principles, rules, and recipes were sought for this art. Geographical studies were made to determine where positions could be found that were difficult for the enemy to attack and at the same time readily accessible for bringing up necessities for one's own army. Fortresses were considered the key for the country.⁴⁵ The leading advocates of such an approach to land warfare were the British general and theoretician Henry H. E. Lloyd (1729–1783) and the Prussian theoretician Adam Heinrich Dietrich von Buelow (1757–1808).

Lloyd suggested avoiding decisive battle in conducting warfare. He based this suggestion on his observation that the tactical weaknesses of contemporary armies and the inherent shortcomings of linear tactics made battles costly and rarely decisive.⁴⁶ In Lloyd's view, wise generals will always prefer to base their actions on knowledge of terrain, of the science of fortifications, camp craft, and marches, rather than allow matters to depend on the uncertain outcome of battle. He who has an understanding of these things can initiate military operations with geometric strictness and can constantly wage war without ever being forced to fight.⁴⁷

Buelow wrote that the campaign objective should be a geographic point. The bases of operations had to be chosen in a way that would threaten enemy communications without endangering one's own. Buelow, like Lloyd and some other theoreticians of his era, wrote that battle should be replaced by superior maneuver against the enemy lines of supplies. He also incorporated the French corps system: an army should advance with three corps on a broad frontage in order to protect the lines of communications and outflank the enemy.⁴⁸ Buelow insisted that the real aim of strategy is to gain the object of war without bloodshed. In his view, “one ought to avoid battle and have recourse to maneuvering. If one is obliged to fight a battle, mistakes must have been committed previously. One can neutralize every victory by operating strategically against the flanks and rear of the enemy; those examples, however, show how ineffective victorious battles are against superior numbers, how indecisive they mostly are in latter wars.”⁴⁹ Buelow drew the ultimate conclusion that the objective of operations was not the enemy army but his supply depots. These depots are the very heart of an enemy army; hence, by strategic maneuvering on the flanks and in the rear of the enemy, one can neutralize any victory the enemy might win with weapons.⁵⁰

Seizing the Enemy Territory

Sometimes the principal objective in war on land was to occupy territory instead of focusing the major part of one's effort on defeating the enemy army. Such a course of action is generally justified in the conduct of major amphibious operations, when the most critical initial objective is to seize major ports or the lodgment ashore or in the interior of the enemy territory.⁵¹

In the eighteenth century the prevalent view in Europe, with the exception of Prussia, was that the main objective in a war was to seize the enemy's territory rather than destroy the enemy's



army. The French campaign plans, in contrast to those of Frederick the Great, did not envisage the pursuit of decisive battle. Strategic conditions did not force France to risk the loss of its irreplaceable soldiers. Instead, the French called for slow, systematic advance, taking every fortress on the way and turning it into a supply depot. The war would be won by steadily expanding control of the enemy's territory and resources rather than by the destruction of the enemy army. Another reason for the focus on control of territory was that no coalition member was willing to sacrifice his own soldiers for the benefit of the other members of the coalition.⁵²

In the Russo-Turkish War of 1877–1878, the Russian army command made a (wrong) decision to focus on the geographic points—capturing the Balkan crossings instead of defeating the enemy army first. The original Russian plan envisaged the mobilization of about 300,000 men, organized in seven corps, for a fast advance from southwestern Russia directly to Constantinople, without disposing of substantial Turkish forces on both flanks. The Russian troops would cross Romania, force the Danube River somewhere along its middle flow, throw up defensive cordons east and west to cover a race for the Balkan divide, and then move through the mountains past Adrianople to threaten the Turkish capital. In the secondary theater, the Caucasus, the Russians planned to concentrate sufficient force to tie down additional Turkish troops and prevent their incursions into the steppes of southern Russia.⁵³

The execution of the Russian campaign plan did not go as well as the planners had intended. The Russians used much smaller forces—only four army corps, three less than originally intended. The remaining mobilized troops were deployed in Russia proper and unavailable for the campaign. The Turks concentrated approximately 160,000 men in the Balkans and about 60,000 men in the Caucasus.⁵⁴ In the first phase of the campaign, (12 April-3 July 1877, the Russians with the permission of the government in Bucharest deployed four army corps from Bessarabia to Wallachia. They successfully crossed the Danube and established a secure lodgment in Bulgaria. In the second phase) 4 July -10 December), the Russians found themselves bogged down fighting Turks entrenched in the fortress of Plevna.⁵⁵ Osman Pasha of Vidin seized and fortified Plevna close to the planned Russian advance. This forced the Russians to lay siege to Plevna instead of advancing to Constantinople.⁵⁶ In the third phase (11 December-19 February 1878), the Russians finally succeeded in breaking the Turkish defenses and advanced in the direction of Constantinople.⁵⁷

The war ended with the Russians imposing the San Stefano Treaty on Turkey on 19 February 1878. Instead of the originally planned campaign of only several months, the war had lasted 47 weeks. The reasons were the surprisingly stiff Turkish resistance, the Russian failure to order full mobilization, inept planning, miscalculations of the distances to be traversed, and lack of good access to their own lines of supply. For example, the distance from the Russian staging area around Kishinev (Chişinău today), Moldavia, to San Stefano via Shipka Pass in Bulgaria was 620 miles, and it had to be transited all on foot and in bad weather. An extraordinarily wet spring made movement of the Russian troops on the Romanian roads very difficult. Also, the rivers and streams were excessively high for weeks.⁵⁸



The Allied commanders and their planners in the European Theater in World War II repeatedly focused on seizing physical objectives, specifically ports or large cities. They gave little or no thought or effort to how best to defeat the bulk of the German army. The Allies' basic intent in the European theater was to overrun land and liberate cities. The main reason for the Allied emphasis on seizing territory rather than destroying enemy forces was the experience of the horrendous losses suffered on the western front in World War I. The Allied top generals also had a profound lack of confidence in the capabilities of their forces. Hence, to avoid large losses the Allies opted for a slow, time-consuming, but largely low-risk advance toward large cities and capitals to liberate populations from the German occupation. In general, they avoided taking high but prudent risks that could be decisive if successful but painful and humiliating if unsuccessful.⁵⁹

In the invasion of both Sicily in July 1943 and Italy's mainland in September 1943, the Allies also focused predominantly on seizing territory instead of defeating the German armies. In the aftermath of the capture of Sicily, two Allied armies invaded Italy. They spread across the foot of the Apennine Peninsula, took their initial objectives, and struggled northward. The U.S. Fifth Army seized Naples, a major port on the west coast, while the British Eighth Army captured an airfield cluster nearby Foggia; both objectives fell into Allied hands on 1 October 1943. Afterward, the major objective was to seize Rome.⁶⁰

Seizing the Lodgment Ashore

Normally, in any opposed amphibious landing, the initial and most important objective should be seizing the lodgment on the enemy's shore to allow the arrival of follow-on combat forces and their supplies. However, after the end of the amphibious phase, the most important operational objective should be the destruction of the enemy forces, not seizing as much territory as possible. The Allies in the European theater in World War II repeatedly focused the major part of their efforts on seizing the enemy's controlled territory as quickly as possible instead of on confronting the Axis forces. For example, in preparing the invasion of Sicily in July 1943, the Allies regarded the island not as a place to defeat the Axis defenders but rather as a stepping-stone to southern Europe.⁶¹ The U.S. generals in Sicily were for some reason fixated on the names of places.⁶² No one seemed interested in trapping and eliminating the Axis forces in Sicily. To block the Axis escape from the island, the Allies had to reach and capture Messina before the Axis forces departed. The Allies had two options, either to land as close to Messina as possible or to land on the eastern and northern shores and drive on converging lines to Messina. Instead, they chose to come ashore with two armies massed around Sicily's southeastern tip, as far away from Messina as possible. After some 38 days of heavy fighting, the Allies overran the island but failed to trap significant numbers of Axis troops. Three small Allied landings on the northern coast and one on the eastern coast were designed to speed up the advance to Messina, but all failed in that purpose. The Allies were unable or unwilling to interfere with the Axis evacuation across the 1.9- to 10-mile wide Strait of Messina. Allied airpower and seapower remained strangely distant or even absent from what might have been a decisive stroke.⁶³ By the time the Allies reached Messina, some 60,000 Germans and 70,000 Italians had escaped to the mainland with most of their heavy equipment.⁶⁴



In the Normandy invasion (Operation Overlord), the Allies initially had to capture a large part of Normandy to serve as an intermediate base of operations for their subsequent advance across France. The main factor for selecting Normandy as the lodgment area was a number of large ports that could be used for building up forces and supplies for future operations. These included Cherbourg on the Cotentin Peninsula, and the ports of Brittany, especially Brest and Lorient. The Seine ports of Le Havre and Rouen were better, but both sides of the river had to be controlled, which would split the planned beachhead into two parts.⁶⁵

The planned lodgment in Normandy encompassed a rather large area; to the Seine River in the east and the Loire River on the south, the Normandy province west of the Seine, all of Brittany, and parts of the ancient provinces of Anjou and Maine. The Caen-Falaise area would provide direct access to the Seine River and Paris, as well as to the ports of Honfleur, Rouen, and Le Havre. Initially, the Allied forces would capture the lodgment encompassing the Caen area and seize the port of Cherbourg. In the second phase, the lodgment would be enlarged to encompass Brittany Peninsula, all ports south to the Loire River, and the area between the Loire and Seine rivers. Within three weeks of D-day, the Allies moved one million men and 500,000 tons of supplies ashore. The beachhead was small and congested. Instead of the planned 62 air squadrons operating on 27 fields, only 30 squadrons operated from 17 strips. The Allies brought more combat troops but were short of service units. The Allied planners envisaged that the lodgment area being captured within 90 days after the initial landings.⁶⁶ However, it took the British and Canadians 33 days to seize Caen. Cherbourg was captured 21 days after the initial landings. Rouen was not captured until 30 August, and Le Havre not until 12 September 1944.

Because of their almost-exclusive focus on enlarging the lodgment after the main landings in Normandy, the Allies failed to take full advantage of an inviting opportunity to encircle and destroy two German field armies. They failed twice to block the German escape—first in early August at Mortain-Falaise pocket, and then at the German withdrawal across the Seine River. About 250,000 Germans escaped in the last 10 days of August, only to turn and erect a defensive barrier barring the Allies entrance into Germany. Had the Allies concentrated on destroying the German forces shortly after the landing at Normandy, they might have won the war in the west in the fall of 1944.⁶⁷

Seizing Large Urban Areas

The importance of seizing control of the enemy's cities was recognized in the ancient era. However, the Chinese general and theoretician Sun Tzu (circa 554–496 BC) observed that the lowest realization of warfare was to attack cities.⁶⁸ He wrote that enemy cities are the least desirable and most costly objective. In his view, the worst policy is to attack cities; they should be attacked only when there is no alternative.⁶⁹ The French marshal Henri de la Tour d'Auvergne Turenne (1611–1675), one of the most successful commanders in the Thirty Years' War (1618–1648), also advised Louis II de Bourbon, Prince de Condé, that it was better to harm the enemy in the field by many fights than to besiege and capture cities.⁷⁰

Some of the most important battles in military history took place either in the proximity of or within cities. For example, the Persian efforts in war against Greek city states focused on seizing



control of Athens. The Greeks eventually succeeded in defending Athens by fighting several brilliant battles.

Wars for cities became a dominant feature of warfare in Europe in the medieval era. In 1453, the Ottoman Turks seized Constantinople and thereby ended Christian efforts to dominate the Middle East.⁷¹ If the Byzantines had been successful in defending their capital, the history of the Middle East and the Balkans might have been entirely different than it was.

Large cities, the capitals in particular, were often selected as among the most important military objectives for one's army. Struggles for large cities and capitals in general have been standard occurrences in most wars of the modern era. Large cities and their suburbs generally contain disproportionately large segments of the country's industry and services. They also have large populations.

In general, urban terrain greatly favors the defender. The attacker must commit much larger forces in order to occupy a city, and his mobility is greatly reduced. The more firepower the attacker uses, the more advantages the defender accrues. Also, in prolonging his resistance, the defender can gain from the rubble the attacker creates. A defender will often deploy forces in an urban area if their capabilities are inadequate for offering strong resistance on the open field.⁷²

Capital cities are usually large in terms of physical extent and population. They are the centers of the country's political, economic, and cultural life. They are the seat of government. Many capitals and their suburbs are sources of their country's economic strength. They are the hub of the country's transportation system. Capitals also exert significant psychological and symbolic influence on both the country's population and the enemy's. Hence, one's attack on the enemy's capital would often result in the enemy's decision to concentrate his strongest available forces in its defense. In other words, the enemy's army will inevitably be drawn into the fight to protect its country's capital.

For Jomini, all capitals are what he called "strategic points" because they are not only centers of communications but also the seats of power and government. He wrote that in strategy, the object of the campaign determines the objective points. If that aim is offensive, the point will be the possession of the hostile capital, or a province whose loss would compel the enemy to make peace. In a war of invasion, the capital is ordinarily the objective point.⁷³

In strategic terms, capture or defense of the capital usually constitutes a major part of the political or economic or psychological objective, as did the Soviet capture of Berlin in May 1945 or the coalition capture of Baghdad in April 2003. In purely military terms, a capital is normally an operational objective to be captured or defended. The reason is that no enemy's capital can possibly physically include the enemy's entire armed forces, or even most of the ground forces. Therefore, defeat of the enemy forces defending the capital (and most other large cities as well) would normally amount to the accomplishment of an operational objective that in some situations could have strategic consequences for the war's outcome. The exception is only if the capital contains within its limits the major part of the defender's forces—a highly unlikely event.



Very often the attacker might decide to put the major part of his efforts into seizing the enemy capital as the best way of ending the war. The political and psychological importance of capitals can vary greatly. In general, the significance of the capital is much higher for countries that are traditionally highly centralized, such as France or Russia, than for countries that are relatively new national states. Yet that does not necessarily mean that the defender would cease his resistance, as the examples of Berlin in 1760 and in 1806, Moscow in 1812, and Mexico City in 1847 illustrate.⁷⁴ Also, Vienna was seized by Napoleon I in 1805 and 1809 but the Austrian army continued its resistance for some time. Yet in both cases, the loss of Vienna made the Austrians' strategic situation much more unfavorable than it had been before.⁷⁵ A protracted and successful defense of one's capital, such as the Soviet defense of Moscow in the winter of 1941, could well have a major political and/or psychological effect on the course of a war.

The importance of the capital in a country already occupied by enemy forces is usually much lower than at the outset of hostilities, as the example of the Allied capture of Rome in June 1944 shows. The Allied invasion of Anzio in January 1944 (Operation Shingle) was planned to greatly accelerate the Allied advance to the German-occupied Italian capital. However, the Germans reacted smartly and penned the Allied forces at Anzio's bridgehead. The Germans did not abandon the Gustav Line. For the Allies, there were then de facto two fronts in Italy instead of one. The Allied advance toward Rome bogged down. General Mark Clark, the Fifth Army's commander, was directed by President Franklin D. Roosevelt and General George Marshall to take Rome as quickly as possible, and in any event before the planned Normandy landing. The Allied troops entered Rome on 6 June 1944, the same day the Allied forces landed in Normandy. Yet the capture of Rome had little significance for the course of the war. It was newsworthy and provided great excitement, it allowed the Italian government to be established there and become a cobelligerent, and it secured several nearby airfields. It probably gave the Allies some emotional and psychological advantages, but nothing more.⁷⁶

Often military necessity may require direct or indirect attack on a large city to destroy enemy forces deployed within the city itself or in its proximity. Attack on the enemy capital would most likely force the defender to draw a large part of its army to reinforce the forces already deployed in the vicinity of the capital. In 1812, the Russians choose Borodino, some 70 miles southwest of Moscow, as the place most favorable for the defense of the capital of Moscow. Although Napoleon I suffered relatively large losses in that battle, he forced the Russian army under Field Marshal Mikhail I. Kutuzov (1745–1813) to retreat and entered Moscow. In other cases, the defender might decide to make the city a battleground and thereby put the attacker at a great disadvantage. The defender might choose to rely on urban fortifications not to defeat but to delay the enemy until better conditions occur.⁷⁷

Sometimes the military position the city occupied is the main reason for attacking it, as the case of General Grant's attack on Vicksburg in May 1863 shows. In other cases, the capture of an urban center might facilitate future operations. For example, in 1758, the English army under Jeffrey Amherst captured the French fortress city of Louisbourg, situated on Cape Breton Island, Nova Scotia. That city was an important base for the fleet and facilitated the blockade of French Canada. Its capture also greatly inhibited operations of the French fleet in North America.⁷⁸



The attacker might sometimes attempt to starve the enemy population in order to bring about the city's surrender. For example, one of the aims of the German 900-day siege of Leningrad (8 September 1941–18 January 1944) was to starve out the city's population. In other cases, the mere threat of an attack on the capital has forced the enemy to surrender. Attack on the enemy capital may not be necessary if the attacker succeeds in seizing positions controlling the approaches to the city. For example, British general James Wolfe captured the French city of Quebec without attacking it by landing at night and scaling the supposedly inaccessible Heights of Abraham in September 1759.⁷⁹ The Germans laid siege to Paris (19 September– January 28, 1871) during their war with France but did not attack the city.

One alternative to not fighting in the cities is to avoid them. Yet this is often not possible if the defender has deployed a large force in the cities. Such a case would require the attacker to contain the threat that the enemy's force poses to his rear and lines of supplies. For example, the mounted Mongol forces that invaded the northern part of the Chinese Chin Empire in 1211 were not skillful in besieging cities. Thus, they bypassed large cities in the province. This, in turn, allowed the Chins to resist the Mongols, preventing them from consolidating control for almost 20 years. The Mongols finally established that control in 1234, but only after a Chinese general and some Chinese troops skillful in siege warfare defected to the Mongols. An attack on a large urban center usually requires disproportionately larger forces, special equipment, and more time than operations on open terrain. Napoleon I estimated that in attacking a city the attacker must have numerical superiority of four to one. Such attacks also require large and extensive logistical support and sustainment. The morale and will of the attacking forces must be high; otherwise, success cannot be achieved.⁸⁰

In their eventually unsuccessful siege of Vienna in July–August 1683, the Turkish forces under Grand Vizier Kara Mustafa (1634-1683) numbered about 200,000 men. The city was defended by a force of some 11,000 Christians (including 3,000 militia). During the siege, a multinational force of some 76,000 men and 170 guns and led by the Polish king Jan III Sobieski (1629–1696) was brought in to defend Vienna. In the successful siege of the Turkish-held city of Belgrade (29 June–18 August) in 1717, the Austrian commander Prince Eugene de Savoy (1663–1736) had about 100,000 men, while the Turkish defenders under Mustafa Pasha had only 30,000 men, 600 cannon of various calibers, and 70 boats.⁸¹

In attacking the Confederate fortress of Vicksburg, General Grant deployed 80,000 men while the defenders had 47,000 men.⁸² In the attack on Warsaw (8–28 September 1939), the Germans employed 175,000 troops, while the Polish defenders had 120,000 men. In the siege of Leningrad 1941–1944, the Germans employed some 725,000 troops while the Soviet defenders numbered some 930,000 troops. In their attack on Budapest, which led to some of the bloodiest fighting of World War II, the Soviets used more than one million men. The Germans and the Hungarians defended the city with only about 70,000 men. The Soviets massed some 2.5 million men, 6,250 tanks, 7,500 aircraft, and 41,600 artillery pieces in their final assault on the Nazi capital of Berlin in April–May 1945. The Germans defended the city with about one million men, 1,500 tanks, and 3,300 aircraft.⁸³



During their ultimately successful attack on the city of Vukovar, eastern Slavonia in 1991, the Serbs concentrated two tank brigades and six mechanized brigades plus some paramilitary units, some 37,000 to 44,000 men, against some 2,000-2,300 Croatian defenders (but reportedly only 400-500 effective fighters).⁸⁴ In their attack on the Chechnyan capital Grozny in 1994–1995, the Russians never had sufficient forces. They initially used only some 20,000 men to seize the city, which had a population of 400,000 and stretched over 100 square miles.⁸⁵

Sieges of large cities, especially capital cities, are usually long-drawn-out affairs. For example, the successful defense of Vienna in 1683 lasted about 60 days (14 July–12 September).⁸⁶ In World War II, defense of large cities was almost invariably protracted. For example, it took the Germans 20 days (8–28 September) to seize Warsaw in September 1939. The Warsaw uprising in 1944 took the Germans 63 days (1 August–2 October) to eliminate. The Soviets defended Stalingrad for about 76 days and Leningrad for about 28 months (8 September 1941–18 January 1944). The Germans defended Budapest for 34 days (29 December 1944–13 February 1945), Vienna for 31 days, and Berlin for 23 days. The Croatian city of Vukovar fell to the Serbs only after 87 days (25 August–18 November 1991) of strong resistance.

Attacks on cities also result in large losses of men and material on both sides. For instance, the Austrians suffered 5,400 casualties in their attack on Belgrade in 1717, while perhaps as many as 30,000 men died from illnesses. The Turkish defenders had 5,000 killed and wounded out of total casualties of 20,000.⁸⁷

The German losses in the attack on Warsaw in September 1939 amounted to 1,500 dead and 5,000 wounded, while the Polish defenders had some 6,000 dead (plus 25,800 civilians) and 16,000 wounded soldiers. About 100,000 Polish defenders went into captivity. Polish losses in the Warsaw uprising in 1944 amounted to 17,200 (10,200 killed 7,000 missing) and, 12,000 wounded, plus 15,900 captured. In addition, an estimated 200,000 to 250,000 Polish civilians were killed and 700,000 evacuated during and in the aftermath of the uprising. German casualties were also high: 10,000 killed, 7,000 missing, and 9,000 wounded.⁸⁸

In the defensive phase of the battle for Stalingrad, the Soviets had an estimated 324,000 dead or missing and 320,000 wounded and sick, or 5,100 casualties per day. In the offensive phase of the battle, they had 155,000 killed or missing and 330,000 wounded or 6,400 casualties per day on average.⁸⁹ In the siege of Leningrad, the Soviets claimed to have lost 670,000 men. Some independent historians estimate their losses from 700,000 to about 1.5 million, and most estimates cite 1.1 million. This included 300,000 military casualties (plus 16,500 civilians from enemy bombing). The German losses in the siege of Leningrad are not known. The German losses during the battle for Budapest were 47,000 dead, while their Hungarian allies had 55,000 dead. In addition, the Germans' attempts at relief efforts in the defense of Budapest cost them about 80,000 dead and 240,000 wounded. The Soviet casualties in Budapest were estimated at about 320,000.⁹⁰

In the last phase of the battle for Berlin (16 April–8 May 1945) the Soviet losses amounted to 78,000 dead or missing and 274,000 wounded, or 15,300 casualties per day on average.⁹¹ Other



sources claim that the Soviet losses in that battle amounted to 81,000 dead or missing and 280,000 sick or wounded, or total casualties of about 361,000. The German losses were estimated at 150,000 to 173,000 killed, 200,000 wounded, and 134,000 captured. In addition, 152,000 German civilians were killed.⁹² During the siege of Vukovar, the Croatian casualties were 1,500, including 450 killed in action. In addition about 1,130 civilians were killed and 2,600 were reported missing. The unofficial estimate of Serbian losses was 1,180 dead and 2,500 wounded.⁹³

Seizing Large Economically Important Areas

In some cases, control of an important industrial or agrarian area or oil-producing area might become the principal objective of a campaign, at least in its initial phase. In planning for the invasion of Russia in 1941, General Franz Halder, chief of the army's general staff (OKH), believed that the main operational objective of the campaign should be Moscow because its capture would mean the elimination of the political and administrative center of the Soviet communist regime. It was also the hub of the Soviet transportation system. However, Hitler intended to seize Leningrad and link up with the Finns and destroy the Soviet position in the Baltic. In the south, Hitler wanted to capture all important industrial and raw material areas of the Donets Basin (Donbas) and the Caucasus and destroy Soviet bases in the Black Sea area, which posed a threat to the Germans' oil supplies from Romania.⁹⁴ In Hitler's view, the Soviet will to continue the war would be crushed by the loss of its important economic and industrial regions.⁹⁵ Hitler and the Supreme Command of the Wehrmacht (OKW) initially agreed that the objective should be the destruction of the Soviet armed forces. However, they put less emphasis on the need to capture Moscow soon. For them the most urgent problem was seizing the Baltic ports, the grain-producing areas of the Ukraine, and the Caucasian oil fields.⁹⁶

In planning and executing the invasion of Soviet Russia in June 1941 (Plan Barbarossa), Hitler made the costly mistake of not making a clear decision whether the initial German objective should be to destroy the Soviet army or to seize a large section of the European part of Russia. The Germans' ultimate military strategic objective was to occupy the European part of Soviet Russia along the Volga River and thence along a general line extending northward toward Archangelsk. By seizing the European part of Soviet Russia, the Luftwaffe would be able to strike Soviet industrial centers beyond the Urals and prevent the Soviets from recovering the lost territory. At the same time, the Soviet bombers would be unable to attack the German industrial centers and the Romanian oil fields.⁹⁷

On 7 August 1941, Halder tried through General Alfred Jodl, chief of the operations department of OKW, to convince Hitler that the Germans should first destroy the Soviet army rather than pursue economic objectives. Jodl informed Halder that in Hitler's view both objectives could be accomplished simultaneously. Halder's argument—that the offensive against Moscow could be successful only if all forces were directed toward that objective and that no peripheral objectives should be pursued—was ultimately rejected by Hitler. On 12 August 1941, Hitler directed that the most important objective before the onset of winter was, not Moscow, but the Crimea and Donets industrial areas and Leningrad.⁹⁸



Another of Hitler's major mistakes on the eastern front was his objectives for the resumption of the German offensive in the summer of 1942 (Operation Blue). He then decided to pursue mainly economic objectives in southern Russia. In his directive Number 41 of 5 April 1942, he stated that, "our aim is to wipe out the entire defense potential remaining to the Soviets and to cut them off, as far as possible, from their most important centers of war industry."⁹⁹ To make things worse, Hitler also intended to seize Leningrad in order to join hands with the Finns. The capture of the Soviet capital Moscow was no longer attempted or even considered. Strategically, the Germans fragmented their efforts in Russia in two opposing directions.¹⁰⁰ Halder believed in the summer of 1942 that the Caucasus was an urgent necessity, as that region had about the same importance for Germany as Silesia once had for Prussia. In his view, only the control of the Caucasus would enable Germany to hold the territory it had conquered during the war.¹⁰¹

Hitler's objective to seize the Caucasian oil fields in the summer of 1942 was based on some hard economic facts. In 1942, out of the total Soviet oil production of about 22 million tons, some 80 percent came from the Caucasus. Hence, the capture of the Caucasian oil fields would present a mortal threat to the Soviet regime. The most important oil center was Baku, some 745 miles away from the southernmost part of the German front. Another problem was that the oil fields must fall undamaged into German hands. The Germans also had to assign forces to the newly conquered areas and to prevent the western Allies from shipping oil to the Soviets. For these reasons it was necessary to prevent shipping traffic on the Volga River.¹⁰² This was one of the reasons for Hitler's decision to also seize Stalingrad.

Seizing Geographic and Economic Areas

Sometimes a land campaign can be aimed to capture both geographic and economic areas, as the Germans tried to do in their ultimately unsuccessful invasion of Soviet Russia in June 1941. Hitler defined the major operational objectives of the Barbarossa campaign as the capture of Leningrad, Moscow, the Ukraine, and the Caucasian oil fields. Ultimately, the Germans intended to capture the European part of Russia up to the general line of Volga-Arkhangelsk and thereby prevent the Soviet long-range bombers from reaching the heart of Germany. They believed that by reaching that line, the last remaining industrial areas of Russia in the Urals could, if necessary, be eliminated by the Luftwaffe. Hitler's strategic objectives in Russia were preponderantly political and economic. He considered Leningrad the important objective as a link with the allied Finns, for obtaining mastery of the Baltic, and as the cradle of Bolshevism. The Donets Basin in the Ukraine was important for Germany's economy on account of its industries and ores. The conquest of the Caucasus was critical for Germany's control of oil sources. By acquiring these areas Hitler hoped to paralyze the Soviet war economy. The German army's general staff acknowledged the importance of these objectives but insisted that prior annihilation of the Red Army was the most important objective. Hence, the most important operational objective was seizing Moscow, because the mass of the Red Army would be encountered on the way to the Soviet capital. Moscow was the hub of Soviet power. The Soviet leaders could not risk losing Moscow. The capital was also a vital center of the war industry and the central junction of the Russian railroad network.¹⁰³



Winning Without Fighting

Throughout military history, there have been many attempts to secure victory in war without actually employing one's land forces in combat. By far, most such attempts failed, because the opponent, no matter how weak, decided to resist the demands of the stronger side. Despite this poor record, winning without fighting remains, in the minds of many, an attractive solution to the complexities and dangers of modern warfare. Sun Tzu was one of the best-known proponents of this school of thought. He believed that a force should be used sparingly and as a last resort. For Sun Tzu, the greatest achievement was to win without fighting, to convince the enemy's forces to yield and if possible switch sides rather than be annihilated.¹⁰⁴ He wrote that in the practical art of war, the best thing of all is to take the enemy country whole and intact. To shatter and destroy it is not so good. So, too, is it better to capture a regiment, a detachment, or company rather than to destroy them. The skillful leader subdues the enemy's troops without any fighting. He captures their cities without laying siege to them; he overthrows their kingdom without lengthy operations in the field.¹⁰⁵

Sun Tzu's emphasis on using one's forces only as a last resort reflects the Confucian idealism and the Chinese political culture of his era. He shared the early Confucian assumption of the primacy of mental attitudes in human affairs. Confucius did not glorify physical coercion and warfare. He believed that the superior man, extolled in the classics as the highest product of self-cultivation, should be able to attain his ends without violence.¹⁰⁶ Sun Tzu advised that battles are not necessarily the proper means to accomplish national objectives while keeping one's victories intact—for him, it was better to win without fighting. Thus, those skilled in war subdue the enemy army without battle; they capture his cities without assaulting them and overthrow his state without protracted operations; they conquer by strategy. This can be achieved through the use of political, economic, psychological, and moral means prior to resorting to military efforts, and then through the use of wise strategy when military means are called upon. The latter entails not just seeking to fight battles but utilizing intelligence, deception, surprise, speed, and other methods either to outmaneuver the enemy or to ensure that any battles will end in victory. Sun Tzu wrote that the objective of strategy is to achieve the nation's aims through controlling or affecting its sphere of influence, but to do so without resort to fighting. When one is weaker than the enemy, avoiding a decisive battle and going on the strategic defensive until the situation improves are another means of winning without fighting. Unfortunately, that strategy is not always followed.¹⁰⁷ Therefore, the highest realization of warfare is to attack the enemy's plans; next is to attack his alliance; next is to attack the army; and the lowest is to attack the fortified cities. Cities should be attacked only when it cannot be avoided. Hence, one who excels at employing the military subjugates other people's armies without engaging in battle, captures other people's fortified cities without attacking them, and destroys other people's states without prolonged fighting; he must fight under heaven with the paramount aim of preservation.¹⁰⁸

In the modern era there have been few examples of achieving victory without actual fighting. Perhaps the best such cases were a string of Hitler's political and diplomatic victories that led to the reoccupation of the Rhineland in March 1936 without a shot being fired; the annexation (Anschluss) of Austria in March 1937; the annexation of Sudetenland in September 1939; and the final dismemberment of Czechoslovakia in March 1939. Neither the Austrians nor the



Czechs offered any resistance to Hitler's demands. Based on the secret clauses of the Soviet-Nazi Non-Aggression Pact (or Ribbentrop-Molotov Pact) of August 1939, the Soviet troops entered all three Baltic States (Estonia, Latvia, and Lithuania) in June 1940 and formally annexed them in August 1940. Based on the secret clauses of the same pact, the Soviets also occupied Romania's part of Bessarabia and northern Bukovina in July 1940.

Conclusion

The objectives of land warfare should be within the framework dictated by policy and strategy. The highest national or alliance/coalition leadership normally determines the political strategic objective in the employment of one's armed forces. Based on these objectives, the operational commander and his staff should derive the ultimate military or theater-strategic objective. The objectives on land in operations short of war and in a war differ greatly because of considerable differences in the scope and the content of the ultimate strategic objectives. In general, the more the strategic objective is political, the less the need for, and the more difficult is the employment of, one's ground forces. Clausewitzian and Moltkean adherents firmly believe that the main purpose of employing one's military sources of power is to destroy the enemy's army. Other theoreticians and practitioners believe that capturing the territory and the enemy's nation capital might be a better way of accomplishing the ultimate objective on land. In modern era, there is also a school of thought, as exemplified by Hitler in his conduct of war against Soviet Russia, that control of the most important economic or industrial areas offers the best chance of ultimate success on land.

Experience shows that the best and the quickest way to force the enemy's surrender is to destroy his army in the field. However, this is not always the case in a defensive campaign, where attriting the enemy's forces and retaining sufficient territory to prosecute war is the only militarily achievable option. Also, in conducting a major amphibious landing, it is normally necessary to seize the lodgment ashore or some major ports/airfields and only then focus one's efforts on destroying the bulk of the enemy's army. In short, it is usually a bad decision to embrace rigidly what the proper objective on land should be. Hence, the mission received from the higher political authority or commander and the situation should be the main determining factor for the operational commander and his staff in the selection of the ultimate objective on land; the destruction of the enemy's physical capacity to wage war should be the principal objective. The key is to avoid having a rigid view of whether the enemy army or the enemy territory or economic area should be the first and most important objective. This determination should not be solely based on the military situation; political, diplomatic, and other nonmilitary aspects of the situation must be taken fully into account.

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Notes

¹ Carl von Egger, *Die Strategie. Mit Berücksichtigung der neuen Kriegsmittel* (Basel: Schweighauserische Verlagsbuchhandlung, 1870), p. 10.

² Hans Delbrueck, *History of the Art of War*, Vol. 1, *Warfare in Antiquity*, translated from the German by Walter J. Renfroe, Jr. (Lincoln/London: University of Nebraska Press, 1975), p. 231.

³ J. F. C. Fuller, *The Generalship of Alexander the Great* (Cambridge, MA: Da Capo Press, paperback reprint of 1960 edition), pp. 284, 286.

⁴ *Ibid.*, p. 319.

⁵ Hans Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, translated from the German by Walter J. Renfroe, Jr. (Lincoln/London: University of Nebraska Press, 1985), p. 308.

⁶ *Ibid.*, pp. 310–11.

⁷ Jay Luvaas, ed. and trans., *Frederick the Great on the Art of War* (New York, NY: Da Capo Press, 1999), p. 13.

⁸ Hans Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, translated from the German by Walter J. Renfroe, Jr. (Lincoln/London: University of Nebraska Press, 1985), p. 310.

⁹ Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, pp. 311–12.

¹⁰ *Ibid.*, p. 314.

¹¹ Claus Telp, *The Evolution of Operational Art, 1740–1813: From Frederick the Great to Napoleon* (London: Frank Cass, 2005), p. 52.

¹² Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 421.

¹³ *Ibid.*, p. 422; cited in James N. Wasson, *Innovator or Imitator: Napoleon's Operational Concepts and the Legacies of Bourcet and Guibert* (Fort Leavenworth, KS: School of Advanced Military Studies, United States Army Command and General Staff College, May 1998), p. 21.

¹⁴ Erich Brandenberger, *Der Deutsche Generalstab*, ZA/1 1879, P-031a, 30, Teil Studien der Historical Division Headquarters, United States Army Europe, Foreign Military Studies Branch, Bundesarchiv/Militaerarchiv (BA-MA), Freiburg i.Br., p. 90.

¹⁵ Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 421.

¹⁶ Cited in V. E. Savkin, *The Basic Principles of Operational Art and Tactics (A Soviet View)* (original *Osnovnye Printsipy Operativnogo Iskusstva i Taktiki*) (Moscow: Voenizdat, 1972); translated and published under the auspices of the United States Air Force (Washington, DC: U.S. Government Printing Office, 1972), p. 19.

¹⁷ J. F. C. Fuller, *The Conduct of War 1789–1961* (New York, NY: Da Capo Press reprint of 1961 edition), p. 49.



¹⁸ Cited in Michael I. Handel, *Masters of War: Classical Strategic Thought* (London: Frank Cass, 3rd rev. and expanded ed., 2001), p. 203.

¹⁹ Ibid., p. 20.

²⁰ Cited in Telp, *The Evolution of Operational Art, 1740–1813: From Frederick the Great to Napoleon*, p. 53.

²¹ Martin Blumenson, “A Deaf Ear to Clausewitz: Allied Operational Objectives in World War II,” *Parameters* (Summer 1993), p. 16.

²² Carl von Clausewitz, *Vom Kriege*, edited by Dr. Werner Hahlweg (Bonn: Ferdinand Duemmler Verlag, 16th edition, 1952), p. 875.

²³ Guenther Blumentritt, “Die Gedanklichen Grundlagen des Alten O.K.H.,” in O.v. Natzmer, *Die Gedanklichen Grundlagen des OKH und deren Auswirkungen auf seine Organisation. Ein Schlusswort zur Gesamtarbeit “OKH,”* December 1949, ZA/1 1935, P-041kk, BA-MA, p. 11.

²⁴ Cited in Fuller, *The Generalship of Alexander the Great*, p. 287.

²⁵ Handel, *Masters of War: Classical Strategic Thought*, pp. 151–53.

²⁶ Ibid., p. 144.

²⁷ Cited in Jehuda L. Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and Their Impact on the German Conduct of Two World Wars* (Westport, CT: Greenwood Press, 1986), p. 17.

²⁸ Savkin, *The Basic Principles of Operational Art and Tactics (A Soviet View)*, p. 21.

²⁹ Rudolph von Caemmerer, *The Development of Strategical Science During the 19th Century*, translated by Karl von Donat (London: Hugh Rees, 1905), pp. 28–29.

³⁰ Peter S. Carmichael, ed., *Audacity Personified: The Generalship of Robert E. Lee* (Baton Rouge, LA: Louisiana University Press, 2004), p. 1.

³¹ John F. C. Fuller, *The Generalship of Ulysses S. Grant* (Bloomington, IN: Indiana University Press, 1958, reprinted by Krausreprint, Milwood, NY, 1977), pp. 209–10.

³² Eliot A. Cohen, *Supreme Command: Soldiers, Statesmen, and Leadership in Wartime* (New York, NY: Free Press, 2002), p. 31.

³³ Daniel J. Hughes, ed., *Moltke on the Art of War: Selected Writings*, translated by Harry Bell and Daniel J. Hughes (Novato, CA: Presidio Press, 1993), p. 93.

³⁴ Michael D. Krause, “Moltke and the Origins of Operational Art,” *Military Review* 9 (September 1990), p. 31.

³⁵ Ibid., “Moltke and the Origins of the Operational Level of War,” in Roland G. Foerster, ed., *Generalfeldmarschall von Moltke. Bedeutung und Wirkung* (Munich: R. Oldenbourg Verlag, 1991), p. 146.



- ³⁶ Ibid., p. 147.
- ³⁷ Hughes, *Moltke on the Art of War: Selected Writings*, p. 130.
- ³⁸ Helmuth von Moltke, Sr., *Ausgewählte Werke*, Vol. 1, *Feldherr und Kriegslehrmeister* (Berlin: Verlag von Reimar Hobbing, 1925), p. 259.
- ³⁹ Brandenberger, *Der Deutsche Generalstab*, pp. 90, 103.
- ⁴⁰ Krause, "Moltke and the Origins of the Operational Level of War," p. 150.
- ⁴¹ Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and Their Impact on the German Conduct of Two World Wars*, pp. 41–42, 47.
- ⁴² Fuller, *The Conduct of War 1789–1961*, pp. 205, 202–03, 207.
- ⁴³ Ibid., p. 204.
- ⁴⁴ Cited in William P. Baxter, *The Soviet Way of Warfare* (London: Brassey's, 1986), pp. 91–92.
- ⁴⁵ Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 388.
- ⁴⁶ Cited in Telp, *The Evolution of Operational Art, 1740–1813: From Frederick the Great to Napoleon*, p. 24.
- ⁴⁷ Cited in Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 388.
- ⁴⁸ Cited in Telp, *The Evolution of Operational Art, 1740–1813: From Frederick the Great to Napoleon*, p. 54.
- ⁴⁹ Caemmerer, *The Development of Strategical Science During the 19th Century*, p. 3.
- ⁵⁰ Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 389.
- ⁵¹ Egger, *Die Strategie. Mit Berücksichtigung der neuen Kriegsmittel*, p. 18.
- ⁵² Cited in Telp, *The Evolution of Operational Art, 1740–1813: From Frederick the Great to Napoleon*, p. 19.
- ⁵³ Bruce W. Menning, *Bayonets before Bullets: The Imperial Russian Army, 1861–1914* (Bloomington and Indianapolis, IN: Indiana University Press, 1992, paperback reprint, 2000), pp. 52–55; P. A. Rotmistrov, ed., et al., *Istoriya Voennoy Iskusstva*, Vol. 1 (Moscow: Voenizdat, 1963), p. 223.
- ⁵⁴ Ibid., p. 223.
- ⁵⁵ Menning, *Bayonets before Bullets: The Imperial Russian Army, 1861–1914*, p. 53.
- ⁵⁶ H. M. Johnstone, *The Foundations of Strategy* (London: George Allen & Unwin, 1914), p. 101.



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- ⁵⁷ Menning, *Bayonets before Bullets: The Imperial Russian Army, 1861–1914*, p. 53.
- ⁵⁸ Ibid.
- ⁵⁹ Blumenson, “A Deaf Ear to Clausewitz: Allied Operational Objectives in World War II,” pp. 16–17.
- ⁶⁰ Ibid., p. 21.
- ⁶¹ Ibid., pp. 19–20.
- ⁶² Brian Holden Reid, “The Italian Campaign, 1943–45: A Reappraisal of Allied Generalship,” in John Gooch, ed., *Decisive Campaigns of the Second World War* (London: Frank Cass, 1990), p. 136.
- ⁶³ Blumenson, “A Deaf Ear to Clausewitz: Allied Operational Objectives in World War II,” pp. 19–20.
- ⁶⁴ Reid, “The Italian Campaign, 1943–45: A Reappraisal of Allied Generalship,” p. 136.
- ⁶⁵ A. Harding Ganz, “Questionable Objective: The Brittany Ports, 1944,” *Journal of Military History* 59 (January 1995), p. 78.
- ⁶⁶ Martin Blumenson, “The Emergence of Infrastructure as a Decisive Strategic Concept,” *Parameters* (Winter 1999–2000), pp. 43, 41.
- ⁶⁷ Blumenson, “A Deaf Ear to Clausewitz: Allied Operational Objectives in World War II,” p. 24.
- ⁶⁸ Cited in Lou Di Marco, “Attacking the Heart and Guts: Urban Operations Through the Ages,” in William G. Robertson and Lawrence A. Yates, *Block by Block: The Challenges of Urban Operations* (Fort Leavenworth, KS: U.S. Army Command and General Staff College Press, 2003), p. 1.
- ⁶⁹ Cited in Handel, *Masters of War: Classical Strategic Thought*, p. 58.
- ⁷⁰ Delbrueck, *History of the Art of War*, Vol. 4, *The Dawn of Modern Warfare*, p. 308.
- ⁷¹ Di Marco, “Attacking the Heart and Guts: Urban Operations Through the Ages,” pp. 1, 4.
- ⁷² Ibid., p. 5.
- ⁷³ Cited in Handel, *Masters of War: Classical Strategic Thought*, p. 57.
- ⁷⁴ Egger, *Die Strategie. Mit Beruecksichtigung der neuen Kriegsmittel*, p. 18; Di Marco, “Attacking the Heart and Guts: Urban Operations Through the Ages,” p. 4.
- ⁷⁵ Wilhelm Stanger, *Grundzuege der Lehre von der Strategie. Studienbehelf fuer die K.K. Kriegsschule*, Vol. 1, *Theorie mit Kuerzeren Beispielen* (Vienna: Verlag der K.K. Kriegsschule, 1884), p. 72.
- ⁷⁶ Blumenson, “A Deaf Ear to Clausewitz: Allied Operational Objectives in World War II,” pp. 22–23.



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- ⁷⁷ Di Marco, “Attacking the Heart and Guts: Urban Operations Through the Ages,” pp. 2, 7.
- ⁷⁸ Ibid., p. 5.
- ⁷⁹ Ibid., pp. 7, 6.
- ⁸⁰ Ibid., pp. 6-8.
- ⁸¹ David G. Chandler, *Atlas of Military Strategy: The Art, Theory and Practice of War 1618–1878* (London: Arms & Armour Press, 1996), pp. 55, 57.
- ⁸² Di Marco, “Attacking the Heart and Guts: Urban Operations Through the Ages,” p. 8.
- ⁸³ Williamson Murray and Allan R. Millet, *A War to Be Won: Fighting the Second World War* (Cambridge, MA: Harvard University Press, 2000), p. 482.
- ⁸⁴ Central Intelligence Agency, Office of the Russian and European Analysis, *Balkan Battlegrounds: A Military History of the Yugoslav Conflict, 1990-1995*, Vol. II (Washington, DC: Government Printing Office, October 2003), pp. 192, 196.
- ⁸⁵ Anatol Lieven, “Lessons of War in Chechnya 1994–96,” in Michael C. Desch, ed., *Soldiers in Cities: Military Operations on Urban Terrain* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, October 2001), p. 60.
- ⁸⁶ Chandler, *Atlas of Military Strategy: The Art, Theory and Practice of War 1618–1878*, p. 56.
- ⁸⁷ Ibid., p. 57.
- ⁸⁸ J.K. Zawodny, *Nothing but Honour: The Story of the Warsaw Uprising, 1944* (Stanford, CA; Hoover Institution Press, 1978), pp. 210-11.
- ⁸⁹ Cited in Gerhard L. Weinberg, “Stalingrad and Berlin: Fighting in Urban Terrain,” in Desch, ed., *Soldiers in Cities: Military Operations on Urban Terrain*, pp. 24–25.
- ⁹⁰ Krisztián Ungváry, *The Siege of Budapest: One Hundred Days in World War II*, translated from the Hungarian by Ladislaus Löb (New Haven/London: Yale University Press, 2005), pp. 374, 378–89.
- ⁹¹ Weinberg, “Stalingrad and Berlin: Fighting in Urban Terrain,” p. 25.
- ⁹² Murray and Millet, *A War to Be Won: Fighting the Second World War*, p. 482.
- ⁹³ Central Intelligence Agency, *Balkan Battlegrounds: A Military History of the Yugoslav Conflict, 1990-1995*, Vol. II, pp. 204-05
- ⁹⁴ Cited in Bernd Wegner, “The Road to Defeat: The German Campaigns in Russia 1941–43,” Gooch, ed., *Decisive Campaigns of the Second World War*, pp. 111–12.
- ⁹⁵ Rolf-Dieter Mueller, “Von den Wirtschaftsallianz zum kolonialen Ausbeutungskrieg,” in Horst Boog et al., eds., *Der Angriff Auf Die Sowjetunion*, Vol. 4, *Der Deutsche Reich Und Der Zweite Weltkrieg* (Stuttgart: Deutsche Verlags-Anstalt, 1983), p. 143.



⁹⁶ Cited in John D. Johnson, *Sequencing Operations: Considerations for the Operational Planner* (Fort Leavenworth, KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 20 May 1991), pp. 16–17.

⁹⁷ David J. Bongi, *Operational Logic and Identifying Soviet Operational Centers of Gravity During Operation Barbarossa 1941* (Fort Leavenworth, KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 25 May 1994), pp. 24–25.

⁹⁸ Alfred Philippi and Ferdinand Heim, *Der Feldzug Gegen Sowjetrussland 1941 bis 1945. Ein operatives Ueberblick* (Stuttgart: W. Kohlhammer Verlag, 1962), pp. 69–70.

⁹⁹ Cited in Matthew Cooper, *The German Air Force 1933–1945: An Anatomy of Failure* (London: Jane's Publishing, 1981), p. 245.

¹⁰⁰ Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and Their Impact on the German Conduct of Two World Wars*, pp. 277–78.

¹⁰¹ Cited in Wegner, “The Road to Defeat: The German Campaigns in Russia 1941–43,” p. 118.

¹⁰² Heinz Magenheimer, *Kriegswenden in Europa 1939–1945: Fuehrungsentschluesse, Hintergruende, Alternativen* (Munich and Landsberg am Lech: Guenter Olzog Verlag, GmbH, 1995), p. 100.

¹⁰³ Cited in Wallach, *The Dogma of the Battle of Annihilation: The Theories of Clausewitz and Schlieffen and Their Impact on the German Conduct of Two World Wars*, pp. 269–70.

¹⁰⁴ Handel, *Masters of War: Classical Strategic Thought*, p. 22.

¹⁰⁵ Thomas R. Phillips, ed., *Roots of Strategy: A Collection of Military Classics* (Harrisburg, PA: Military Service Publishing, 1940), pp. 26–27.

¹⁰⁶ Cited in Handel, *Masters of War: Classical Strategic Thought*, p. 136.

¹⁰⁷ Mark McNeilly, *Sun Tzu and the Art of Modern Warfare* (Oxford: Oxford University Press, 2001), pp. 18–19, 25.

¹⁰⁸ Sun-tzu, *The Art of War*, translated with introduction and commentary by Ralph D. Sawyer, with the collaboration of Mei-chün Lee Sawyer (Boulder, CO: Westview Press, 1994), p. 177.



Scoping Complex Systems for the Joint Task Force Commander

By

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And

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As to Peace and War, [the man who would understand war] must know the extent of the military strength of his country, both actual and potential, and also the nature of that actual and potential strength; and further, what wars his country has waged, and how it has waged them, He must know these facts on only about his own country, but also about neighboring countries; and also about the countries with which war is likely, in order that peace may be maintained with those stronger than his own, and that his own may have power to make war....

Aristotle c. 340 BC

Aristotle and Alexander

Before there were military analysts, there were philosopher warriors. Alexander of Macedon was arguably the most successful multi-theater commander in the history of the world. Not only did he conquer more territory than anyone else, he successfully practiced siege war, Napoleonic style total war and counterinsurgency in the varying geography of the Middle East, in what is today Lebanon, Iraq, and Afghanistan. Alexander demonstrated a clear knowledge of how to reorganize the systems of his own military force to meet changes in the terrain and the organization of his enemy, and he demonstrates this ability after taking Susa, the Persian administrative capital.¹ At that time he began a process of reorganizing his forces to deal with guerrilla fighting after he had beaten the Persian emperor's massive army. This ability to move between force arrangements would be a distinguishing mark of Alexander's great campaign.² He also demonstrated remarkable skill in gaining victory in the cognitive domain, winning the respect and admiration of his enemies, even turning them into friends and supporters.³ He was able to establish the justice of his cause⁴, so much so that Darius, even as he lay dying from a mortal wound, honored Alexander for his good conduct towards him.⁵

Those interested in training commanders and their staffs may find themselves asking, "How did Alexander learn to do this?" Clearly Alexander had great natural gifts, but history preserves for us that Alexander's father, Philip, saw his son's promise, and paid handsomely to hire the philosopher Aristotle to teach his son. Aristotle came to the Macedonian court after many years of studying the operation of what we today might describe as *the physical and cognitive domains*. His biological systems theory and his study of the psychology of persuasion seem to have been of great interest to Alexander. Throughout Alexander's campaigns he continued to send specimens of new organisms back to Aristotle. Also telling is Alexander's reaction when he learned that Aristotle had published much of what he had taught Alexander. Alexander, in Asia, wrote frankly:



Alexander to Aristotle, greeting. You have not done well to publish your books of oral doctrine; for what is there now that we excel others in, if those things which we have been particularly instructed in be laid open to all? For my part, I assure you, I had rather excel others in knowledge of what is excellent, than in the extent of my power and dominion. Farewell.⁶

What Alexander had learned from Aristotle, he wanted hidden for his own use—and if so, this knowledge must have been valuable.

To understand the mind of a great author requires more than just reading that author's books. One must read the books he read. Likewise, to understand the mind of a great military commander, one must not merely study his battles, but study what he studied in order to win those battles. It should be no surprise to find a connection in the ancient Greek world between successful philosopher warriors and the philosophers who trained them. Xenophon, who led the Ten Thousand who fought their way out of the heart of Persia, was a student of Socrates. It would seem at least some ancient philosophers had taught their students to take power over complex systems.⁷

“Modern” Wicked Problems

This article speaks to our ongoing problem of modeling the complexity in war that is associated with “wicked problems.” However, it is clear that complexity is nothing new, as military history demonstrates. The ancients considered the question of complexity, as evidenced from the work of Aristotle, perhaps the first complexity theorist in the western world, and that of Thucydides, historian of the Peloponnesian War, a war so complex it can serve as an archetype for all of the types of complexity that one encounters in warfighting. In contrast, current complexity literature may mislead one into thinking so-called wicked problems are in some way new, seemingly unsolvable problems requiring new methods of analysis. But in truth war has long been a complex business, which even the earliest theorists understood.

Ultimately, all war is waged in the cognitive domain as the enemy's collective will-to-fight resides there. When, then, should a military conflict be viewed as a wicked problem? Robert Horn, a visiting scholar at Stanford University's Center for the Study of Language and Information, who is known for the development of Information Mapping, describes complexity in social terms: “a Social Mess is a set of interrelated problems and other messes. Complexity—systems of systems—is among the factors that makes Social Messes so resistant to analysis and, more importantly, to resolution.”⁸ Wicked problems in the military context have in fact become synonymous with operations where mastery of the collective (social) cognitive domain plays a dominant role in the outcome of the conflict. Simply put, whenever the plan concerns itself with the collective cognitive domain, the operational planner is likely facing a wicked problem with its corresponding complex systems that will require analysis.

Using this definition, we find three wicked problems that face the modern warfighter with associated complex systems that challenge our operational-level planners. The first stems from stability and reconstruction with the associated counterinsurgency mission. By now, we are well



familiar with this problem from our ongoing operations in Iraq and Afghanistan, where we find ourselves tasked with “earning the trust and confidence” of a population. The second is the generational “Long War,” a global “war on terror” involving the direct participation of international bodies, judged by international audiences, and calling on all elements of national power. The third is the Hybrid War, gaining new attention from the 2006 Israel-Hezbollah conflict, in which the defense force of a traditional nation-state faced an “unconventional” enemy shielded within the trappings of a host state.

How are the Joint Task Force (JTF) staff and its commander to understand wicked problems in prosecuting these conflicts, and solve them? The answer to this question is of critical importance to the contemporary warfighter. In this article, we will accomplish two tasks: First, we will provide a careful critique of the System of Systems (SOS) approach which has powerfully influenced the critical mission analysis phase of the Joint Operational Planning Process (JOPP). This critique will analyze the 2006 Israel-Hezbollah conflict, to identify precisely why SOS failed to meet Israel’s needs in that war. Furthermore, we will critique the current emphasis on (not the need for) *metrics*. Second, we will present a methodology for scoping complex problems, called a Hermeneutic Phenomenology of Complex Systems (HPCS). This approach draws on the approach to the physical and cognitive domains taught to Alexander of Macedon by Aristotle. We will argue that natural language is the encompassing model for complex systems, and that this approach will permit us to identify the usefulness of mathematical modeling which uses a formal symbol based language. The HPCS then permits traditional strategic thinking reflected in Sun Tzu, Alexander, Clausewitz, and Col. John Boyd to some degree, to speak to Network Centric Warfare (NCW) and SOS. This is possible because the HPCS was originally developed to address problems in cognitive science, which also happen to be conceptually related to the problems in NCW and SOS. We will conclude with recommendations for the JTF staff on how to scope complex systems; since we define complexity in social terms, many of our recommendations are also social in nature.

Israel’s Faulty Targeting

The 2006 Israel-Hezbollah war provides a useful example of a complex system problem. An excellent reference source for all of the facets of this conflict can be found in JCOA’s 2007 Winter Journal⁹, and we will use their analysis as a basis for our discussion. However, in pursuit of our understanding of complexity, our focus will be on those specific failures that speak to the relationship between the physical and cognitive domains in war.

In July of 2006 there was a war between Israel and Lebanon over Hezbollah. The methodology of the war on Israel’s side was to inflict physical damage on Lebanon with the objective of getting Lebanon to evict Hezbollah. The desired effect in support of this objective was a cognitive one--to undermine Hezbollah’s popular support. To accomplish this goal Israel targeted Lebanon’s physical assets, and in terms of metrics Israel inflicted a greater casualty count and greater infrastructure damage. However, the international community perceived Israel as having lost even though by every metric Israel should have been recognized as victor. So in the end Hezbollah was granted the victory. How did this happen?



To grasp what happened one must distinguish between two domains of war, the physical and the cognitive, and then apply this distinction to the traditional nation-state construct. Physically, we have states with associated infrastructure, services, and closed system boundaries. Cognitively, we have nations (keeping with the ancient Greek word for nation, *ethnos*, the root for the English word “ethnicity,” to describe a nation). Israel is both a state and a nation. As a state, it is defined by the boundaries and infrastructure in which it exercises its sovereignty. As a nation, it has both a cultural archaeology and eschatology to envision a destiny that is Israel. When challenged this destiny defines a model of victory (MOV) to which the nation can rally and which it can use to guide its strategy.

On the contrary, the Lebanon of 2006 had neither a sense of nationality nor accompanying destiny. It performed the functions of a state, and claimed such status, but it was in fact a shell. The JCOA analysis shows how decades of civil war and infiltration of external agents from Iran, Syria and Palestine weakened any collective will to the point of inaction. This allowed Hezbollah to usurp the state services and protections of Lebanon toward Hezbollah’s objectives.

Hezbollah’s concept of nationality is made clear in its 1988 manifesto¹⁰ as published in Israeli newspapers. In their manifesto they define their identity as “the sons of the umma (Muslim community) - the party of God (Hizb Allah) the vanguard of which was made victorious by God in Iran.”¹¹ They describe their goal as the defeat of Israel, the US, and France with the defeat of Israel being viewed as both a decisive point and objective: “our struggle will end only when this entity is obliterated. We recognize no treaty with it, no cease fire, and no peace agreements, whether separate or consolidated.”¹² Thus their MOV over time is consistent and recognizable as the destruction of Israel. Clearly, both their sense of identity and corresponding MOV were external to the state of Lebanon.¹³

The question that Israel then faced was how to target such an entity? Israel in fact used the SOS construct to empower an effects based approach that targeted the Lebanese government’s physical infrastructure for the purpose of creating a cognitive effect in the minds of the Lebanese people. Let us therefore consider those people; for many of them Hezbollah’s Leader Nasrallah was a beloved and trusted defender. Was their admiration successfully targetable by the weapons of the physical domain? Or would they still remain defiant after all physical resistance had been crushed? Once the nation state is analyzed in terms of the physical and cognitive domains of war, it becomes clear if one aims at the state’s physical infrastructure, one only targets the advancing enemy nation in an indirect and imprecise manner. This category mistake is evident in the minds of both Commander of the IDF Dan Halutz and Prime Minister Olmert. General Halutz said in 2001:

*Victory means achieving the strategic goal and not necessarily territory....
Victory is a matter of consciousness. Airpower affects the adversary’s
consciousness significantly.*¹⁴

General Halutz’s first and second sentences are correct; however, the inference is suspect. The Prime Minister also confirms the same kind of confusion when he stated upon launching Israel’s



initial air strikes that the events which precipitated the war were “not a terror attack, but an act by a sovereign state which attacked the state of Israel without reason or provocation.”¹⁵

Lieutenant General Halutz went on to become the Commander of the IDF for the 2006 conflict. It is germane to the problem before us that General Halutz saw a direct correlation between the system’s infrastructure being targeted and a strike against the cognitive domain. This is the direct result of misapplied metaphor and led to disastrous results. Ironically, by publicly embracing the system of systems construct to target the cognitive domain, Israel ceded the initiative to Hezbollah. From the JCOA report it is clear that Hezbollah *deliberately* presented Israel with no targetable physical nodes. They were brilliant in their use of the tunnel system and in their ability to slip into the population and disappear. Rocket launch times were measured in seconds, well within Boyd’s Observe, Orient, Decide, Act (OODA) loop of the Israelis. In total, there were no targets presented that might be vulnerable to a systems-of-systems based doctrine. Tragically, faulty targeting went beyond operational difficulties to contribute to an unwinnable situation from the outset.

Israel’s strategic MOV ultimately is one of continued survival. However, in the 2006 operational context, the stated end state given by the political leadership was threefold: return the hostages, destroy Hezbollah, and compel the Lebanese Government to take control of their country. Tactically, the methods used were not well executed, nor could they have accomplished these results even if they had been successful. Additionally, as stated, their end state had the character of a static complaint against Hezbollah with the hostage condition added on to give the appearance of addressing the current situation.

This three-way mismatch of capabilities, tactics, and objectives, did not go unnoticed by the international community which perceived no immediate existential threat to Israel beyond the established norm of raids and hostage exchanges.¹⁶ However, a perceived existential threat was politically necessary for the Israeli leadership to seat the operational end state of the destruction of Hezbollah (with massive correlative damage to Lebanon) within the Israeli MOV of continued survival. Without this threat, Israel’s political leadership was unable to justify a response greater than the established norm, causing that response to be viewed as disproportionate and misguided by the international community which would eventually act as the jury to decide the victory.¹⁷ This mismatch also gives operational relevance to Hezbollah Leader Nasrallah’s surprise as stated in an interview with Lebanon’s NTV Television Station:

*We did not think, even one percent, that the capture would lead to a war at this time and of this magnitude. You ask me, if I had known on July 11... that the operation would lead to such a war, would I do it? I say no, absolutely not.*¹⁸

Conversely, Hezbollah’s desired end state was *diachronic* (changing through time) and appropriately nested within its MOV. It was also dramatically affected by Israel’s method of execution. The massive bombardment of Lebanese infrastructure and subsequent ground offensive combined with the stated Israeli objectives to make this a clear existential threat. Israel’s disproportionate method of execution moderated Hezbollah’s desired end state from its



standing objective of the destruction of Israel to one of pure survival. This allowed Hezbollah to effectively weaponize their stated objective through a ceasefire process that allowed them a say in the timing of the actual end state; Israel did not counter this move effectively. Hezbollah and Israel both responded favorably to UN Security Council Resolution 1701 on 11 August. As they did, IDF forces conquered the high ground where they had been bogged down in the Wadi Saluki and were to initiate an armored push to the Litani River on 13 August. At this point, both sides claimed victory:

We are facing a strategic and historic victory. This is no exaggeration. This is a victory for Lebanon—all of Lebanon—for the resistance, and for the entire Islamic nation.

Hezbollah Secretary General Nasrallah¹⁹

IDF soldiers dealt a severe blow, the dimensions of which are not yet publicly known, to this murderous organization, its military and organizational infrastructure, its long term ability, the huge weapons arsenal ... and also the self confidence of its people and leaders. In every battle, in every encounter with the Hezbollah terrorists, the fighters of the IDF had the upper hand—of this there is not doubt.

Prime Minister Olmert²⁰

Prime Minister Olmert is correct for the most part in his metric assessment of the battle; nevertheless, the victory was still granted to Hezbollah, and rightfully so, if the cognitive domain is taken into account. It is difficult to appeal to public judgment by insinuating a private victory.

Enter complexity: if applying Clausewitzian standards of perfection, the execution of total war leading to the destruction of the host would have been the preferred option for Israel. Instead, Israel found itself executing in the same complex operational environment observed by Clausewitz:

We must, therefore, be prepared to develop our concept of war as it ought to be fought, not on the basis of its pure definition, but by leaving room for every sort of extraneous matter. We must allow for natural inertia, for all the friction of its parts, for all of the inconsistency, imprecision, and timidity of man; and finally we must face the fact that war and its forms result from ideas, emotion, and conditions prevailing at the time—and to be quite honest we must admit that this was the case even when war assumed its absolute state under Bonaparte.²¹

To successfully prosecute the conflict, Israel had to recognize that there was a system change ongoing throughout the conflict within the cognitive domain as a result of Israel's unexpectedly aggressive reaction. However, Israel's envisioned operational end state was static while Hezbollah's was diachronic. Furthermore, the models of victory for the combatants were



inverted. Israel had a MOV of survival with an embedded operational desired end state of destruction of Hezbollah, while Hezbollah had a MOV of destruction of Israel and a desired end state of survival. Hezbollah's publicly stated goals for the 2006 conflict were well understood by domestic and international audiences and matched the conditions on the ground; Israel's did not. Therefore, in the minds of the people of Lebanon and Israel, and on the global stage, Hezbollah was victorious and Israel had some explaining to do.

System of Systems Limitations in the Cognitive Domain

In the previous section, we used the cognitive domain and specifically the goal directedness of both Israel and Hezbollah to emphasize aspects of the war which could not be accounted for through metrics of targetable physical assets. It is well accepted that Israel's failure was the result of their adopting US joint doctrine to include the system of systems construct and thought derived thereof (net-centric warfare, effects based operations, operational net assessment, etc.). In US joint doctrine, SOS has become the lens of choice for us to prepare for the mission analysis portion of the Joint Operation Planning Process (JOPP) (Fig. 1) by becoming the foundation for Joint Intelligence Preparation of the Operational Environment (JIPOE), a key input to the Mission Analysis step. This relatively recent infiltration to the JOPP has negatively affected its overall perceived effectiveness. However, the JOPP continues to be a successful tool for application of analytical thought by the operational level planner. Its proven success is due to its inheritance of centuries of wisdom from the successful prosecution of wars, captured in the elements of operational design.

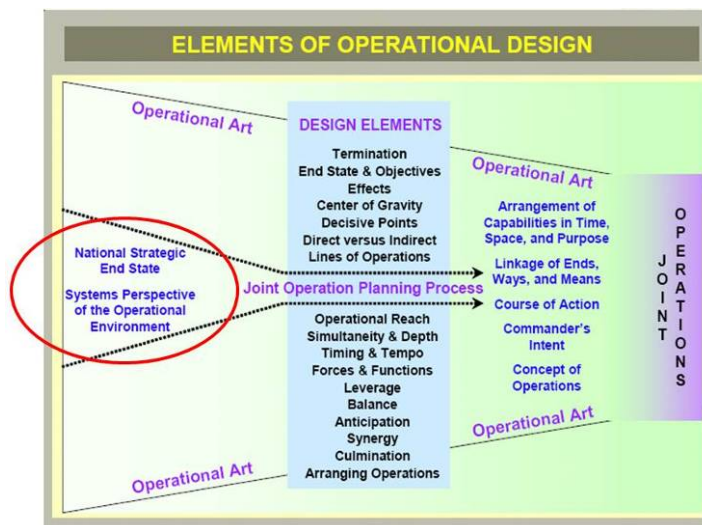


Figure 1

How did this infiltration of doctrine by system of systems theory occur? There is a good reason for it, at least initially. The original aim was to use complexity theory to understand these systems and at the time cognitive science's neural network theory and associated designs seemed



the best resources available. The metaphor of physical network architecture seemed to explain other domains that aren't necessarily physical *per se*, representing a social extension of the human mind. However, cognitive theory has evolved and so must our doctrine.

The mission analysis framework which presently supports the JOPP uses the analogy of a network to model systems in the operational environment, and NCW has grown and evolved into our current notion of the SOS approach which treats the operational environment as a network of networks. These subsystems, or networks, have been categorized under a number of different constructs, the most current iteration, reflecting Joint doctrine, being the PMESII construct.²² Clearly there are many systems in this world which do work together, and study of them can be distinguished from the SOS network model which has been used for EBO.

Unfortunately, as General Mattis' 14 August EBO Assessment makes clear, this system approach uses the template of a closed system to then interpret an open system so that one is led to believe targeting an open system is done in the same manner as one would target a closed system.²³ From the diagram taken from Joint Publication 5-0²⁴ (Fig. 2), one can see that the relationship between the social, the economic, and the political systems are presented as similar to the network of the actual physical infrastructure of the target system. One aims at nodes which are clearly defined as physical things.

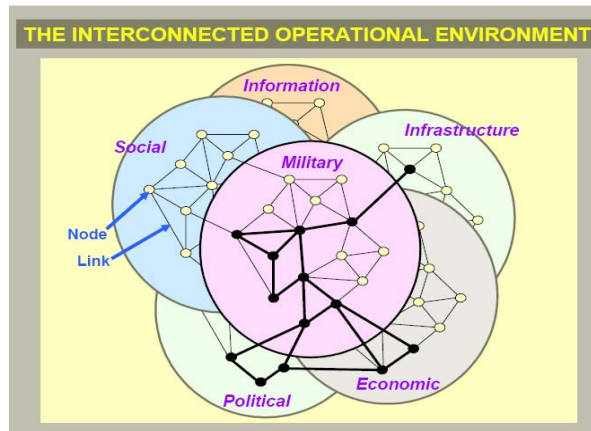


Figure 2

Under the current framework as defined in joint doctrine²⁵, "A *system* is a functionally related group of elements forming a complex whole" (JP-5 III-17). These systems are made of *nodes* which are "the tangible elements within a system that can be 'targeted' for action, such as people, material and facilities" (JP 3-0, IV-4). However these tangible elements, or nodes, must be connected to one another, else there would be no system. These connections which unite the nodes into a system are links which are elements of the system that represent a behavioral, physical or functional relationship between nodes (JP 5-0, III-18). JP 5-0 goes on to explain the different things which constitute these links:



such as the command or supervisory relationship which connects a superior to a subordinate; the relationship of a vehicle to a fuel source; and the ideology that connects a propagandist to a group of terrorists. Links establish the interconnectivity between nodes that allows them to function as a system—to behave in a specific way (accomplish a task or perform a function). Thus, the purpose in taking action against specific nodes is often to destroy, interrupt, or otherwise affect the relationship between them and other nodes, which ultimately influences the system as a whole (JP 5-0, III-18).

Two important implications need to be drawn from this discussion of nodes and links. First, in the network model, the links hold the nodes together; therefore, the systemic nature of the nodes is in their links, not in themselves. Second, nodes are targeted in order to affect links, because links are not targetable. Since they are not physical items, they cannot be directly affected by force.

Furthermore, the network model is used to model not only the military and industrial complexes of an operational environment, but also the economic, political, and social environments. For the network model to be useful then at least if a node is being used in the same sense as the stated JP 5-0 definition, the nodes of the other networks of PMESII (or additional systems if one wishes to add them) must also be understood in terms of nodes and links. One must also discern the links between the nodes of various sub-systemic networks.

Several significant problems result from this network model. On the doctrinal network model one can only apply force to nodes.²⁶ If a system is a network of nodes, and nodes are not nodes unless they are connected by links, it follows that what makes the system is not the nodes, but the links between the nodes. The implications of this situation are obvious enough. On the terms of a SOS approach, a network model approach, one is never actually targeting the system, only parts. This unfortunate state of affairs is built into the very notion of “node” and “link” as defined in JP 3-0 and JP 5-0. Thus, the attaching of metrics to targets does not actually measure campaign health, only the health of nodes. It follows that SOS obscures correct interpretation of the system.

In addition, the network model inhibits system analysis, the analysis of how systems relate to one another. We are not taking to task the use of the metaphor of a “network” to understand a given system. It would be appropriate to talk about Al Qaida and Hezbollah as networked terrorist organizations, or the DOD computer system as a network that must be protected. What we are criticizing is the use of the network model as the mission analysis construct for campaign design. The PMESII construct and those like it may be useful for highlighting the interrelationships between economic systems and military systems, but it requires the systems links be seen in terms of relationships between physical objects which can be targeted. Such a model becomes unwieldy when used to understand political or economic systems and becomes very challenging when dealing with informational, social, and cultural systems. A commander must be free to assess the strategic value of all parts of the operational environment. However, if the systems



must be defined in terms of tangible nodes which can be targeted, and links which cannot be targeted, then information is being lost.

Furthermore, there is a time element to system development in the operational environment. If mission analysis analyzes a system in terms of nodes and links, and one defines nodes as “the elements within a system that can be targeted for action, such as people, material, and facilities” (JP 3-0) and links as behavior functional relationships between nodes, then it is clear that a SOS mission analysis is not studying the system *diachronically*, in terms of system changes over time. Its system analysis will only be *synchronic*, examining the system in its current or near future iterations. Since war is about achieving victory, and victory requires a change in states from a state of potential success to actual victory, it is clear that mission analysis is both synchronic and diachronic. Unfortunately, the SOS approach provides mission planners a synchronic construct for diachronic work.

Even from the outset, the system of systems approach is affecting our understanding of the operational design process. Accompanied by the National Strategic Endstate, SOS understanding is the model to which all of our operational art is applied (figure 1). Presented in isolation, the national strategic end state is entirely notional. It is impossible to come to a strategic end where our nation is safe.²⁷ However, it is compatible with the systems of systems approach, where targeting is a design of metrics. The holdover from this application is a misapplied construct.

What does this do? It creates artificial constraints to mission analysis. The notion of a linear efficient cause and effect chain in which one traces a desired effect from other necessary effects is very familiar. SOS sets up a certain anticipation of how that is supposed to occur. It also creates fixed objectives that an enemy can target and use against us. One sees this play out in the Israel-Hezbollah war. Also, there is a simplistic elimination of complexity as one moves closer to the tactical level; one may think things are getting simpler as one gets closer to the tactical level, but the same complexity is still retained in the operational environment. Can one escape the need to simplify during planning and execution one’s tactical actions (tasks)? No, and it should be that way—we need a planning process to identify clear actions that align with our operational objectives which lead to our desired strategic ends. Not doing so leads to operational paralysis. The problem comes in measuring our “effect” utilizing an information-reducing SOS approach where one is blinded to the actual information in the system necessary to set correct measures of effectiveness.

Therefore, we are not criticizing end states that describe a physical set of required conditions necessary to recognize achievement of the commander’s objectives. The problem comes when one meshes the MOV and a specific operational end state where the MOV becomes the end state and one can’t actually change the end state in accordance with the MOV. When modeling complex systems for operational level planning, a static friendly desired end state never exists in isolation from the enemy’s desires or environmental conditions, and should not be pursued. Instead, a broad understanding of the competing models of victory for the prosecution (offensive forces), defense (defensive forces), and the jury (international community) is required.



Thus, planners who have been tasked with EBO and instructed to use NCW and SOS for mission analysis should not be blamed for misunderstanding all the complexities of the system; rather, they should be permitted to use a different approach for scoping complex systems. A movement in that direction is the goal of this article.

Cognitive Modeling

NCW and SOS, for their failings, recognize one important point. The warfighter needs a single model for understanding the interpretive interrelation of the cognitive and physical domains. So what alternative models exist to help us successfully prosecute conflicts in the face of complexity? The strategic purpose of modeling an operational environment must necessarily be victory. One may state this purpose in other more innocuous terms; “containment” perhaps, or “maintaining the balance of power.” Nevertheless, the modeling of systems for the purpose of warfighting must always remain focused on the task of targeting, a task which also implies a great many other tasks, but tasks which are goal directed. Even the term “operational environment”, changed in doctrine from the earlier “battlefield”, puts distance from the cold reality that such models are made to understand the proper application of force to change systems for strategic ends. Victory is the achievement of those ends. Whether it is the achievement of international goodwill, the unseating of a dictator, the destabilizing or stabilizing of an economy for the purposes of US national security, or maintaining a balance of power in a region, the goal is victory.

It follows that a model of systems which obscures targeting information is a strategic liability, and needs to be augmented to the point which it no longer obscures targeting information. If the flaw is at the heart of the system itself, and cannot be fixed by more qualification or modifications, then action to solve the problem should strike at the source of the problem itself.

To illustrate, consider Islam as one of the links between the targetable nodes which one could use to neutralize Hezbollah’s influence in Lebanon. Through HUMINT a commander could learn which leaders are critical to the functioning of Hezbollah as an enemy of US national power, and effectively target them. However, Islam, which links the nodes of Hezbollah, is more than a set of links in a military system, or a social, or informational, or cultural system. There are systems which exist to serve a particular vision of Islam, just like other systems which have served ideological purposes. To try to model those systems simply in terms of nodes and links is to prepare to fail, because it removes necessary information about the systems being studied.

The Incompleteness of Math Based Modeling

Given the problems that arise out of the definitions of node and link in the SOS and PMESII network model, one may wish to retain SOS as a tool for mission analysis, because the definitional precision of the SOS regarding nodes and links permits planners to quantify the effects they wish to produce on those parts of a systems that can be targeted. It produces categories to which one can apply *metrics*, objective measures of assessment. Furthermore, it follows what can be measured can also be modeled mathematically. So complex equations, the



most famous being the Lanchester Square Law, process data in carefully crafted computational models which aim to model the operational environment.

However, history teaches us that human nature does not change; neither have traditional motivators of human character and human relationships changed. The traditional lessons of Thucydides, Sun Tzu, and Clausewitz are just as valuable today. Recent history is also helpful in showing us how incomplete our mathematical models can be.

Millennium Challenge 2002 was constructed as the nation's largest joint warfighting experiment to date, incorporating “elements of all military services, most functional/regional commands and many DoD organizations and federal agencies, using the largest computer simulation federation ever constructed for an experiment of its kind.”²⁸ The model served to both train the involved live forces and evaluate conventional warfighting doctrine. However, during execution, the model broke down. The Red team, commanded by retired Marine Corps Lieutenant General Paul K. Van Riper, introduced complexity into the model through multiple initiatives to take advantage of limitation of US doctrine and capabilities. The following details come from Sean D. Naylor of *Army Times*, *Wikipedia*, and Thom Shanker of *The New York Times*.

*[LtGen] Van Riper used motorcycle messengers to transmit orders, negating Blue's high-tech eavesdropping capabilities ... when the Blue fleet sailed into the Persian Gulf early in the experiment, Van Riper's forces surrounded the ships with small boats and planes sailing and flying in apparently innocuous circles. When the Blue commander issued an ultimatum to Red to surrender or face destruction, Van Riper took the initiative, issuing attack orders via the morning call to prayer broadcast from the minarets of his country's mosques. His force's small boats and aircraft sped into action.*²⁹

*They also used a fleet of small boats to determine the position of Blue's ships without being detected. In the early days of the exercise, Red launched a massive salvo of cruise missiles, overwhelming the Blue forces' electronic sensors, destroying sixteen warships. The equivalent of this success in a real conflict would have resulted in the death of over 20,000 servicemen and servicewomen. Soon after that offensive, another significant portion of Blue's navy was "sunk" by an armada of small Red boats carrying out both conventional and suicide attacks, able to engage Blue forces due to Blue's inability to detect them as well as expected.*³⁰

*General Van Riper recalled that his idea of a swarming attack grew from Marine Corps studies of the natural world, where insects and animals — from tiny ant colonies to wolf packs — move in groups to overwhelm larger prey. “It is not a matter of size or of individual capability, but whether you have the numbers and come from multiple directions in a short period of time,” he said.*³¹

This example showed the US military that force on force battle simulations lack the complexity of our contemporary operational environment. General Van Riper later expressed concern that



the war game would serve to merely reinforce an increasing notion of infallibility within the U.S. military rather than serve as a learning experience.³² General Van Riper's concern may still be valid as Hezbollah successfully used a similar "swarming" technique against the IDF in the land battle in Lebanon. Today's information rich operational environment challenges us to ask if a math based, effects based approach to modeling offers the wisdom necessary for campaign design.

It would seem that the precision of math would be an ace for the warfighter, but for all its impressive power, mathematics actually reduces complexity—that is, after all, why we use it to model the natural world. It does this by a simple cognitive procedure, so simple we forget that we do it. The strange language of mathematics is actually natural human language being employed in a way that removes information for the sake of quantificational clarity. This feature was observed over 100 years ago by Frederick Hovenden who writes:

*Numbers are adjectives, and are senseless without the nouns. If a person says or Writes "one" the answer comes "one what?" Or if he in like manner expresses "good," the reply comes "what is good?" It is wonderful that physicists cannot see this important truism.*³³

Mathematics is a useful deception. All mathematics is built on taking quantitative adjectives and using them, predicating with them, as though they were nouns. Mathematics tricks us with its magic to believe adjectives can become things (what nouns refer to) such that their operations inform us of the behavior of the real world. This is especially the case with metrics used today in Iraq and Afghanistan to measure campaign health. One hundred years later, cognitive science is vindicating Hovenden's hunch. Contemporary research points to metaphorical mapping of embodied conceptual schemas on to one another in order to generate mathematics.³⁴ When one takes adjectives and treats them like things it only follows that the body would map adjectival content on to the brain's knowledge of its own embodiment. It should be no surprise that both Plato and the Pythagoreans who pioneered much of the early philosophy of mathematics believed that numbers had to be a kind of abstract immaterial thing of some sort, although both Plato and the Pythagoreans gave different accounts for the nature of mathematical entities.

To understand how the brain maps one schema onto another, take the metaphor: A man is a wolf. Although this metaphor is overused, it still demonstrates one thing being mapped onto another. To understand this sentence, one must first understand what a man is, and also what a wolf is. This fellow is understood as being wolf-like. It could be his character, his appearance, his moral disposition. We don't know at this point. It could be all of them. We do know that what is discoursed about this man is that he is a wolf.

What is happening cognitively is that the schema of "man" and the schema of "wolf" are being mapped onto one another such that the one becomes the other. This happens all the time, and is the bases of conceptual model making, even scientific model making. The result is a new concept, or way of seeing things—a new *gestalt*, a mental arrangement of the particulars. This happens in models used in war. John Warden's Rings make the war planner see his enemy in



terms of a concentric ring model. Clausewitz's Newtonian metaphor of "centers of gravity" uses the metaphor of physical gravitation to understand the behavior of system parts upon one another. This same process of conceptual metaphorical mapping appears to be at the heart of mathematics as well.

That is what mathematics is; a metaphorical conceptual construction. But it is a particularly interesting metaphorical construction in that instead of opening up feeling and emotions, as in poetry, it is actually designed to remove information. If one models using a fundamentally math-based approach, one removes necessary information, which, in a warfighting situation, could be catastrophic. At the same time, mathematics is unlike poetic metaphor in that it is purposefully designed to limit the possibility of interpretation. The mapping of adjectives, onto the domain of nouns, of things (and then treating numbers as though they were collections of objects, or angles, or lengths), removes the extra information which comes with dealing with a real objects. It distances one from the filth of the real world, sometimes literally. Archimedes, the famed Greek mathematician, never bathed because the material world was not important. His wife, who was made of matter, was more in favor of him bathing.

SOS is not the only project where formal mathematical or symbolic computation has failed to model the natural world. Keith Devlin, senior researcher at Stanford University's Center for the Study of Language and Communication, chronicles the failure of artificial intelligence (AI) which promised big, but never came through on those promises.³⁵ Devlin traces the maturation of AI from the early developments of symbolic logic in the latter part of the 1800's. Symbolic logic was developed specifically to remove ambiguity through rigid definitions of symbols and the operations which they could perform. Symbolic computation was then picked up by one of the conceptual fathers of modern computing, Alan Turing, who developed the conceptual model of the Turing Machine. Turing's thought experiment suggested that any symbolic computation could be performed by a machine which could read and print on a strip of paper. Any computable problem should be solvable with a finite amount of time, even if it took a billion years to run the tape through the Turing Machine. Turing's thought experiment became a basis for the development of the modern computer, but it also gave a way for understanding the computational resources necessary to solve formal symbol system problems, which includes mathematical operations and the applications of symbolic logic, the building blocks of the quantitative modeling which the military now uses in warfighting analysis.

By the late 1980s, it was clear that AI had failed. Turing had suggested what would eventually come to be known as the Turing test. He suggested that a computer would actually be intelligent when a human could sit in front of one and talk or type with it and not know whether a human or a computer was on the other end of the computer interface. No computer has ever passed the Turing test.

Why? Because humans use language in ways that appreciate the *polysemy* of words. Polysemy is the interesting property of words that permits them "the possibility for a name to have more than one meaning."³⁶ AI showed that to model complexity even simple expressions of natural language required enormous aggregate sets of rules to explain semantic behavior in natural



human language. Humans are able to understand the meaning of a word because of its context in a sentence, but also because of the context of its utterance. Human language reveals the complexity of the human mind, in that it permits rich information to communicate economically. If human language did not employ polysemy, it would be necessary to have an infinite dictionary, with a word for every item, every possible difference, or situation, which could somehow affect that item, and who could remember all that information? Polysemy of natural language permits a human to use a finite number of words with an infinite number of possible utterances. In English, this includes everything from the most common English sentence (“I see.”) to the least common English sentence (“Where is the banjo player’s Porsche?”).

It would appear that symbolic computation would be more mathematical and precise, and therefore it would be more exact and intelligent, but exactly the opposite proved true. The symbols of symbolic logic are *univocal*; they have only one use. But words in natural language have many meanings or uses *in sentences*. When one uses univocal symbols to model something plurivocal, one might multiply rule on rule, metric on metric and never accurately model that plurivocal subject.

Returning to the topic of mission analysis for operational planning, one can see that a similar problem encumbers the joint operational planner. JOPP requires that campaign plans build in some kind of assessment to judge campaign health, and clearly campaign assessment is a necessary and critical part of conducting a campaign. However, assessment can only be made wisely if prudent campaign design and mission analysis have been accomplished (what SOS inhibits). Only then can one understand what metrics should be applied to the campaign, or whether use of quantitative metrics is the best way to measure immediate campaign success. Since the failure of AI to model natural language and the failure of SOS to scope complex operational problems seem to both find their root in a misaimed metric precision, we propose using natural language as the encompassing model for complex systems.

Natural Language is the Encompassing Model of Complex Systems

We begin the primary discourse of this paper with a parable. Imagine that you are on a ski slope skiing down a mountain...retain this image. Now imagine that you are in sunny Florida riding an outboard motor boat...retain this image. Imagine that you are riding a bicycle on a nice spring day...retain this image. Imagine that you are a parent taking your son to a department store and that you notice he is fascinated by the toy tractors or tanks with rubber caterpillar treads...retain this image too. Now imagine that you: Pull the skis off the ski slope; discard and forget the rest of the image. Pull the outboard motor from the motor boat; discard and forget the rest of the image. Pull the handlebars off the bicycle; discard and forget the rest of the image....What do you have? A snowmobile.

This illustration, word for word, comes from John Boyd’s unpublished manuscript, *A Discourse on Winning and Losing*;³⁷ Boyd used this parable to define a loser and a winner. For Boyd a *loser* is someone (individual or group) who *cannot* build snowmobiles when faced with uncertainty and unpredictable change whereas; a *winner* is someone (individual or group) who *can* build



snowmobiles, and employ them in appropriate fashion, when facing uncertainty and unpredictable change.

The warfighter must be able to model complex systems in a way that permits him or her to make snowmobiles. SOS, NCW, and metric *first*³⁸ approaches seem to inhibit the ability to model complex systems in this way. Furthermore, they remove the agility of mind reflected in Boyd's understanding of a winner, which seems to adequately identify Alexander of Macedon.

We propose that natural language model complex systems because, unlike formal symbolic languages or network architecture, it has the both the complexity and the simplicity to open the complex operational environment of the warfighter to the achievement of victory. Here's what we propose:

When facing wicked problems, the goal of mission analysis is to envision the *polysemy of function* of friendly forces inseparably from that of the enemy and the operational environment, while distinguishing teleologies of agents which bear upon the question of victory.

The rest of this article will give the metadata to make sense of this sentence. In short, we want to give a framework for making snowmobiles out of wicked problems. The framework for doing this is the Hermeneutic Phenomenology of Complex Systems (HPCS). By applying the HPCS to war, we aim to ready the minds on the JTF Staff to be able to take things apart and rearrange them functionally into new configurations as required, within a complex environment. That ability is at the core of modeling complex systems. It is also at the core of strategy and war.

- To introduce the HPCS, it will first be necessary to define *hermeneutic phenomenology*, *complex system*, *model*, and *representation*—since models represent things.
- We will then introduce the model of the text of natural language, showing how natural language functions. In the process we will discuss the concepts of *langue*, discourse, the reconfiguration of *langue*, and distanciation.
- After that, we will explain Aristotle's System Theory (AST), defining and explaining the key concepts of *potentiality*, *actuality*, *substance*, *meros*, the *five causal model*, and *teleology*.
- Then we will bring natural language and AST together to develop the concept of the *polysemy of function*, which permits the modeling of systems in such a way that snowmobiles can be made, by careful planning. This section will show how natural language models physical systems.
- Finally, the concept of *gestalts* will be introduced. This concept will be related to how one understands a system within a system. This will bring us full circle to the relationship between Hezbollah and Lebanon, and Israel's wicked problem in dealing with Hezbollah.



The article will conclude with key takeaways, which summarize the application of this article for the JTF Commander.

The Hermeneutic Phenomenology of Complex Systems – Key Terms

Hermeneutic phenomenology (HP) refers primarily to the philosophical project of the late French philosopher Paul Ricoeur (1913-2005) who aimed to study the phenomena of lived human experience on the model of the written text. The name for his philosophical project brings together two concepts, hermeneutics and phenomenology, which would not necessarily seem to go together. *Phenomenology* broadly understood, is a school of thought developed by Edmund Husserl (1859-1938), which carefully defines the essences of mental relationships to objects of human consciousness, and also “inquires into the structures formed by essences.”³⁹ As a school of thought, phenomenology tends to define mental experience carefully, and some proponents of phenomenology stop with these definitions of appearances. On the other hand, *Hermeneutics* is the art of interpretation. “Interpretation” is used in a variety of contexts, but generally deals with the interpretation of language, narratives, symbols, signs and other cultural productions. Phenomenology and hermeneutics would seem to be staunch rivals, but when they join forces, they become powerful co-belligerents and combined offer the resources to overcome many problems. HP aims to interpret phenomena as one would read a text, a written discourse; thus, HP permits text to be used as a model to understand phenomena understood by human minds. Ricoeur’s HP is also helpful because it is developed to hermeneutically deal with the problems created by the notion of “symbol” as construed by symbolic logic and computational modeling.

It is also necessary to define complex systems. According to systems researcher Paul Cilliers, a complex system consists of (1) large number of elements, (2) the large number being necessary but not sufficient, (3) interacting richly, (4) and non-linearly, (5) generally in short-range interactions, (6) with interaction loops. These systems are (7) open, (8) operating under conditions far from equilibrium, (9) with a history, and (10) each element in the system being ignorant of the behavior of the system as a whole.⁴⁰ The model of the text can be applied to complex systems because natural language meets all aspects of this definition.⁴¹ Another reason for using this definition is to dialogue with the current state of complex systems studies. Like other works on complex systems, Cilliers emphatically denies that complex systems have purpose, and that lack of goal directedness is apparent in his definition. Though this definition is specific enough to help bring complex systems and natural language into dialogue with one another, it also helps to highlight one overwhelmingly needed construct for scoping complex systems problems for the warfighter, that of *teleology*, or goal-directedness. As we proceed, the need for teleology in campaign planning will become evident. The HPCS is rigorous enough to deal with the current state of discipline of complexity theory.

Since HP uses the model of the text it is also necessary to define “model.” We define⁴² a *model* dialectically – in two ways that are not intelligibly separable. A model is simultaneously a thing and an action. First, a model is a thing, whether mental or physical, that humans use to represent other things, generally things we desire (1) to become, (2) to understand, or (3) to have or accomplish. Second, a “model is not simply the *entity* we take as a model but rather the mode of action that such an entity itself represents. In this sense, models are embodiments of purpose



and, at the same time, instruments for carrying out such purposes.”⁴³ Models fail as models if they do not stand for something one wishes to become, understand, or do. A model, to be a model, must have a goal. Models are tools. They embody a purpose. In short, and for now, models are both representations of human actions and modes of human action, namely goal-directed representations.

The term *representation* in this definition also needs further elaboration. Philosophers of science throughout the 20th Century have come to see a strong relationship between metaphor and the scientific model. Mary Hesse describes the process of model making in theoretical explanation “as metaphorical redescription of the domain of the explanandum.”⁴⁴ Hesse argues convincingly for an interaction view of metaphor by first specifying a “primary” system, which she calls “the domain of the explanandum,” and a “secondary” system, “described either in observation language or the language of a familiar theory, from which the model is taken”.⁴⁵ The interaction between the two systems produces a kind of meaning different from literal meaning— a “metaphorical” meaning. These conjoined systems are, of course, not compressed into one another so that the metaphorical meaning becomes the literal meaning. Rather, this is a fictional conjunction, or according to Hesse, a “redescription.” To use the example of Warden’s Rings, the enemy’s actual system to be targeted is the primary system. The five rings comprise the secondary system, but the enemy system does not turn literally into five rings. Somehow, the human mind is able to “see” the enemy as the rings while also seeing them as clearly not the rings. The making of a metaphor assumes that the mind is able to hold both mental orientations, and gestalts, together at the same time. Thus “Warden’s Rings” is the work of a secondary system, the rings, redescribing a primary system.

Notice here that according the definition of model which we propose, models are not imitations! The goal of a model is not to reproduce, or duplicate, the phenomena under consideration, but to understand it. Not all models lead to understanding, for example the SOS/PMESII network model actually redescribes a system in such a way that it obscures and removes information necessary for faithful application of the JOPP.

Introduction to Natural Language and the Model of the Text

The HPSCS uses the model of the text to model complex systems, so it will be important to explain the operation of natural language to then make the application to complex systems. Natural language is the cultural artifact which permits humans to speak to each other about the world. Humans do this using (1) words, which comprise (2) sentences, which then (3) refer to things. By following this process humans reconfigure their own language, producing new ways to use words, to make new sentences, to refer to new things, or things talked of before in new ways. It will be important to grasp this model of the text first before going to its application in understanding complex systems, because if the stage wherein gaining this understanding is skipped, the integration of the latter theory with the JOPP will be lost, or at best obscured.



UNCLASSIFIED

Hermeneutic Phenomenology

- Discourse + Langue = Polysemy
- Teleology of meaning
- The whole world is a text to interpret

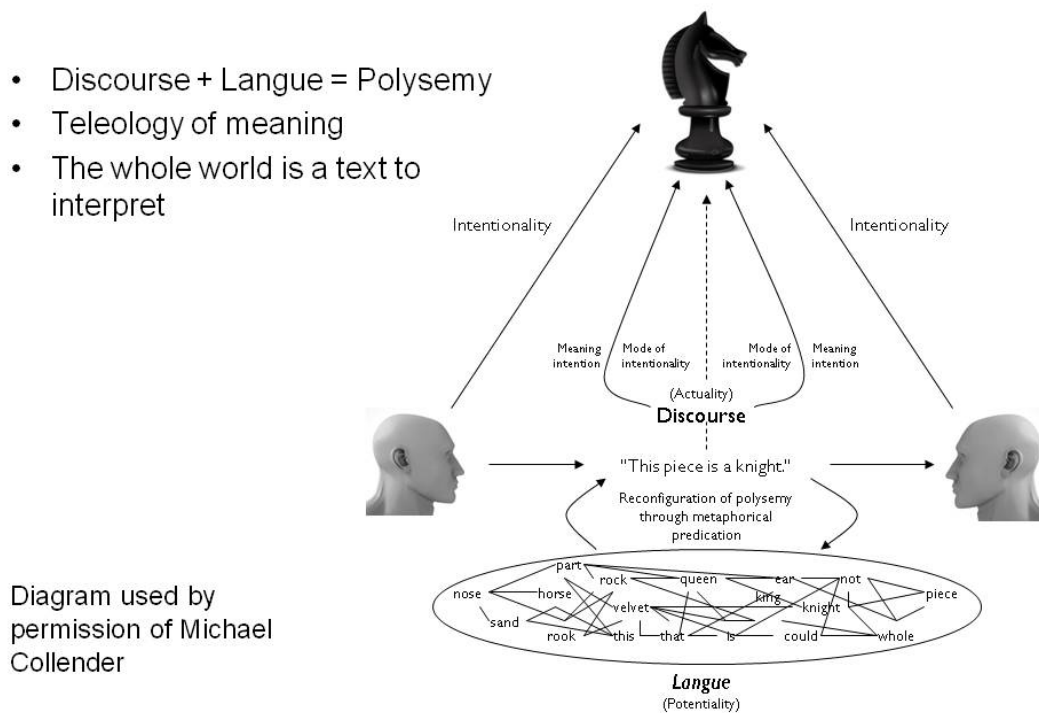


Figure 3

Natural language has two different types of signification, that of *langue* and that of discourse. In the field of linguistics *Langue* refers to the system of signs and their interrelations as understood by a community of speakers. This body of knowledge is the thing recorded in a dictionary or lexicon. *Langue* makes no reference to the world outside the language, only to other signs inside the language itself. *Langue* then makes a self-enclosed, closed system. When a word is spoken or written outside of a sentence, it has no specific meaning, but many potential meanings. Take the word “dog.” Dog could refer to a domestic pet, a member of a sports team, a pant-sagging young urbanite, or a person unpopular with the speaker. This quality of words to have multiple uses within the system of *langue* is called polysemy (discussed above).

The potential significance of *langue* is remarkably different from that of discourse. Discourse is not the abstract network of interrelated signs in the mind of competent language speakers, but the actual event of communication. Discourse unites at least one subject with one predicate, into a sentence. The subject gives the what of a sentence, but the predicate identifies the time and nature of the event. Take the sentence: Saddam invaded Kuwait. “Saddam” is the noun. There are many Saddam’s, but the rest of the sentence makes clear who this Saddam is. The verb “invaded” in *langue* means⁴⁶ “to enter forcefully as an enemy” or to “go into with hostile intent” (dictionary.com). This verb also has a time element to it; it is past tense. If the sentence were



Saddam will invade Kuwait, then the sentence is false. By the publication of this article, September of 2008, Saddam has been executed by hanging. Putting this sentence into the future tense would make it false; therefore only sentences can be true or false, because they both designate time, and they are spoken in time. Sentences are discourse *events* which *refer* to *events*. “Kuwait” is a noun, but in this sentence, the noun “Kuwait” is the direct object of the verb “invaded.” The truth value of the sentence depends on the whole of the sentence; thus, its function in discourse cannot be reduced to less than the single sentence.

The third aspect of natural language to be addressed is its referential nature. While *langue* does not refer to things, discourse does. It is because a statement has a referent that it has meaning. Thus, sentence meaning is *teleological* (from the Greek word *telos*, meaning “end” or “goal”). Discourse has a purpose, in that it refers to things. This aspect of natural language is absolutely critical to understanding it. Much confusion in the philosophy of language has arisen because researchers have mistaken the two different significations of natural language, criticizing discourse as though it were only *langue* and visa versa.

This third aspect also leads to a fourth: the purpose of discourse (to produce an event of meaning) has an affect on *langue*. As speakers communicate with one another, they inadvertently end up reconfiguring *langue* in the mind of the speakers of the language. Words take on additional meanings. This happens through deviant predication, as in the making of metaphors, metonymies. Metaphorical predication is one of the clearest ways to communicate; while it may seem imprecise, it is actually information rich in a way that “literal” predication is not, which is why military culture makes quick use of metaphors. One could say that a person advocates a certain message or program because it’s their way of making an income. But simply saying “It’s his rice bowl.” is much clearer. Through metaphorical predication word meaning is stretched and new meanings are added. It is this flexibility of reconfiguring *langue*, rooted in the context of lived human embodiment, which is so difficult for computers to emulate.

Finally, natural language also exhibits the quality of *distanciation*. Because discourse is an event, it occurs in time, and as an event in time it has effects. These events cascade in time, and cause things which are unexpected, but which are not inconsistent with the nature of the discourse event. Distanciation is the distancing of the meaning of discourse from the original intent of the author. This happens all the time, with both aural and written discourse. Perhaps the best written textual example of distanciation is Martin Luther’s 95 Theses, which he posted on a church door in Wittenburg, on 31 October 1517. As it so happened, the following day was all Saints Day, and visitors from around Europe saw his theses, copied them down, took them back to their home countries, translated them, and printed them. Luther was surprised to discover a few months later that he was well known throughout Europe as the leader of a cause to reform the Catholic Church. Information moves even faster in the 21st Century.

Also noteworthy, is the way actions can distanciate from initial events and have unintended meanings. For example, a number of actions were performed recently which led to a US bomber accidently having nuclear bombs loaded and flown across the US without the knowledge of the flight crew. Each of the participants in this event foolishly committed actions which led to a



profound combined effect. The meaning of this event distanced itself to the highest levels of Air Force command, and contributed to the decision for corrective action by Secretary Gates.

But one must be careful here. Distanciation is not a denial of authorial intent. Rather, it is the recognition of a very important quality of discourse; when discourse actualizes the potential meaning of *langue*, the produced event has meaning of its own. Therefore, an author must be responsible to say what he or she intends. If an author is not responsible, then he or she will manufacture a product which does not represent the author's intent. Luther intended to provoke debate in Wittenburg over indulgences; instead his text identified issues which the broader popular audience had with the late medieval Catholic Church, and ended up moving history in a new direction.

Paul Ricoeur uses this model of the text to develop a hermeneutic phenomenology which can explain human actions and cultural symbols as though they were text, and to accomplish this he uses the concepts we have introduced, namely *langue*, discourse, the teleology of referent, the reconfiguring work of the actuality of discourse reconfiguring the potentiality of *langue* in the creative production of referential discourse (generally through metaphorical predication), and finally distanciation. Aristotelian philosophy is a strong source of inspiration and instruction for Ricoeur's hermeneutic phenomenology, so it is necessary to introduce AST in detail.

Aristotle's Systems Theory

The opening of this paper introduced the strong intellectual relationship between Alexander and Aristotle. Alexander's desire to preserve the advantage of Aristotle's ideas should motivate the campaign planner to understand what Aristotle the philosopher made available to Alexander the warfighter. That subject we will now address.

The critical concept to understanding all of Aristotle's philosophy is his notion of *actuality* and *potentiality*. Aristotle uses these two concepts to understand the whole physical world. Wood is potentially kindling for a fire, or material for a chair. It is potential fire or potential furniture. Once fire is actualized and let to run its course, the wood cannot go back to being a chair. Nature is constantly moving according to these system states, constantly changing but in structured ways. Aristotle's approach is specifically helpful in biology, but one of the things that this does is make one realize there are not just events which then have effects. The campaign planner is actually dealing with an initially structured world, in which potential conditions make possible certain things, but not others, which could lead to other things and so on. One sees this relationship of potentiality and actuality in the way the actuality of discourse then reconfigures the potentiality of *langue*. One can actually say sentences which add to the meaning of words. (This is one reason why language is so effective in modeling complex systems; it is actually doing what complex systems do.) We see the same relationship between potentiality and actuality even in the physical world. Aristotle attempted to explain the phenomenon of change in the world, and he came to see that natural processes in the system of nature move from states of potentiality to actuality. Bird seed is potential energy for a bird. Pizza is potential energy for Americans. When food is consumed, that energy becomes actualized.



Aristotle developed a systematic philosophy out of the concepts of potentiality and actuality. One can see the relationship of potentiality and actuality is more organic, when compared with the brute mass on mass approach of Newtonian physics. (For reasons we will discuss later, it will be helpful for the warfighter to see complexity as organism.) Aristotle thought that organisms had a teleology, a state of maturity toward which they were growing. Once an organism reached maturity or adulthood, it would begin to decrease in strength and eventually decay. When this feature of systems is considered in light of military planning, it suggests when something actualizes, it changes the potential end states requiring a reevaluation to make end states diachronic in nature, subject to the maturation of conditions in the operational environment. Such a change does not logically flow from simple Newtonian force on force mechanics.

Based on this notion of potentiality and actuality, Aristotle developed a theory of four causes. For Aristotle, the word *cause* has a different meaning from its use today. Our contemporary notion of cause is rooted in a Newtonian reduction of causality to physical mechanical cause and effect: every action has an equal and opposite reaction. One material event physically causes another event, and so on.⁴⁷ The Newtonian notion of causation is a significantly stripped-down version of the Aristotelian causal model. Over the course of the 20th Century, the incompleteness of Newtonian physics became more readily apparent through the work of Einstein as well as the various researchers in quantum mechanics. The final straw came in the development of nonlinear science over the last three decades. Nonlinear science is the nexus of related disciplines which study complex phenomena. Under the heading of nonlinear science, one finds the study of nonlinear dynamical systems, chaos theory, complexity theory, Artificial Life/agent research, cellular automata, fluid dynamics, weather modeling, and contemporary combat modeling. The increasing importance of understanding the complex nexus of causal relationships has reinstated the utility of Aristotle's philosophy to contemporary science. At the beginning of the 20th Century, Aristotle was ridiculed by many noted philosophers of science, including eugenicist Karl Pearson and the analytic philosopher Bertrand Russell. At the beginning of the 21st, things have changed. Alwyn Scott writes in the introduction to the Encyclopedia of Nonlinear Science, published in 2005:

*Twenty-four centuries ago, Aristotle described four types of cause (material, efficient, formal, and final), which overlap and intermingle in ways that were often overlooked in 20th century thought but are now under scrutiny.*⁴⁸

Deconstructing an Aircraft Carrier

How do we understand these four causes today? Let's use the example of an aircraft carrier to try to understand them. The *formal* cause would be the plan that the designers used to construct it. The blueprint written by the naval architects is the formal cause, the shape of it by design. The *material* cause would be the actual steel, glass, etc. used to make it. The *efficient* cause is the Navy, the congress, the builders who put it together. And finally we have the *teleology*, which is its goal, or ultimate purpose. That is what Aristotle called the *teleological* cause.



Aristotle refined this notion of teleology further. The teleological cause is the “end” of a thing. The word “end” (*telos* in Aristotle’s Greek) has at least three different senses, and all of them are helpful in this discussion. The first sense is end in the sense of a terminus, as in a retirement ceremony, or the tip of a gun barrel. However “end” can also refer to the end state of a process. When a soldier is learning how to disassemble and reassemble an M-16, the finished weapon is the end state of that process. The soldier will know he is done when the gun is put together, and all the parts are assembled toward that end. In the same way human adult maturity may be viewed as the end of the growth process. However, there is a third sense of “end,” the purpose for which a thing is done. The goal of the aircraft carrier is to be an instrument of US national power, to function as a tool to help the president defend the constitution, mostly from foreign enemies. The “end” of an M-16 is to kill people with bullets, and that purpose helps it and the carrier to fulfill another “end,” namely to give the State Department leverage for diplomatic negotiations. Thus, the purpose of some things facilitates the purposes of others, a point we will develop at length below. Something that can be understood in terms of the four causes is called a *substance*, which is an organized whole assembled in such a way that it has a function.

Planning and Targeting the Instrumental Cause

If one takes the four causal models and applies it to a complex system, one ends up with a fifth cause, the *instrumental* cause. That is all of the causes working together to explain how things work together inside of a complex system. Aristotle explains this basic concept in Book 1 of *On the parts of animals*⁴⁹ (*PA*). Aristotle adds a new notion to his idea of substance, that of a *meros* (Greek plural: *meroi*) meaning “part.” The English word “part” does not get at what Aristotle is getting at, and a better gloss for the term would probably be *organ*. But since *organ* has a distinctly medical connotation to it, this article will instead use the original Greek term *meros* and define it afresh in terms of Aristotle’s thought. A *meros* is like a substance within a substance. All the four causes relate to every *meros* possessed by the substance. Were one to consider the substance of the human body, the scale of *meroi* would descend from the largest organ of the body, the skin, all the way to the smallest organelle of cells, and even farther to hormones and the brain’s neurotransmitters.

What one discovers is that elements, the *meroi*, within a complex system end up doing multiple things because, within a complex system, the teleology of a thing ends up, possibly, producing the material cause for something else, which then becomes the formal cause for something else. This quality of having multiple teleologies within a system we are calling *polysemy of function*, since the notion connects with the idea of word polysemy in Ricoeur’s HP. We see this in the human body. The bones provide structure to the body but also produce white blood cells. Polysemy of function. The lungs bring oxygen into the blood stream, but they also purge the body of CO₂. Neurotransmitters in the brain can also function as neuromodulators, regulating the behavior of the brain’s neural networks.⁵⁰ DNA contains the information to bring organelles into being, yet while cells contain the plans to make more cells, organelles must rely on an informational cause which is separate from themselves, which also shows how DNA is in one sense a formal cause, and in another sense an efficient cause. Furthermore, DNA also replicates itself, so it is both its own formal cause and efficient cause, and this fact makes cancer so dangerous. If we understand the natures of the individual parts, it is possible to understand how



they interrelate, but they do so in dynamic ways. This means that *meroi* can and often do have multiple teleologies,⁵¹ though Aristotle, to our knowledge, never suggests that things have multiple teleologies. The substance of the body is the interrelations of the *meroi* fulfilling a teleology, and some even multiple teleologies. In doing so, they actually produce the life of the body, by fulfilling the teleological cause.

Aristotle's notion of substance and *meroi* would be lost if we instead replaced them with nodes and networks, because Aristotle's systems theory accounts for diachronic nature of systems. He gives a practical account of how systems are constantly growing, changing, maturing, and dying, while also accounting for the structure within the system. It follows that his system is useful for the warfighter, because one can target a meros and be targeting the system directly. This process of change does not reduce itself completely to mathematics, but it does offer a structure for developing sound metrics.

Furthermore, we must clarify what makes the correct interpretation of system function possible. The instrumental cause is important for understanding how certain internal system relationships are different from the kind of simple applications of the four cause model that one can use on the outside of a substance. Instrumental cause is critical for properly interpreting the causal relationships inside the substance. It is also critical to understand that a different relationship exists between the teleology of the *meros* and the teleology of the substance. The teleology of the heart is to pump blood. The teleology of the intestines is to digest food. For Aristotle, the purpose of the whole human organism is to live toward a flourishing happiness, not unlike the life, liberty and the pursuit of happiness claimed by the US Declaration of Independence. Whether right or wrong, Aristotle's suggested purpose of human life will at least help us distinguish between the teleology of the part and the teleology of the whole. If a human's heart were to seek its own happiness, move to Italy, buy a Tuscan villa and start making wine, that human would be very sad. The way that the organs of the body become "happy" is by not trying to be happy themselves but instead by serving the body in which they find themselves. The *meroi* do not have the same teleology as the whole. They have a different teleology, but not wholly different. While it is true that the *meroi* have different teleologies from their substance, those teleologies are not accurately interpretable without viewing them in terms of the whole.

It is also possible to think in terms of the whole without understanding the nature and teleology of the parts. Silly illustrations are sometime the clearest. Consider a dentist who replaced the baby teeth of children with implants. The surgery would do more harm than good. Why? Because as humans mature toward adulthood, they get another set of teeth. The foolish dentist illustration shows that one cannot think of the whole without understanding the way in which the parts develop within the system.

Therefore Aristotle's Systems Theory traces the interrelationships of a substance and its *meroi*, using the five (material, efficient, formal, teleological, and instrumental) causes. In doing so it shows that *meroi* can often have multiple teleologies and function in a variety of ways. Through the five causal models, these relationships can be interpreted correctly.



To conclude this introduction to AST: While we were first presenting the example of the aircraft carrier to the faculty of the Joint Forces Staff College in July, an astute instructor observed that we neglected to discuss its purpose. “How does one use it? Where is the owner’s manual?” The answer brings us back to the JOPP: if one uses this causal reference during mission analysis, the owner’s manual becomes the end product of the Joint Operational Planning Process, be it a plan or an order. It ascribes purpose to the substance according to the plan; the JTF Staff applies analytical thought to determine how to use it, to discern which of its polysemy of functions it should fulfill. An aircraft carrier can (and does) fulfill many different functions: it can be the base from which planes conduct strikes. It can also be used for humanitarian purposes. It is also a show of power to effect bargaining for diplomats. It is also simply an extension of US sovereignty. It has multiple teleologies but it achieves those *by being what it is*, an aircraft carrier. The instrumental cause then becomes central to friendly planning and enemy targeting, ascribing value to each meros through understanding the function it provides to the whole.

The Model of the Text with Aristotle’s Systems Theory

Now that the model of the text and Aristotle’s Systems Theory have been explained, all the tools are available to move toward interpreting complex systems through the model of the text. This explanation is considerably streamlined; a careful point by point defense of each move in this assembly is presented elsewhere.⁵²

This move is based on the analogy of teleology in both discourse and system. It is beyond the scope of this paper to make a full defense of this point, but stated simply, HPCS assumes that *function* is the teleology of *process* as *meaning* is the teleology of *discourse*. If it is true that teleology is present in both process and discourse, which seem on the surface to be true, then what follows? It seems that in both situations, the knowledge of teleology results from a judgment call, an interpretation. This interpretation is not unwarranted. A competent speaker of English will have a good idea of what another speaker of English means. Furthermore, someone who lives in this spatial-temporal universe will readily interact with in the objects around him, in natural things. Thus, one must be very careful not to claim an absolute knowledge of causation, but one must also not pretend as though the finite knowledge of causal relationships absolves humans from making sound judgments about what causes what.

For example, the British empiricist philosopher David Hume argued that one could not empirically verify causal relationship. He argued that what humans call causal relationships are merely the constant conjunctions of various phenomena in time, which humans associate together and call causal relationships. Hume was emphatic in saying that humans could never know causation. Early 20th Century philosophy picked up Hume’s battle standard against knowledge of causal relationships. Pearson and Russell, mentioned above, drew inspiration from Hume and castigated knowledge of causal relationships—and their voices joined with many others to minimize discussion of causal relationships and instead emphasized research into probability and statistics. What is so fascinating about this move, especially in Russell, is that in an attempt to argue against Aristotle in favor of “science,” early 20th Century philosophy of science eradicated the only remaining cause, efficient cause.



If the analogy between the teleology of process and the teleology of discourse holds, it follows there is a work of interpretation occurring in the understanding of causation and purpose in physical things as well as in the events of human discourse, and this interpretation is on going. One does not stop and leave a conversation to decode human language, and then return once one understands the meaning. Interpretation is an on-going process of situational awareness which permits a conversational OODA loop. The same applies to the interpretation of teleology and purpose in system. In the work of national defense and diplomacy, the analogy between the realms of process and discourse hold so closely that the two blend together and co-mingle—though the US Government has different departments to handle each. The foreign implications of the teleology of discourse are addressed by the State Department, and the foreign implications of the teleology of systems (particularly when their teleology is hostile to national security) are addressed by the Department of Defense. This is why the “Global War on Terror” has forced these two departments to work together in an unprecedented manner at the operational and tactical level.

The analogy between the teleologies of systems and discourse permit each to open up insights into the other. First, one may notice that *langue* and the *meroi* both exhibit polysemy. In the way that words can have multiple potential uses in sentences, *meroi* may have multiple potential uses in substances. This plurality of functions in *meroi* may then be called a *polysemy of function*, a concept already introduced, but here will be more adequately developed.

Second, discourse and substance both have similar qualities, in that they have a distinct teleology separate from and irreducible to their parts, yet one in which the parts contribute to the work of the whole. Thus, one cannot say that the meaning of a sentence is in the sum of all the words. As mentioned earlier the smallest unit of discourse is a sentence. Therefore, discourse wears a different signification from *langue*. So does substance wear a different function and teleology from the parts, but one in which the parts participate actively and decisively. Furthermore, *meroi* can be made of other *meroi*, thus the same relationship between substance and *meroi* may hold between higher level *meroi*-- we will call them *arch-meroi*--and the *meroi* they contain.

Furthermore, the relationship of actuality and potentiality plays out in the relationship between substance and *meros* as it does between discourse and *langue*, in that the work of the system to perpetuate itself continues to develop the system and reconfigure the parts of the system.

However, notice—this is critical—that the development and reconfiguration of the system is the product of moving toward a teleology, and that work occurs through other systemically related teleologies. The continuing complex reconfiguration of the system occurs because of the system aiming toward its teleology. If someone were merely to examine the changing relationships of *langue* without taking the second, separate signification of discourse into account, one would view (and some have) the constant flux of *langue* as unintelligible, as though meaning is somehow impossible because resources of *langue* reconfigure through time. However, the second signification of substance (toward a teleology) makes possible an understanding of the complex interrelationships of the *meroi* which inhabit it.



Third, the ability of the human mind to look at a word and see its various meanings also carries over to the understanding of physical systems. Humans are able to take a word and flip it over in their mind to see double meanings and puns. The same is the case with physical systems. Neuroscience provides ample evidence of physical systems which perform one function which can then reorient to perform another function. However the human mind can “look” at the physical system of the brain and see how one set of pathways can be used for one purpose and then “see” how they can be used for another. (John Boyd was fascinated by this, and saw some analogy between his “snowmobile” and neural plasticity. It is this latent connection which we are making clear, explicit, and systematic through the HPCS.⁵³) The process of “flipping” assemblies to new orientations in the mind, called a *gestalt change*, is well studied. Figures 4 and 5 are images which illustrate the mind’s ability to perceive one orientation and then through a gestalt change see the elements of the image with another form.

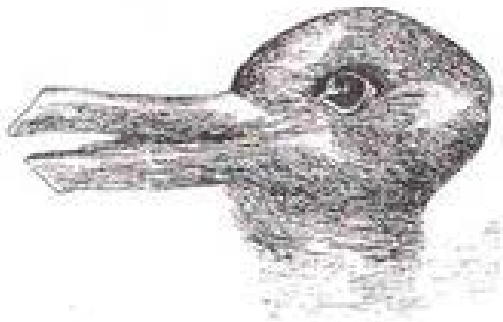


Figure 4⁵⁴



Figure 5⁵⁵

Figure 4 is equally both a duck or a rabbit. Figure 5 is equally both an old woman or a young lady. Rather than merely seeing this ability as a neat psychological curiosity, an HPCS can put this natural human ability to use. Inside complex systems one finds *meroi* and *arch-meroi* with multiple teleologies. What PMESII aims to address is the interrelationships of the various systems. Several of a nation state’s systems are in fact the whole system. Take a state’s economy: the economy is everything in the state that can be valued by purchasers and listed as either personal or government property, anything for which a monetary transaction can occur; thus, a state’s economy is made up of every person and every thing in the country. A similar point could be made about a political system. What is required to understand systems is the mental ability to flip substances and *meroi* over in one’s mind to see how they function in one arch-meroi, and again in another. Leaders who lack the ability to do this will take one action which is good according to one system gestalt, but not good according to another. They will make decisions with bad ramifications, and not be able to account for why their actions led to bad results. The model of the text, through the notion of polysemy helps to explain why this is the case.



Also, since the human mind seems to orient itself with only one gestalt at a time, one who wishes to accurately model and interpret complex systems must learn the skill of seeing the causal interrelations of the various *meroi* in relationship to one another and then change gestalt orientation in order to “see” the way in which that part functions with respect to other aspects of the system. This is absolutely critical to learn in the case of *arch-meroi*, because they have internal *meroi*, but also connect to other *meroi* within the substance. However seeing this in one’s mind is not easy, and only comes with thought and practice. It also follows that since the human mind can only form one gestalt at a time, the understanding of complex relationships inside a system is best done by multiple minds or over time by one very agile mind which can move through multiple system gestalts. Since the human mind is also teleological, and has *intentionality* (it “points” at things) it is very difficult to do this, which is why circumspectual understanding for most people must develop over time. Recall at the beginning of our discussion that models were linked to metaphor building. That discussion will be helpful here. Metaphors assemble multiple domains into a plurivocal referential discourse which still makes reference to things. Metaphor, and thus conceptual model building, has the capacity of uniting multiple gestalts into one. Conceptual model making is therefore very helpful for overcoming the problem of uniting multiple systemic gestalts, for it is possible to build models which assemble referential gestalts into a single unified model. Aristotle’s four causal model, as well as the five causal model presented above, the model of the text, and the HPCS are each such models which do just this. Of course metaphor is a kind of discourse, thus it follows that discourse is a special tool for the construction of system models accurate enough to recognize the various system gestalts necessary to accurately identify the relationships between the *meroi* and the various *arch-meroi* they form.

But note that teleology is the precondition to both the interpretation of systemic relationships and also the ability to model (redescribe) them. We now turn to the discussion of teleology and the making of snowmobiles.

An HPCS for the Warfighter

Teleology has been a suspicious concept in systems study at certain points in history; for example, Isaac Newton does not invoke teleology in his *Principia Mathematica*. Evolutionary biology has not invoked teleology to explain the origin and development of organisms, though biological textbooks are replete with teleological discourse, describing things in terms of purpose. Some researchers of complex systems attempt to model evolution by natural selection, and Artificial Life/agent simulation research has included these types of projects. Thus, one should not be surprised to find analogous discourse creeping into military discussions of complex systems.⁵⁶ The operational environment is discussed in terms of things just evolving or “emerging” out of complex interrelationships in the world. Teleology is left out of the discussion, and readers of complexity literature are left to trudge through these overly complex books on complexity, marvel to themselves on how complex the world is, and perhaps impress colleagues by ill-formed impressive sounding terminology. The opaque books on complex systems theory can turn the world of systems into a foreign country, where the human mind can visit but never learn the language or the customs.



But the warfighter must recognize he or she has a different purpose than that of the researcher whose practical concerns are often only grants and tenure. War is a human business, in a human world. There may be interesting patterns which statistics and data collecting can gather, but all the complex statistics and data-mashing will never remove the humanness of people. Humans are teleological. We want things. We go to war and prosecute wars because we desire, be it rationally or irrationally. We act out of “[H]onour, fear, and self-interest.”⁵⁷ Wars occur because people want things, and other people are in the way of acquiring those things.

While a complex systems researcher may flinch at using teleology to sort out the morass of confusion in complexity studies, nothing prevents the warfighter or the diplomat from employing teleology to interpret the relevance of intelligence, as well as discern how to sift and prioritize what information in a complex system is most helpful. Without teleology, it is not possible to trace the polysemy of function of the *meroi* in a complex system. It also is not possible to distinguish the separate teleologies of substance, *arch-meroi* and *meroi* from one another. It is not possible to assemble the five causes into a single model, nor can the analogy meaning and function hold. Moreover, the mental use of gestalt changes will have no hooks upon which to reliably distinguish purposeful system parts. Put bluntly, systems become just a bunch of stuff, moving in unrecognizable patterns, *emerging*. Wisdom can do nothing but stare vacantly into the void.

Since computational resources have been the primary tools for the study of complex systems, it should be no surprise that added information which comes from interpreting causal phenomena through the causal model of Aristotle is now back on the warfighter’s table. The use of mathematics is helpful for some kinds of analysis, but it easy to forget that the information to interpret the numbers is often not in the numbers. Economics presents an excellent analogy to strategy in this regard.

Economics is a field which employs mathematics as part of its mechanics of operation; prices and price calculation are critical to the functioning of an economy. The market price is the numerical point at which the seller and buyer actually meet price agreement. However the price actually has a polysemy of function in the economy. For the seller, the price is that amount of money which is worth more to him than the good he wishes to sell. Likewise, for the buyer, the price is that amount of money which is worth less to him than the good he wishes to buy. This relationship between buyer and seller is the mechanism which sets prices, but it would not exist if not for the distinct teleologies of the buyer and seller acting in the market. The discourse of the price⁵⁸ depends upon a hermeneutics of the market environment (substance) and the *meroi* (goods, buyers, sellers, currency standards, etc.) The numerical price is the quantitative point where two disparate teleologies meet. One cannot understand prices without that information, but that information is not contained in the numbers. It requires a hermeneutic phenomenology of those numbers to look through them into their context and understand what is going on, and that is how one comes to understand the market.

We suggest the same thing is the case in war. One must not go first to metrics, then to effects and begin measuring. Rather the numbers must actually be generated through an understanding



of the system itself, through a hermeneutics of systems. Only the involved nations can weigh the cost and related gain of the transaction.⁵⁹ For the planner, the understanding of the system is a necessary precondition to setting those numbers. Likewise the number sets, the metrics of war must be set by an understanding of the operational environment, and the teleology of the systems in play. This understanding begins with the recognition that war involves conflict between people. People want things, and compete with each other for those things. In the way that a price is set in the market between a buyer and seller, the metrics of war for the US are set by an enemy's threat relationship to us. Therefore, our metrics of war need not be identified in terms of nodes as defined JP 3-0 and JP 5-0. The HPCS opens the information needed for understanding enemy systems, but not from an "objective" viewpoint. Recall above, *model* was defined dialectically as both a thing and an action. This definition applied here shows that the HPCS must be applied, not for identifying and categorizing exactly which feature of the respective *meroi* fits each of the five causes; each *meros* likely acts as at least one of the five causes for some other part of the system. The point is to use the five causes to *understand* the relationships within the system, to trace the necessary polysemies of function which must be explained in the system, for that system to be understood. In this way the five causes open a system to interpretation.

In addition, the theory of substance and *meros* permits the defining of legitimate boundaries for the scaling (not the simplifying) of complexity. Not all complexity is equally complex, though it will be without the framework opened by the notion of teleology. Consider Thucydides' narration of the complex operational environment of the Peloponnesian War. Through teleology, Thucydides is able to distinguish between the positions of the Athenians and the Melians in the Melian Dialogue. He is able to show the hopes and aspirations of the Athenian body politic on the eve of the expedition to Syracuse.

In the same way, the HPCS becomes an explanatory framework for John Boyd's fluid command and control in Blitzkrieg warfare. Instead of a rigid top down command and control structure like that used by Napoleon, Boyd recommends a more fluid approach in which commanders with more tactical functions were permitted the freedom to make decisions based on a thorough understanding of the mission statement. These commanders were then able to more readily go through their OODA loop cycles and prosecute their portion of the battle more effectively. One would expect that the same style of organization would have to have been in place to some degree in the Greek phalanx, which acted as a structured *arch-meroi* within the substance of the army of both Xenophon and Alexander. Because complexity is scalable, it is possible to manage the unmanageable-ness of it. General Van Riper's use of "swarming" would also be an example of this.

HPCS and the JOPP

Not only does an HPCS account for the possibility of scaling complexity, it also accounts for the point made in Army TRADOC Pamphlet 525-5-500, *Commander's Appreciation and Campaign Design* regarding the need to assess wicked problems with a discourse. Because of the polysemy of function of the *meroi* and *arch-meroi* in complex systems, and the necessity of the human mind to retain only one gestalt at a time, or make new gestalts from others through conceptual



mapping, it is clear that scoping wicked problems through a JTF staff is necessary. At the same time, the JTF staff must have teleology itself, or it does not possess the requisite hermeneutical position needed to “see” the information which can become the metrics of planning as discussed above. Since discourse is itself a complex system, with an attendant teleology and a reconfiguring relationship between the actuality of discourse and the potentiality of *langue*, discourse can be used to bring a JTF staff of people with multiple perspectives to a common systemic understanding, to a common pluriform model, and the distinct functional polysemic relationships interior to the conceptual model of the operational environment will be retained by the group tasked with addressing the wicked problem. An excellent example of this hermeneutical principle at work is the joint interagency taskforce in Iraq, led by COL Mathew Bogdanos, which assembled personnel who could discourse on the wicked problems presented by the ransacking of the Iraqi Museum.⁶⁰ Not only did the group have excellent professional knowledge, but their past experience enabled them to discourse together to understand wicked problem interrelationships, properly interpret causal relationships of items and situations exhibiting a polysemy of function with respect to multiple larger contexts, and, where possible, employ rational plans to meet the needs of the joint interagency mission.

At the opening of this paper we introduced the historic example of Aristotle and Alexander as an illustration of how prudent philosophy benefits the warfighter. It would seem Alexander applied what Aristotle taught him in the prosecution of his campaigns. He was able to assess the substance and *meroi* of his force, as well as that of his enemy, make a successful plan, and win. Many have done what Alexander did. We would suggest that the HPCS describes what good commanders have always done and always will do. The HPCS then defends traditional strategic wisdom while appreciating contemporary complexity theory and wicked problems. It permits the warfighter to sift through the contemporary complexity of the operational environment to know what to look for, and to know what questions to ask in the process of campaign design. Alexander was able to use systems theory to analytically plan warfighting.

As we mentioned earlier: **When facing wicked problems, the goal of mission analysis is to envision the *polysemy of function* of friendly forces inseparably from that of the enemy and the operational environment, while distinguishing teleologies of agents which bear upon the question of victory.** Now this thesis can be understood clearly. Mission analysis should consider the polysemy of function of the *meroi* of one’s own force, among the *meroi* of the enemy (enemies) and those of the operational environment. The ability to see the various system *gestalts* necessary to recognize these various system relationships must be formed the way they have always been informed, through good intelligence informed by knowledge of war and peace, national defense, economic ways and means, legislation, and imports and exports, things which Aristotle taught almost 2400 years ago. However, the utility of the concept of polysemy of function is only valuable when it is considered in light of the enemy’s force and teleology, its model of victory (MOV), and possibly the latent MOV of agents in the operational environment. This permits one to understand the teleologies of the various agents and locate the most useful assembly of function available given the polysemy of function of system *meroi*.



The JOPP is an analytical planning construct which has proven itself successful in many campaigns. Some have asked whether the JOPP is adequate in the face of the increasing complexity of the operational environment. However, forces have met in complex chaotic conditions for millennia. What has changed? Teleology and the wise interpretation of systems have been obscured by the view that complex system change cannot be understood. This view of complex systems is a liability for the campaign planner, because it turns the warfighter into a spectator. By believing complex system change cannot be understood, the planner increases the fog of war for himself and those for whom he plans. However, the five causes, the hermeneutics of systems, and theory of substance and *meros* open an enemy system to being understood. Careful use of the HPCS in discourse by a commander's staff with respect to the operational environment provides the guidance to ask the right questions, and understand how the enemy system operates, behaves, and changes over time. Where a system is dynamically changing, the HPCS provides categories to ask why it is changing. It helps the planner recognize where he is ignorant. It also shows him what parts to target, and shows him what parts of his own system he should use to target them.

Returning to Boyd's injunction to make snowmobiles, it is now clear how teleology opens the parts of a system to clear and correct interpretation. A JTF commander can use the HPCS to understand the interrelation of the various *meroi* within a system, and employ his own force potential to defeat the enemy system or change the operational environment to facilitate victory, which may mean simply the preservation of national security. While a fixed template will not work for every situation, the HPCS approaches the needs of mission analysis as John Boyd's manual *Aerial Attack Study* approached aerial combat, not as a step-by-step procedure, but as a road map of potential tools, which the responsible party must put into action wisely. Now, the enemy systems and *meroi* are at least made visible to the JTF staff in a way that provides much more information than SOS and NCW. Furthermore, the same HPCS tools permit the command staff to scope the available friendly forces and their force potentials. Not all instruments of national power need to be used as one would expect. A carrier could be sent to an operational environment to attack, or make a show of force, or to support a humanitarian mission if it required a flight deck at sea. Or one could use the carrier for humanitarian aid while showing force (a strategic pun). One finds then the assets organized through application of the JOPP are also properly understood through an HPCS.

An unanswered question remains as to how discourse bridges the gap between the planner's language and the language of the enemy. How can staffs who think in English understand cultures that think in languages that may be very alien? Does that not automatically alter the outcome of staff planning? This would in fact be the case if discourse were not referent. People discourse towards, or by way of, physical references; this is what makes it possible to learn the languages of other people. Culture takes place in the world, as Leonidas replies to Xerxes' cultural overture in the movie *300*, "We've been sharing our culture with you all morning."⁶¹ Human language, human conception, and human needs rely on human embodiment for maturation and articulation. This means that the natural and social worlds act as a check, and the human body acts as our universal language base from which we form our concepts. Therefore, language does not exist in the abstract; there is actually a physical field from which we have to



develop our concepts. That is why we find community in language formation across the languages; as a general statement, every language as discourse may have variations on the potential resources (*langue*) they have available to form the single signification of discourse, but in the end, every language permits discourse toward a referent. We can and we do understand other cultures all of the time; anyone who has learned more than one language knows this. As we engage with others and dialog with them we are able to come to terms with another group's symbol system that portrays their culture. Regardless of sentence structure, it is the whole sentence token that behaves in similar ways. This is why recent experience has shown that staffs at all levels benefit from local speakers, sociologists, anthropologists, etc.

Thus the HPCS is a construct which applies to the analysis of one's enemy, and the analysis on one's own resources. The mutual application of the HPCS is possible because of the notion of the *model of victory* (MOV), the teleology of each force in the operational environment. This MOV can also be seen as a picture or a story of what its final victory will entail. It is absolutely critical to discern the MOV for the relevant players, because that model will provide the teleological cause which permits the interpretation of the other causes in a complex system. To understand the Israeli/Hezbollah hybrid war of summer 2006, one must understand the MOV (or lack thereof) for the various parties involved. This model may be an end state, but it generally is multifaceted and is better identified in a narrative. The narrative elements of the MOV mean that a MOV *can change*, in order to win. Such a change suggests that the enemy force has a new situational awareness, a fact which should then lead the campaign designer to maneuver accordingly. A healthy enemy will always move toward its MOV, and the MOV is also *instrumental* for the enemy leadership's own explanation of itself and its enemies. The MOV is also instrumental in maintaining force cohesion. If one understands the system requirements for maintaining force cohesion, and one can anticipate how a certain MOV will encounter debilitating friction, one can use that knowledge to anticipate the enemy's grand strategy and subvert their adjustments.

It is also the case that the internal parts to an enemy also have MOVs, which make possible the realization of the systems MOV. Furthermore, it is possible for a part of a system to have a MOV contrary to the teleology of the system, and encounter system friction because its own MOV is thwarted by the whole. The realization of the MOV also necessitates that some meri will be more decisive for the effort, a fact which guides the correct identification of centers of gravity (COG).

Operational end states are different from MOVs. Returning to the initial discussion of teleology, an operational end state is the conclusion of an action when all of its tasks have been completed, the action has accomplished the measure of the objective. MOVs, however, are system purposes. They are not measureable; they are the criterion by which one judges whether a metric is useful. One curious feature of the Israeli/Hezbollah war of 2006 is that Hezbollah was able to acquire victory by correctly choosing the time for the end state in a way consistent with their model of victory, but not consistent with Israel's model of victory.



Performing Brain Surgery on a Crab

So how does one apply the HPCS to understand the odd relationship between Israel, Lebanon, and Hezbollah? By applying the entire conceptual armature introduced above. One can consider the interrelations between the various substances and *meroi* and how each relates to one another, understand the interrelationship in terms of *arch-meroi*. Because the hermeneutic phenomenological element to HPCS is more than appropriate to use a metaphorical construct to identify system boundaries, it seems to us that the available intelligence on Hezbollah points to the following analogy:

The crab depicted in figure 6 has been infected with the *Sacculina* parasite. The *Sacculina* parasite is a variety of barnacle that can locate the chinks in a crab's exoskeleton and inject itself into the crab through the exposed joint. Once inside, it moves to wrap tendrils around the crab's nervous system from the limbs to the eyestalks, eventually controlling the crab's actions. At this point, the crab forgoes actions that would benefit it at the expense of providing nutrition for the parasite, which include molting, growing, and replacing lost limbs. By placing itself where the egg sack would normally appear, *Sacculina* also causes the crab (whether male or female) to nurture the parasite while it usurps the reproductive function.⁶² The overall effect is that the crab's will is removed to the detriment of the crab but in service to the parasite.



Figure 6⁶³



*Is it now time that the Lebanese Army, which is there, acted in order to rid itself of the very beast which is bringing this horror and this destruction upon its people?*⁶⁴

Israeli Representative to the UN Security Council

Hezbollah is a crab parasite. Hezbollah injected itself cognitively and physically into southern Lebanon, siphoned nutrition off the infrastructure, and used the state to exercise its will towards the destruction of Israel. The parasite's sense of identity and corresponding model of victory were external to (and detrimental to) the growth and nourishment of the state of Lebanon. By 2006, the crab was too weakened and the adult parasite too entrenched to be mortally wounded without causing the destruction of the crab itself.⁶⁵

Israel was forced to decide from without whether it could simply kill the host or perform a more intricate operation to excise the parasite. If Israel did not care about the fate of the crab, there would be no complexity to the conflict as the role of the cognitive domain would be minimized. However, with the international and domestic audiences evaluating the operation, a sort of Hippocratic Oath was held as the standard, such that Israel must work for the "benefit of [her] patient, and abstain from whatever is deleterious and mischievous."⁶⁶ As it turns out, the Israelis ended up targeting the crab physically in an attempt to cause the crab to turn against the parasite. In doing so, they failed to achieve even the desired *first order* cognitive effects on either the parasite or the crab, while producing undesired cognitive effects among their own population and the international community. Therefore, the operation was found to be a failure. We can thus say that the Israeli staff would have done well to discourse on "How does one perform brain surgery on a crab?"

Key Takeaways and Implications for the JTF Staff

The JOPP remains integral to the application of analytic thought to wicked problems. Wicked problems and their associated complex systems have not changed strategy. The JOPP continues to be a successful tool for application of analytical thought by the operational level planner. Its proven success is due to its inheritance of centuries of wisdom from the successful prosecution of wars. Superior military commanders have for millennia made good campaign plans in complex operational environments, in multi-layered and unstable political environments, charged with religious tensions. These commanders quite often succeeded not because of superior weapons, superior numbers, or superior alliances; victory can be found with the lack of each of these. However, in each case one factor always remains: wisdom. This wisdom, captured in the elements of operational design, provides the foundation for successful application of the analytic construct.

Ultimately war is waged in the cognitive domain, a domain where the system of systems construct does not work. If complexity is cognitively based, then, using a metaphor from the language of mathematics, individuals are the "fractals" (more completely viewed as *meroi*) that retain the complexity of the operational environment. What permits this fractal replication to exist? Natural language unites minds so that the complexity retained in each member of the staff



can reconfigure itself about the teleology of the mission in a complex operating environment. Therefore, natural language used by humans in community is the encompassing model of complex systems. This is the reason why humans using language have been able to discourse about complexity for millennia. The operational environment is not a list of emerging variables; rather, JTF staffs must deal with people who have intentions, who have wills, so that teleology is involved. The Joint Intelligence Preparation of the Operational Environment is best accomplished and understood through observation described in natural language rather than attempts at simplification.

Teleology is the critical concept for understanding complexity. Teleology opens complexity to being understood without simplifying it. In the snowmobile example, the human mind is able to take the teleology of each of these individual things, remove a part from it, understand it, and from that teleology understand another whole item. There are problems with understanding systems which stem from an unwillingness to look at teleology. The warfighter does not have this luxury and cannot look at an emerging world while in a state of inaction as a spectator. We are a nation, a sovereign people, with enemies who desire hegemony over us. This instills meaning to the numbers and identifies a purpose to which the parts of the whole may be directed.

How does one avoid imposing one's thoughts on one's operational environment or enemy? Keep in mind, a model is both a thing *and* an action. Thus, the modeler performs an action with an associated teleology. An understanding of teleology allows us to separate the model from the intent used to build it. One cannot use the same model in the same way to train a warfighter and model the outcome of his upcoming battle. We need to take care not to misunderstand the purpose of our own models, therefore deceiving ourselves as to what we can rightfully expect.

Action officers and commanders need the ability to recognize gestalt changes. This is done by the individual to benefit the staff (and campaign) as a whole. Although the JOPP has been viewed as a linear process, we see that from the cognitive domain perspective, it is anything but linear; it is socialized at every step. Therefore, scoping complex systems is something that must be done by a group of people, preferably with as diverse a set of backgrounds (academic, cultural, etc.) as practical. This allows for multiple gestalts looking at the wicked problem in different ways, within the minds of everyone present. The result is the creation of a model that is a more accurate replication or portrayal of the actual world.

Discourse is the encompassing model for complexity. Humans model complexity as we speak. Discourse presents one with a single surface; a single unit of meaning that through it reveals incredible complexity of *langue* and the discourse context. This helps to identify the problem with math-based computer modeling; namely, those systems do not reflect the complexity of the environment they are used to model. However, a more accurate human discourse model can better aim computer-based modeling by getting closer to the way natural language operates. Mathematical modeling requires the reduction of information to computational symbols. A formal system requires metadata attached to each of those symbols in order to explain it. Humans deal with their environment the same ways humans always have. Our limited ability to discourse through the digital collaborative environment is currently a barrier but will not be for future



generations. Their development of *langue* and discourse will increasingly become more adept at including the medium of the computer. For the foreseeable future, the computer and human interaction through computational symbol systems will continue to be a part of war, and will help to increase the power of our ability to sense and know, but it will not replace the mind of the commander. All the same skills of generals are as necessary today as they were in the time of Alexander; interpretation still requires human wisdom. Natural language is transparent; you can “see” into it. Natural language operates in an environment where discourse is a window which “simplifies” without removing complexity. It is the surface through which you can see the deep.

The job of the JTF staff is the cultivation of wisdom. The cognitive model presented in *Commander’s Appreciation and Campaign Design* will greatly assist commanders and staffs in designing, planning, and executing military campaigns. JTF staff officers need to discourse in such a way that they can share information simply and can correct course as more knowledge comes into that system. Successful staffs require a system of people who are able to think and dialogue about the system changes as they occur. Therefore, the different ways that people think are important to harness and develop and cultivate. One can develop techniques for how to accomplish that better, but there is not an addendum that creates a fixed process that one must go through every time. Commanders require staffers who understand how to apply the analytical process and how to develop a team to scope system problems and plan prudently. The commander who interacts with this process of socialization requires exceptional abilities to recognize and interpret system implications from that socialization, no matter how informal. To find those with this ability, we appeal to the knowledge of the process of orientation and interpretation experienced in military leadership, for every experience yields a “secondary system” which may be applied to the wicked problem “primary systems” under JIPOE analysis. A wise commander with a knowledgeable and responsive staff, able to socialize problems and then apply analytic thought towards solutions, will succeed where others fail.

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Glossary of Terms

Actuality: paired with potentiality, the maturation of potential conditions, materials, etc., in an event, or product, which develops from those conditions.

Arch-meros: see *meros*.

Diachronic: having to do with a thing (especially a system) over a span of time.

Discourse: referential communication which has meaning. Generally discourse is either written or spoken referential communication in language composed of sentences that either have or imply subjects *and* predicates.

Distanciation: the quality of discourse which permits it to mean something different to an audience beyond the audience intended by the author or speaker. In warfighting, distanciation is analogous to third and fourth order effects; however distanciation is different in that it assumes a natural structure in the discourse event (or warfighting situation) and the environment which makes the new meaning possible before a new audience.

Gestalt: an orientation of particulars as one unified whole. In this article, the term appropriately refers to either the way the mind organizes a collection of particulars in a unity (a mental gestalt), or as an orientation of particulars in nature which have a systemic or functional relationship (system gestalt), such that they can designated separately from neighboring particulars.

Hermeneutic phenomenology: the use of the model of the text as a tool for understanding the world as though it were a text. The term is comprised of two other terms. Hermeneutics is the art of interpretation. Phenomenology is the accurate description of essences, and has generally been used to refer to the studies of essences of cognitive structures, hence its application to war in the cognitive domain.

Langue: the signs in a sign system (generally a natural language), which can potentially mean some thing if used in discourse.

Meros, (pl. meroi): A structured part of a substance which supports the work of the substance through its own work according to the five-causal model. An *arch-meros* is the same, only it also has *meroi* within it which also function according to the five causal models.

Polysemy: the quality of a word which permit it to have multiple meanings, depending upon its uses in discourse (see the definition of “discourse”).

Polysemy of function: the multiple teleologies, both actual and potential, which a *meros* or *arch-meros* demonstrates in the dynamics of a substance.



Potentiality: the quality of resources which makes them ready to be used toward the product or event of actuality.

Substance: A functional whole, which has at least one purpose, and possibly several.

Synchronic: having to do with the state of a thing (especially a system) at a point in time.

Teleology: a thing's "end" in the sense of (1) its terminus in time or space, (2) its end state if the thing is a process, or (3) its purpose, what a thing aims ultimately to accomplish. A *meros*, an *arch-meros* and a substance each have their own teleologies which open the respective interrelationship of the parts



Bibliography

- Aristotle. "On the Parts of Animals." In *Clarendon Aristotle Series*, ed. J. L. Ackrill and Lindsay Judson, xvi-404. Oxford: Clarendon Press, 2001.
- Arrian. "Anabasis Alexandri." In *Loeb Classic Library*, ed. G. P. Gould. Cambridge (Mass): Harvard, 1976.
- Bogdanos, Matthew, William Patrick. *Thieves of Baghdad: One Marine's Passion to Recover the World's Greatest Stolen Treasures*. New York: Bloomsbury Publishing, 2006.
- Boyd, John. *A Discourse on Winning and Losing*. Unpublished manuscript, 1987.
- Brown, Theodore L. *Making Truth: Metaphor in Science*. Urbana and Chicago: University of Illinois press, 2003.
- Cilliers, Paul. *Complexity and Postmodernism: Understanding Complex Systems*. London and New York: Routledge, 1998.
- Clausewitz, Carl Von. *On War*. Translated by Peter Paret Michael Howard. Oxford: Oxford University Press, 2007.
- Collender, Michael. "Complexity and Hermeneutic Phenomenology." Doctoral dissertation, The University of Stellenbosch, 2008.
- Devlin, Keith. *Goodbye, Descartes: The End of Logic and the Search for a New Cosmology of the Mind*. New York: John Wiley & Sons, Inc., 1997.
- Grossmann, Reinhardt. "Phenomenology." In *The Oxford Companion to Philosophy*, ed. Ted Honderich, 658-660. Oxford and New York: Oxford University Press, 1995.
- Hammond, G. T. . *The Mind of War: John Boyd and American Security*. Washington: Smithsonian Books, 2001.
- Hesse, Mary B. *Models and Analogies in Science*. Notre Dame (Indiana): University of Notre Dame Press, 1966.
- Hippocrates. "Hippocratic Writings." In *Great Books of the Western World*, ed. Mortimer Adler. Chicago: Encyclopaedia Britannica, Inc., 1993.
- Hizballah. "An Open Letter: The Hizballah Program." *JCOA Journal* X, no. 1 (2007): 9-12.
- Hovendale, Frederick. *On False Education*. London: Watts & Co., 1905.



Joint-Center-for-Operational-Analysis. *JCOA Journal* X, no. 1 (2007).

Kline, Morris. *Mathematics and the Search for Knowledge*. Oxford: Oxford University Press, 1985.

Kreps, Sarah E. "The 2006 Lebanon War: Lessons Learned." *Parameters*, no. Spring (2007).

Lakoff, G., and R. E. Nunez. *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being*. New York: Basic Books, 2000.

Lakoff, George, and Mark Johnson. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought* New York: Harper Collins, 1999.

Mathews, M. M. *We Were Caught Unprepared: The 2006 Hezbollah-Israeli War*. Long War Series Occasional Paper. Fort Leavenworth, (Kansas): US Army Combined Arms Center, Combat Studies Institute Press, 2008.

Mattis, General James N. "Memo for USJFCOM, Assessment of Effects Based Operations ." 14 August 2008.

Naylor, Sean D. "War Games Rigged?: General Says Millennium Challenge 02 'Was Almost Entirely Scripted' ." *Army Times*, August 16, 2002.

Plutarch. "Plutarch's Lives of the Noble Grecians and Romans." *The Great Books of the Western World*, ed. Mortimer Adler, 13. Chicago: Encyclopedia Britannica, Inc., 1993.

Ricoeur, Paul. *The Conflict of Interpretation: Essays in Hermeneutics*. Translated by Multiple Translators Northwestern University Studies in Phenomenology and Existential Philosophy. Evanston (Illinois): Northwest University Press, 1974.

Scott, Alwyn. "Introduction." In *Encyclopedia of Nonlinear Science*, ed. Alwyn Scott, vii-xi. New York and London: Routledge, 2005.

Shanker, Thom. "Iran Encounter Grimly Echoes '02 War Game." *The New York Times*, January 12, 2008.

Snyder, Zack. "300." Warner Bros. Pictures 2006.

Thucydides. *History of the Peloponnesian War*. Translated by Charles Foster Smith. 4 vols. The Loeb Classic Library. Cambridge (Mass): Harvard University Press, 1928.



U. S. Department of Defense. *Joint Publication 3-0: Joint Operations*. Washington, D.C: Defense Technical Information Center, 17 September 2006, Incorporating Change 1, 13 February 2008.

U. S. Department of Defense. *Joint Publication 5-0: Joint Operational Planning*. Washington, D.C: Defense Technical Information Center, 26 December 2006.

USJFCOM, Frequently Asked Questions, "What is Millennium Challenge 2002?" <http://www.jfcom.mil/about/experiments/mc02/faq>.

Wartofsky, Marx W. *Models: Representation and the Scientific Understanding*. Vol. Volume XLVIII Boston Studies in the Philosophy of Science, ed. Robert S. Cohen and Marx W. Wartofsky. Dordrecht: Holland/Boston: USA and London: England: D. Riedel publishing Co., 1979.

Watts, B. D. *Clausewitzian Friction and Future War* McNair Paper Series. Washington D.C.: National Defense University, 2004.

Wikipedia. "Millennium Challenge 2002." In *Wikipedia: Wikipedia, the free encyclopedia*, July 2008.

Wikipedia. "Optical Illusion." In *Wikipedia: Wikipedia, the free encyclopedia*, July 2008.

Wikipedia. "Sacculina." In *Wikipedia: Wikipedia, the free encyclopedia*, July 2008.

Wikipedia. "Wicked Problems." In *Wikipedia: Wikipedia, the free encyclopedia*, July 2008.



Notes

¹ See the conclusion of Book 3 and following of Arrian, "Anabasis Alexandri," in *Loeb Classic Library*, ed. G. P. Gould (Cambridge (Mass): Harvard, 1976).

² See the detailed account of the campaign in *Ibid.*

³ The illustrating of how Alexander did this is a primary focus of Plutarch's narrative entitled "Alexander" in Plutarch, "Plutarch's Lives of the Noble Grecians and Romans," in *The Great Books of the Western World*, ed. Mortimer Adler (Chicago: Encyclopaedia Britannica, Inc., 1993).

⁴ See Book II, 14.4-9 in Arrian.

⁵ Plutarch, 561-562.

⁶ *Ibid.*, 543.

⁷ Not all philosophers have equal skill. Plato's students were known for their hostility to real world systems study. Alexander also invited the philosopher Callisthenes on his campaign who turned out to lack the practical wisdom of Aristotle and plagued everyone with his stupidity.

⁸ Wikipedia, "Wicked Problems," in *Wikipedia* (Wikipedia, the free encyclopedia, 2008).

⁹ Joint-Center-for-Operational-Analysis, *JCOA Journal X*, no. 1 (2007).

¹⁰ Hizballah, "An Open Letter: The Hizballah Program," *JCOA Journal X*, no. 1 (2007).

¹¹ *Ibid.*

¹² *Ibid.*

¹³ This causes us to respectfully depart from JCOA's characterization of Hezbollah as a "state within a state".¹³ Instead, we view Hezbollah as a parasitic nation within a state, using the resources of the host state for external purposes.

¹⁴ Sarah E. Kreps, "The 2006 Lebanon War: Lessons Learned," *Parameters*, no. Spring (2007).

¹⁵ Joint-Center-for-Operational-Analysis: 15.

¹⁶ As chronicled in M. M. Mathews, *We Were Caught Unprepared: The 2006 Hezbollah-Israeli War*, Long War Series Occasional Paper (Fort Leavenworth, (Kansas): US Army Combined Arms Center, Combat Studies Institute Press, 2008), 94.

¹⁷ Joint-Center-for-Operational-Analysis: 21.

¹⁸ Joint-Center-for-Operational-Analysis: 13.

¹⁹ *Ibid.*: 22.

²⁰ *Ibid.*

²¹ Carl Von Clausewitz, *On War*, trans. Peter Paret Michael Howard (Oxford: Oxford University Press, 2007), 225.

²² The PMESII construct models an operational environment according to at least six identifiable subsystems/networks, namely the political, military, economic, social, infrastructure and information systems.

²³ GEN James N. Mattis, "Memo for USJFCOM, Assessment of Effects Based Operations." (14 August 2008).

²⁴ U. S. Department of Defense, *Joint Publication 5-0: Joint Operational Planning* (Washington, D.C: Defense Technical Information Center, 26 December 2006).

²⁵ U. S. Department of Defense, *Joint Publication 3-0: Joint Operations* (Washington, D.C: Defense Technical Information Center, 17 September 2006, Incorporating Change 1, 13 February 2008).

²⁶ JP-3 IV-4 makes a reference that can be interpreted as encouraging the targeting of links. "After appropriate analysis, certain nodes and the links between them can be identified as key to attacking or otherwise affecting



operational and strategic COGs.” But that statement must also be taken along with the definitions of node and link presented in JP-5. Links are affected by the action taken upon nodes, and thus system change is affected indirectly.

²⁷ John Boyd makes a similar point in saying that national security has no end state but rather is a continual OODA loop process. See G. T. Hammond, *The Mind of War: John Boyd and American Security* (Washington: Smithsonian Books, 2001).

²⁸ USJFCOM Online, Frequently Asked Questions, “What is Millennium Challenge 2002?”, July 2008.

²⁹ Sean D. Naylor, “War Games Rigged?: General Says Millennium Challenge 02 ‘Was Almost Entirely Scripted’,” *Army Times*, August 16, 2002.

³⁰ Wikipedia, “Millennium Challenge 2002,” in *Wikipedia* (Wikipedia, the free encyclopedia, 2008).

³¹ Thom Shanker, “Iran Encounter Grimly Echoes ‘02 War Game,” *The New York Times*, January 12, 2008.

³² Wikipedia, “Millennium Challenge 2002.”

³³ Frederick Hovenden, *On False Education* (London: Watts & Co., 1905), 13.

³⁴ For more discussion on this point see G. Lakoff, and R. E. Nunez, *Where Mathematics Comes From: How the Embodied Mind Brings Mathematics into Being* (New York: Basic Books, 2000). Their thesis has merit, but the metaphysical interpretation they give at the end of the book, arguing for complete mathematical constructivism without being able to give an account for the universal applicability of mathematics to the physical universe or answer Morris Kline’s famous question “Why does mathematics work?” See Morris Kline, *Mathematics and the Search for Knowledge* (Oxford: Oxford University Press, 1985), 210-227.

³⁵ Keith Devlin, *Goodbye, Descartes: The End of Logic and the Search for a New Cosmology of the Mind* (New York: John Wiley & Sons, Inc., 1997).

³⁶ Paul Ricoeur, *The Conflict of Interpretation: Essays in Hermeneutics*, trans. Multiple Translators, Northwestern University Studies in Phenomenology and Existential Philosophy (Evanston, Illinois): Northwest University Press, 1974), 68.

³⁷ John Boyd, *A Discourse on Winning and Losing* (Unpublished manuscript, 1987).

³⁸ Again we are not challenging the usefulness of good measurements of campaign health.

³⁹ Reinhardt Grossmann, “Phenomenology,” in *The Oxford companion to philosophy*, ed. Ted Honderich (Oxford and New York: Oxford University Press, 1995), 659.

⁴⁰ Paul Cilliers, *Complexity and Postmodernism: Understanding Complex Systems* (London and New York: Routledge, 1998), 3-5.

⁴¹ One could go through and carefully show that each of these points applies to natural language, but such elaboration is beyond the scope of this article.

⁴² This definition is quoted word for word from Michael Collender, “Complexity and Hermeneutic Phenomenology” (Doctoral dissertation, The University of Stellenbosch, 2008).

⁴³ Wartofsky, Marx W. *Models: Representation and the Scientific Understanding*. Volume XLVIII Boston Studies in the Philosophy of Science, ed. Robert S. Cohen and Marx W. Wartofsky (Dordrecht: Holland/Boston: USA and London, England. D. Riedel Publishing Co., 1979) 147.

⁴⁴ Mary B. Hesse, *Models and Analogies in Science* (Notre Dame (Indiana): University of Notre Dame Press, 1966), 171. The meaning of “explanandum” is something that requires explanation (including the word itself).

⁴⁵ *Ibid*, 158.

⁴⁶ “Means” here does not suggest that words can have meaning outside of discourse. Words only mean something in sentences, but in *langue* words retain potential meaning. Those potential meanings are what is recorded in a lexicon. So the better word to designate this quality is *use*, but English lacks an easy clear convention for expressing this.



⁴⁷ This assumption is at the heart of the PMESII process which treats the other systems of the operational environment as related in a network with the same causal relationships as the nodes (tangible targetable physical points) of a military system.

⁴⁸ Alwyn Scott, "Introduction," in *Encyclopedia of Nonlinear Science*, ed. Alwyn Scott (New York and London: Routledge, 2005), vii.

⁴⁹ Aristotle, "On the Parts of Animals," in *Clarendon Aristotle Series*, ed. J. L. Ackrill and Lindsay Judson (Oxford: Clarendon Press, 2001).

⁵⁰ It is Michael Collender's position that the brain is best seen as an instrumental cause of instrumental causes, but put in structural terms; this refers primarily to the brains networked neurons. He would argue that the brain should be seen as a complex single neural network, not an aggregate of multiple networks.

⁵¹ The following illustrations are taken from chapter 5 of Collender. Here these examples are treated in greater detail.

⁵² See chapters 6 and 7 of *Ibid*.

⁵³ See Hammond, 156-157.

⁵⁴ Wikipedia, "Optical Illusion," in *Wikipedia* (Wikipedia, the free encyclopedia, as viewed in July 2008).

⁵⁵ *Ibid*.

⁵⁶ For a representative example see "Evolutionary Biology as an Exemplar" B. D. Watts, *Clausewitzian Friction and Future War*, McNair Paper Series (Washington D.C.: National Defense University, 2004), 49-55.

⁵⁷ Book 1.75 of Thucydides, *History of the Peloponnesian War*, trans. Charles Foster Smith, 4 vols., The Loeb Classic Library (Cambridge (Mass): Harvard University Press, 1928), Vol. 1, p.129.

⁵⁸ For a discussion of why prices are discourse and not *langue*, see *Complexity and Hermeneutic Phenomenology*.

⁵⁹ Or third party analysis must operate within the models of victory used by the respective parties involved in the conflict. Outcomes *must* be measured in terms of those models, even by third party analysts.

⁶⁰ See Matthew Bogdanos, William Patrick, *Thieves of Baghdad: One Marine's Passion to Recover the World's Greatest Stolen Treasures* (New York: Bloomsbury Publishing, 2006).

⁶¹ Zack Snyder, "300," (Warner Bros. Pictures 2006).

⁶² Zimmer, Carl (August 2000). "[Do Parasites Rule the World?](#)" [Discover](#). Accessed via Wikipedia. Photo from Wikipedia.

⁶³ Wikipedia, "Sacculina," in *Wikipedia* (Wikipedia, the free encyclopedia, 2008), as viewed in July 2008.

⁶⁴ Joint Center for Operational Analysis: 22

⁶⁵ In May of 2008, Lebanon did in fact attempt to rid itself of "the beast" by denying Hezbollah access to a landline telephone network that it used to communicate. Hezbollah turned on its host and the Lebanese government was forced to back down.

⁶⁶ Hippocrates, "Hippocratic Writings," in *Great books of the western world*, ed. Mortimer Adler (Chicago: Encyclopaedia Britannica, Inc., 1993), xiii.



A Proposal for the Realignment of the Department of State and Department of Defense Areas of Responsibility

By

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The events of September 11, 2001, fundamentally changed the way the United States perceived threats to its national security. Non-state actors, such as Al Qaeda, Abu Sayyaf, and Asbat al-Ansar, have taken a place alongside nation states as entities capable of influencing our actions and threatening our way of life. As a result of this shift, effective execution of the US national security strategy requires an unprecedented level of integration of all instruments of national power. While national leadership has issued policy reflecting this new reality, implementation of that policy has progressed slowly. One area in which immediate progress could be made is improved coordination between the Department of Defense (DOD) and the Department of State (DOS) in developing regional strategies. The DOD's Regional Combatant Commands (COCOMs) and DOS's Regional Bureaus have roughly analogous functions but significant differences in their organization, leading to inefficient communication and reduced cooperation. In order to facilitate interagency coordination, the President of the United States should direct the DOD and DOS to align their regional areas of responsibility (AORs) into a more logical and consistent construct.

The Need for Improved Interagency Coordination

National-level policy documents clearly state the need for improved interagency coordination. The nation's top strategic document, the 2006 National Security Strategy (NSS), recognizes today's complex global security environment and outlines a strategy founded on two pillars: (1) promoting freedom, justice, and human dignity, and (2) leading a growing community of democracies.¹ Achieving these goals will require effort spanning many disciplines, implying that an integrated application of all instruments of national power is necessary. This fundamental need for interagency cooperation is reinforced and defined at the strategic level in National Security Policy Directives (NSPD). For example, NSPD-1 establishes Policy Coordination Committees to conduct the day-to-day interagency activities concerning national security,² and NSPD-44 directs the DOS to harmonize their reconstruction and stabilization efforts with the military plans and operations of the DOD.³

While coordination between all agencies is necessary, effective cooperation between DOS and DOD is especially essential in today's strategic environment. According to Secretary of State Rice, transnational threats that fall outside of traditional military or diplomatic bins require a combination of instruments of national power for resolution, and that the DOS should have the leadership role in these efforts:



“We will not meet the challenges of the 21st century through military or any other means alone. Our national security requires the integration of our universal principles with all elements of our national power...and it is the State Department, more than any other agency of government that is called to lead this work.”⁴

However, DOD is frequently given tasks that should properly be led by DOS. For example, DOD manages over \$30 billion worth of reconstruction contracts in Iraq,⁵ a job for which DOS is best qualified.⁶ This is primarily due to the relative sizes of the organizations—the annual DOD budget dwarfs that of the DOS (\$593.8 billion vs. \$15.4 billion in FY 2008)⁷—and DOD’s global reach. The disconnect between the agencies that should handle and actually do handle these tasks leads to an incoherent application of national strategy. Improved coordination between DOD and DOS is an obvious remedy for this problem.

Barriers Impeding DOD and DOS Cooperation

While national policies mandate strategic interagency coordination, they do not dictate how this is to be accomplished at the COCOM and Regional Bureau levels of the DOD and DOS, respectively. This is the level at which regional strategies are developed to implement national goals, but it is also the level at which daily coordination is relatively infrequent. Effective cooperation between DOS and DOD is impeded by two major factors: (1) misalignment of their respective geographic responsibilities, and (2) obstacles to cooperation inherent in their organizational structures

Misalignment of Regional AORs

In broad terms, the DOS and DOD have similar approaches to assigning regional responsibilities.⁸ The Department of State divides the world into six operating regions, assigning responsibility for each to a Regional Bureau:⁹

- 1) Bureau of African Affairs (responsible for sub-Saharan Africa)
- 2) Bureau of European and Eurasian Affairs (Europe, Russia, and Greenland)
- 3) Bureau of South and Central Asia (responsible for the area encompassing Kazakhstan to India)
- 4) Bureau of East Asian and Pacific Affairs (responsible for the area encompassing Mongolia to New Zealand)
- 5) Bureau of Near Eastern Affairs (responsible for the Middle East and North Africa)
- 6) Bureau of Western Hemisphere Affairs (responsible for North and South America)

Each Bureau is headed by an Assistant Secretary who is responsible for providing political advice to the Under Secretary of Political Affairs and overseeing diplomatic operations conducted within their assigned jurisdiction.¹⁰



The Department of Defense's approach to assigning regional responsibilities was mandated by the National Security Act of 1947 and refined by the Goldwater-Nichols Act of 1986, which directed the creation of a single centralized focal point for joint combat operations in a given theater. The DOD currently has six geographical Combatant Commands, as outlined in the Unified Command Plan:

- 1) US Northern Command (USNORTHCOM, responsible for North America)
- 2) US Southern Command (USSOUTHCOM, responsible for South America)
- 3) US European Command (USEUCOM, responsible for Europe, Greenland, and Russia)
- 4) US Central Command (USCENTCOM, responsible for the Middle East)
- 5) US Africa Command (USAFRICOM, responsible for Africa)
- 6) US Pacific Command (USPACOM, responsible for the area encompassing Mongolia to India, including China, Korea, Japan, New Zealand, and Madagascar)

The Combatant Commands are led by Combatant Commanders, who report directly to the Secretary of Defense and exercise unified command and control of all missions within their areas of responsibility.

Although the DOS and DOD regional assignments are similar in broad terms, they differ significantly in the details (see Appendix A, Figure 1 and Table 1). This misalignment of AORs creates coordination gaps between DOS and DOD, impeding effective interagency cooperation and the development of synchronized regional strategies. Two key examples are USCENTCOM and the Bureau of South and Central Asian Affairs. USCENTCOM's AOR is comprised of countries that fall under two Regional Bureaus,¹¹ thus forcing it to coordinate its regional plans with two DOS organizations instead of with a single focal point. This is especially detrimental to USCENTCOM's stability operations in Iraq (Bureau of Near Eastern Affairs) and Afghanistan (Bureau of South and Central Asian Affairs), which require close coordination between DOD and DOS. Similarly, the Bureau of South and Central Asian Affairs includes both Pakistan and India within its AOR, while those countries are assigned to USCENTCOM and USPACOM respectively. DOS efforts to stabilize conflicts between Pakistan and India must be coordinated with two COCOMs instead of only one.

Organizational Barriers

In addition to the differences between their AORs, various aspects of the DOD and DOS organizational structures reduce their ability to coordinate effectively. Two of these barriers are found at the national leadership level. First, COCOMs and Regional Assistant Secretaries have different levels of reporting authority. COCOMs report directly to the Secretary of Defense, while the Assistant Secretaries report to the Under Secretary of State for Political Affairs, two levels lower than the equivalent Secretary of State.¹² Second, neither the Secretary of Defense nor the Secretary of State has established clearly delineated lines of coordination between COCOMs and Regional Bureau Secretaries, a task which is certainly within their ability to accomplish. This lack of guidance results in the majority of policy coordination occurring at the



National Security Council level, which in turn causes inefficiency in developing courses of action, and reduces the nation's ability to rapidly respond to changing conditions.¹³

Another organizational barrier to effective cooperation is found in the office that DOS uses for interagency interaction. The DOS maintains a single bureau through which they coordinate with the DOD, the Bureau of Political-Military Affairs (POLMIL). POLMIL has the primary functions of providing policy direction in the areas of international security, security assistance, military operations, defense strategy and plans, and defense trade,¹⁴ and consequently is heavily involved with the regional plans of the Regional Bureaus. However, POLMIL is operated separately from the Regional Bureaus, and reports to the Under Secretary of State for Arms Control, instead of the Under Secretary of Political Affairs (who oversees the Regional Bureaus).¹⁵ This creates an additional layer of bureaucratic separation between the Regional Bureaus and the COCOMs, and can lead to conflicting guidance given to the COCOMs by POLMIL and the Regional Bureaus.

Aspects of the Office of the Coordinator for Reconstruction and Stabilization (OCR&S) within the DOS also impede effective coordination between DOD and DOS. OCR&S, created as a result of NSPD-44,¹⁶ is charged with coordinating all United States Government (USG) activities related to planning and preparing for reconstruction activities.¹⁷ While the OCR&S improves coordination on activities that lay within its specific scope (reconstruction and stabilization activities), the narrow focus of that scope means, over the course of an operation, coordination authority shifts between various organizations. This fragments the overall coordination of an operation as a whole. Additionally, the OCR&S does not provide a regional level avenue through which a COCOM and a Regional Bureau can interact on the development of regional strategies.

In 2002, DOD attempted to improve interagency coordination with the implementation of Joint Interagency Coordination Groups (JIACGs), full-time, multi-agency advisory groups that reside on each Combatant Commander's staff. The JIACG's primary purpose is to facilitate information sharing throughout the interagency community, acting as the COCOM's advocate across federal, state, and non-governmental agencies.¹⁸ Unfortunately, according to the 2008 Report to Congress from the Project on National Security Reform (PNSR), JIACGs have had limited success with improving interagency coordination,¹⁹ a failure that has been variously attributed to limited resources, legislated organizational boundaries, and interagency rivalries.²⁰

The formation of USAFRICOM will test a new method for improving DOD and DOS coordination. The USAFRICOM staff will include personnel from outside agencies as permanent members of the command staff, formally embedded into the organizational structure at a very high level (the Department of State, for example, will hold a Deputy Commander position).²¹ This military-civilian hybrid staff is an intriguing proposal that takes the basic premise of the JIACG to the next logical step. While its success will not be known for a number of years, one potential flaw is that the embedded personnel will become too closely identified with USAFRICOM, losing their connections and effectiveness with their home agencies. For example, the Department of State Deputy Commander will hold no formal authority over the



Country Teams and is not in the chain of command of the Regional Bureau, thus reducing that position's effectiveness in developing regional policies for the DOS.²²

Recommendation for Aligning the Regional AORs

DOS and DOD have significant issues to address in order to improve their mutual coordination. The problems caused by their organizational issues will take a relatively long time to solve, as drastic change at that level of bureaucracy is unlikely to happen quickly and would probably require a legislative solution from Congress. Hence, fixing the problems with JIACGs and OCR&S, aligning the Secretaries to whom COCOMs and Regional Bureaus report, and reorganizing POLMIL and the Regional Bureaus under a single lead should be considered long-term goals; other efforts to improve interagency coordination should be pursued in the short-term.

Realigning the COCOM and Regional Bureau geographic AORs, on the other hand, is a feasible short-term goal. It represents a comparatively minor change that would provide immediate tangible benefits (e.g., improving DOD and DOS coordination in stability operations in Iraq and Afghanistan), and would serve as the catalyst for future initiatives to improve interagency coordination. This change could be effected by the Secretary of State and Secretary of Defense acting in concert, and would probably require direction from the President of the United States to initiate the process. If the changes to the current responsibilities were minimal, such as in the proposal below, the realignment could be effected in as little as six months, followed by an approximately five year period during which existing plans were updated to reflect the new structure. This process would also provide the Secretaries of State and Defense the opportunity to address one of the organizational flaws identified above: the lack of clearly delineated lines of coordination between COCOMs and Regional Bureau Secretaries.

Proposed AOR Realignment

One potential alignment is presented in Appendix A, Table 2. It was constructed with two guiding criteria. First, regions were selected so that likely conflicts (stemming from economic, ideological, or historical causes, as described below) would tend not to cross regional boundaries. While this obviously represents an ideal and not an unbreakable rule—threats are global in nature, and there are few sharp lines worldwide across which conflicts will definitely not occur—attempting to follow this guideline resulted in a proposal that increases efficiency by reducing the need for inter-theater coordination. Second, as a pragmatic consideration, regions were selected with a preference for the status quo. This guideline minimized the amount of change required, increasing the ease of implementation for the proposal.

In broad terms, the proposed realignment retained the six current DOD COCOM AORs, with significant modifications to USCENTCOM's region, and the DOS Regional Bureau AORs were redefined to match the DOD COCOM AORs. The Bureau of Western Hemisphere Affairs was divided into two Bureaus: one for North American (aligned with USNORTHCOM) and one for Central and South America (aligned with USSOUTHCOM). The Bureau of Near Eastern Affairs was eliminated, and its AOR was divided between the Bureau of African Affairs (Morocco,



Libya, Algeria, and Tunisia; aligned with USAFRICOM) and the Bureau of South and Central Asian Affairs (the remainder; aligned with USCENTCOM). This change also included the reassignment of Israel, who had been assigned to the Bureau of Near Eastern Affairs, from USEUCOM to USCENTCOM. Countries who are currently assigned to USPACOM and the Bureau of South and Central Asian Affairs—Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka—were also reassigned to USCENTCOM. The rationale for these divisions is discussed below.

Cultural and Economic Considerations

In the past, the world has been divided into areas primarily on the basis of geography. While geography is a natural starting point for realigning the DOS and DOD areas of responsibility, recent history has shown that nation states are not necessarily the fundamental source of conflict:

“The great divisions among humankind and the dominating source of conflict will be cultural. Nation states will remain the most powerful actors in world affairs, but...the clash of civilizations will dominate global politics.”²³

Geographic factors must be tempered by cultural and economic considerations in order to avoid creating AOR boundaries that lie along “fault lines,” which would increase the chance of conflicts that span AORs. This will also help to ensure that conflicts involving transnational communities, which are not necessarily constrained by political boundaries, are contained within a single AOR.

Political conflicts often have their root causes in cultural conflicts. Cultural identities can cross national boundaries and are defined by a combination of factors such as history, language, traditions, and religion. While cultural differences do not always result in open conflict, the conflicts they do generate have historically been the most violent.²⁴ Accordingly, the potential for cultural conflict should be a driving factor when defining an AOR. For example, Egypt is geographically located in Africa, but is more culturally similar to the Arab countries in Central Asia; hence, Egypt is assigned to USCENTCOM and the Bureau for South and Central Asian Affairs. Likewise, Southern and Central American countries were placed in a separate AOR from the North American countries due to cultural differences.

Religion is one of the most significant causes of cultural conflict. Religious identities are often more significant and divisive than ethnic and national identities,²⁵ and numerous conflicts across the world today have religious undertones. The struggle between Hindu and Muslim is evident in the current rivalry between Pakistan and India, Al-Qaeda’s justification for its actions is the continuation of a 1300-year-old conflict between Christianity and Islam, and civil strife in Iraq is caused in large part by a schism between the Shiite and Sunni factions of Islam.²⁶ These examples demonstrate the range of conflicts (inter-, trans-, and intra-national) that can be fueled by religious differences, emphasizing their importance when assigning AORs. Accordingly, the proposed realignment includes India and Pakistan in the same AOR (due to the potential for religious conflict), and Bangladesh, Bhutan, Maldives, Nepal, and Sri Lanka are included with India (due to their religious similarities). In a similar manner, Israel was assigned to the same



AOR as the surrounding Muslim countries, so that a single team can develop regional strategies to handle potential future conflicts.

Economic factors are another key consideration. Analysis of world economies reveals a correlation between instability and having a weak economy, providing an indicator of possible conflicts.²⁷ Conflicts can also erupt over competition for scarce natural resources, such as petroleum in the Middle East and water in Africa. Additionally, regional economic blocks, such as the North American Free Trade Agreement (NAFTA), tend to shape the actions of countries within that block. For these reasons, any assignment of AORs must consider the economic situation and motivation of its prospective countries. In the proposed realignment, the shared economic interests between Canada, Mexico, and the United States, as expressed through NAFTA, was a significant factor in keeping the North American AOR distinct from the South/Central American AOR. While China has overtaken Japan as the leading economy in Asia, the commonalities and economic competition amongst the other countries in the East Asian region create an economic block that is reflected in the proposed East Asian and Pacific AOR.

Preference for the Status Quo

The second overarching guideline was a preference for making the minimum number of changes that resulted in aligned DOS and DOD AORs. Large bureaucratic institutions are resistant to change, and too radical of a proposal would be met with heavy resistance from both DOD and DOS.²⁸ The ease of implementation for any reorganization is inversely proportional to the amount of reorganization required.

Three fundamental models for the reorganization were evaluated with this guideline in mind: (1) using DOD as a baseline, with the preponderance of changes made to the existing DOS AORs, (2) using DOS as the baseline, with the preponderance of change on the DOD side, and (3) starting with a blank baseline, creating new AORs without regard to current AOR number or composition. Using the six DOD AORs as the baseline for the realignment was selected as the model that could be implemented with the least overall impact. The construction of an entirely new set of AORs was initially proposed as the solution; however, the effort required to enact that solution was deemed disproportionate to the incremental improvement in efficiency over using an existing AORs as a baseline. The decision between using DOD or DOS for the baseline was close, but DOD was selected for two reasons. First, DOD owns more equipment and materiel that would require movement in an AOR shift, meaning that changes to the DOD structure would have a larger logistical impact than analogous changes to DOS. Second, the changes indicated by the first consideration (potential sources of conflict) tended to impact DOS instead of DOD, making the use of DOD as the baseline the *de facto* choice.

Further Actions

After the bureaucratic process of realigning the DOS and DOD AORs is complete, three immediate actions should be taken to ensure that the change results in a functioning construct that enables interagency coordination. First, COCOMs and Regional Bureaus will need to review existing operations, logistics, and communication plans, updating them when necessary in



order to reflect the new AOR divisions. This may be handled during the normal plan revision process or as a unique post-reorganization planning period.

Second, DOS and DOD will need to set up a periodic review process to ensure that the division of AORs reflects the current global environment. Conflict areas will shift with the emergence of new threats and with changes in the global political and economic environment, and a mechanism to reflect these shifts must also be in place. This is counterbalanced against the stability required for strategic planning; rearranging the AORs too frequently will have a negative impact on the ability of COCOMs and Regional Bureaus to implement long-range plans. A review process on the order of seven to ten years seems appropriate, with the expectation that not every review will result in a shift of AORs. One notable area that will require review is India, Pakistan, and China. India has the potential for conflict with both Pakistan and China; India was assigned to Pakistan's AOR because conflict with Pakistan seems more likely today, but this situation (and India's assigned AOR) could change in the future.

Third, the Secretary of State and Secretary of Defense should take this opportunity to delineate clear lines of communication between the COCOMs and Regional Bureaus; as they would then share the same AORs, this process would be straightforward. Taking these three actions will ensure that the realignment of the AORs had a positive impact on interagency coordination.

Conclusion

In order to effectively promote US national strategy in today's nebulous global threat environment, the Departments of State and Defense must coordinate their planning and operations to an unprecedented level. Both national leadership and the Departments are aware of this need and have made progress towards improving the interagency cooperate process. However, certain characteristics of their respective organizational structures and flaws in the constructs used to implement coordination have reduced the efficiency of cooperation between the two Departments. One problematic aspect is the misalignment of the DOD COCOM and DOS Regional Bureau AORs. Aligning the AORs as recommended would be feasible with Presidential guidance to the Secretaries, and would provide immediate and tangible improvements in the coordination between DOD and DOS.

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- ¹ The White House, “The National Security Strategy of the United States of America”, Executive Summary, March 16, 2006.
- ² The White House, “Organization of the National Security Council System,” February 13, 2001.
- ³ The White House, “Management of Interagency Efforts Concerning Reconstruction and Stabilization,” December 7, 2005.
- ⁴ Condoleezza Rice, *Remarks on Transformational Diplomacy*, Gaston Hall, Georgetown University, Washington, DC, 2008.
- ⁵ US Government Accountability Office, “Rebuilding Iraq: Reconstruction Progress Hindered by Contracting, Security, and Capacity Challenges,” February 15, 2007, 5.
- ⁶ Dale, Catherine, *et al.*, “Organizing the US Government for National Security”, April 18, 2008.
- ⁷ The White House, “The Budget for Fiscal Year 2008, Historical Tables”, Table 5.2, available at <http://www.whitehouse.gov/omb/budget/fy2008/pdf/hist.pdf>, accessed May 19, 2008.
- ⁸ US Government, Strategic Studies Institute, “Turning on the Dime: Diplomacy’s Role in National Security,” October 2007 .
- ⁹ US DOS, available at <http://www.state.gov/t/pm/c17251.htm>, accessed May 19, 2008.
- ¹⁰ US DOS, available at <http://www.state.gov/p/>, accessed May 19, 2008.
- ¹¹ US DOS, available at <http://www.state.gov/t/pm/c17251.htm>, accessed May 19, 2008.
- ¹² US DOS, available at <http://www.state.gov/r/pa/ei/rls/DOS/7926.htm>, accessed May 19, 2008.
- ¹³ Oakley, Robert B. and Michael Casey Jr, *The Country Team, Restructuring America’s First Line of Engagement*, Washington DC, National Defense University, 2007, 1.
- ¹⁴ US DOS, available at <http://www.state.gov/t/pm/>, accessed May 19, 2008.
- ¹⁵ US DOS, available at <http://www.state.gov/r/pa/ei/rls/DOS/7926.htm>, accessed May 19, 2008.
- ¹⁶ The White House, “Management of Interagency Efforts Concerning Reconstruction and Stabilization,” December 7, 2005.
- ¹⁷ Bersahel, Nora, *Organising for Nation Building, Survival*, 49:2, 44.
- ¹⁸ US Joint Forces Command Joint Warfighting Center, “Commander’s Handbook for the Joint Interagency Coordination Group,” March 7, 2007.
- ¹⁹ Center for the Study of the Presidency, “The Project for National Security Reform: Report to Congress,” April 2008.
- ²⁰ Dale, Catherine, *et al.*, “Organizing the US Government for National Security”, April 18, 2008.
- ²¹ US House of Representative, Committee on Armed Services, “Initial Perspectives”, January 2008.
- ²² US DOS, Press Release, October 29, 2007, available at <http://www.america.gov/st/washfile-english/2007/October/20071029124738SztwomoD0.5084345.html>, accessed May 21, 2008.
- ²³ Huntington, Samuel P., *The Clash of Civilizations*, Harvard University, 1993, 1.
- ²⁴ Huntington, 17.
- ²⁵ Huntington, 5.
- ²⁶ Ghosh, Bobby, *Why They Hate Each Other*, Baghdad, 2007, 32.
- ²⁷ Barnett, Thomas, “It Explains Why We’re Going to War, and Why We’ll Keep Going to War”, *Esquire*, March 2003, 130.
- ²⁸ Kotter and Schlesinger, “Six Change Approaches,” 1979.



Appendix A. Figures and Tables



Figure 1. Current COCOM and Regional Bureau Geographic AORs



Table 1. Current Alignment of COCOM and Regional Bureau Geographic AORs

USNORTHCOM	USSOUTHCOM	USAFRICOM	USCENTCOM	USEUCOM	USPACOM
United States	Antigua and Barbuda	Algeria	Afghanistan	Albania	Australia
Canada	Argentina	Angola	Bahrain	Andorra	Bangladesh
Mexico	Bahamas, The	Benin	Djibouti	Armenia	Bhutan
	Barbados	Botswana	Egypt	Austria	Brunei
	Belize	Burkina Faso	Iran	Azerbaijan	Burma
	Bolivia	Burundi	Iraq	Belarus	Cambodia
	Brazil	Cameroon	Jordan	Belgium	China
	Cayman Islands	Cape Verde	Kazakhstan	Bosnia	Comoros
	Chile	Central African Republic	Kuwait	Bulgaria	Fiji
	Colombia	Chad	Kyrgyzstan	Croatia	India
	Costa Rica	Comoros	Lebanon	Cyprus	Indonesia
	Dominica	Congo	Oman	Czech Republic	Japan
	Dominican Republic	Côte d'Ivoire	Pakistan	Denmark	Kiribati
	Ecuador	Democratic Republic of the Congo	Qatar	Estonia	Laos
	El Salvador	Djibouti	Saudi Arabia	Finland	Madagascar
	Grenada	Equatorial Guinea	Sudan	France	Malaysia
	Guatemala	Eritrea	Syria	Georgia	Maldives
	Guyana	Ethiopia	Tajikistan	Germany	Marshall Islands
	Haiti	Gabon	Turkmenistan	Greece	Mauritius
	Honduras	Gambia, The	U.A.E.	Gibraltar	Micronesia
	Jamaica	Ghana	Uzbekistan	Great Britain	Mongolia
	Nicaragua	Guinea	Yemen	Greenland	Nauru
	Panama	Guinea-Bissau		Hungary	Nepal
	Paraguay	Kenya		Iceland	New Zealand
	Peru	Lesotho		Ireland	North Korea
	St. Kitts and Nevis	Liberia		Italy	Palau
	St. Lucia	Libya		Israel	Papua New Guinea
	St. Vincent and the Grenadines	Madagascar		Herzegovina	Philippines
	Suriname	Malawi		Latvia	Samoa
	Trinidad and Tobago	Mali		Liechtenstein	Singapore
	Uruguay	Mauritania		Lithuania	Solomon Islands
	Venezuela	Mauritius		Luxembourg	South Korea
		Morocco		Macedonia	Sri Lanka
		Mozambique		Malta	Thailand
		Namibia		Moldova	Timor-Leste
		Niger		Monaco	Tonga
		Nigeria		Montenegro	Tuvalu
		Rwanda		Netherlands	Vanuatu
		São Tomé and Príncipe		Norway	Vietnam
		Senegal		Poland	
		Seychelles		Portugal	
		Sierra Leone		Romania	
		Somalia		Russia	
		South Africa		San Marino	
		Sudan		Scotland	
		Swaziland		Serbia	
		Tanzania		Slovakia	
		Togo		Slovenia	
		Tunisia		Spain	
		Uganda		Sweden	
		Zambia		Switzerland	
		Zimbabwe		Turkey	
				Ukraine	
				Yugoslavia	

Bureau of Near Eastern Affairs
Bureau of African Affairs
Bureau of East Asian and Pacific Affairs
Bureau of South and Central Asian Affairs
Bureau of European and Eurasian Affairs
Bureau of Western Hemisphere Affairs



Table 2. Proposed Realignment of COCOM and Regional Bureau Geographic AORs

USNORTHCOM	USSOUTHCOM	USAFRICOM	USCENTCOM	USEUCOM	USPACOM
Bureau of Western Hemisphere (North America)	Bureau of Western Hemisphere (South America)	Bureau of African Affairs	Bureau of South and Central Asian Affairs	Bureau of European and Eurasian Affairs	Bureau of East Asian and Pacific Affairs
United States	Antigua and Barbuda	Algeria	Afghanistan	Albania	Australia
Canada	Argentina	Angola	Bahrain	Andorra	Brunei
Mexico	Bahamas, The	Benin	Bangladesh	Armenia	Burma
	Barbados	Botswana	Bhutan	Austria	Cambodia
	Belize	Burkina Faso	Djibouti	Azerbaijan	China
	Bolivia	Burundi	Egypt	Belarus	Comoros
	Brazil	Cameroon	India	Belgium	Fiji
	Cayman Islands	Cape Verde	Iran	Bosnia	Indonesia
	Chile	Central African Republic	Iraq	Bulgaria	Japan
	Colombia	Chad	Israel	Croatia	Kiribati
	Costa Rica	Comoros	Jordan	Cyprus	Laos
	Dominica	Congo	Kazakhstan	Czech Republic	Madagascar
	Dominican Republic	Côte d'Ivoire	Kyrgyzstan	Denmark	Malaysia
	Ecuador	Democratic Republic of the Congo	Kuwait	Estonia	Marshall Islands
	El Salvador	Djibouti	Lebanon	Finland	Mauritius
	Grenada	Equatorial Guinea	Maldives	France	Micronesia
	Guatemala	Eritrea	Nepal	Georgia	Mongolia
	Guyana	Ethiopia	Oman	Germany	Nauru
	Haiti	Gabon	Pakistan	Greece	New Zealand
	Honduras	The Gambia	Qatar	Gibraltar	North Korea
	Jamaica	Ghana	Saudi Arabia	Great Britain	Palau
	Nicaragua	Guinea	Sri Lanka	Greenland	Papua New Guinea
	Panama	Guinea-Bissau	Sudan	Hungary	Philippines
	Paraguay	Kenya	Syria	Iceland	Samoa
	Peru	Lesotho	Tajikistan	Ireland	Singapore
	St. Kitts and Nevis	Liberia	Turkmenistan	Italy	Solomon Islands
	St. Lucia	Libya	U.A.E.	Herzegovina	South Korea
	St. Vincent and the Grenadines	Madagascar	Uzbekistan	Latvia	Thailand
	Suriname	Malawi	Yemen	Liechtenstein	Timor-Leste
	Trinidad and Tobago	Mali		Lithuania	Tonga
	Uruguay	Mauritania		Luxembourg	Tuvalu
	Venezuela	Mauritius		Macedonia	Vanuatu
		Morocco		Malta	Vietnam
		Mozambique		Moldova	
		Namibia		Monaco	
		Niger		Montenegro	
		Nigeria		Netherlands	
		Rwanda		Norway	
		São Tomé and Príncipe		Poland	
		Senegal		Portugal	
		Seychelles		Romania	
		Sierra Leone		Russia	
		Somalia		San Marino	
		South Africa		Scotland	
		Sudan		Serbia	
		Swaziland		Slovakia	
		Tanzania		Slovenia	
		Togo		Spain	
		Tunisia		Sweden	
		Uganda		Switzerland	
		Zambia		Turkey	
		Zimbabwe		Ukraine	
				Yugoslavia	

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Appendix B. List of Acronyms

AOR	Area of Responsibility
COCOM	Combatant Command
DAF	Department of the Air Force
DOD	Department of Defense
DOS	Department of State
JIACG	Joint Interagency Coordination Group
NAFTA	North American Free Trade Agreement
NSPD	National Security Policy Directive
NSS	National Security Strategy
OCR&S	Office of the Coordinator for Reconstruction and Stabilization
PNSR	Project on National Security Reform
POLMIL	Bureau of Political-Military Affairs
UAE	United Arab Emirates
US	United States
USA	United States Army
USAF	United States Air Force
USAFRICOM	United States Africa Command
USCENTCOM	United States Central Command
USEUCOM	United States European Command
USN	United States Navy
USNORTHCOM	United States Northern Command
USPACOM	United States Pacific Command
USSOUTHCOM	United States Southern Command



Bibliography

- Barnett, Thomas. "It Explains Why We're Going to War, and Why We'll Keep Going to War," *Esquire*, March 2003 Issue, New York, 2003.
- Bersahel, Nora. "Organizing for Nation Building; Survival, 49:2, 43-76, Informal LTD, Mortimer House, London, downloaded by RAND Corporation, available at <http://dx.doi.org/10.1080/00396330701437827>, Accessed May 15, 2008.
- Carafano, James Jay, Ph.D. "Missions, Responsibilities, and Geography: Rethinking How the Pentagon Commands the World." The Heritage Foundation, Leadership for America, available at <http://www.heritage.org/Research/NationalSecurity/bg1792.cfm>, Accessed May 23, 2008.
- Center for Strategic and International Studies. "Beyond Goldwater-Nichols: US Government and Defense Reform for a New Strategic Era, Phase II Report."
- Center for the Study of the Presidency. "Project for National Security Reform: Report to Congress," April 2008.
- Cooper, Jim, US House of Representatives, Committee on Armed Services, Panel on Roles and Missions. *Initial Perspectives*, Tennessee, January 2008.
- Dale, Catherine, Nina Serafino, and Pat Towell. "Organizing the US Government for National Security: Overview of Interagency Reform Debates," Congressional Research Center Report, Foreign Affairs, Defense, and Trade Division, April 18, 2008.
- Gates, Robert M., US Secretary of Defense. Testimony to the House Armed Services Committee, available at <http://www.definselink.mil/speeches/speech.aspx?speechid=1227>, Accessed May 16, 2008.
- Ghosh, Bobby. "Why They Hate Each Other," *Time Magazine*, March 5, 2007 Issue, New York, 2007.
- Hamre, John J., President and CEO for the Center of Strategic and International Studies. Testimony before the House Armed Services Committee, Roles, Missions, and Requirements of the Department of Defense, June 19, 2007.
- Huntington, Samuel. "The Clash of Civilizations," *Alamut Bastion of Peace and Information*, Foreign Affairs, Summer 1993, v72, n3, 1993.
- Kotter and Schlesinger. "Six Change Approaches." 1979, available at http://www.valuebasedmanagement.net/methods_kotter_change_approaches.html, Accessed May 22, 2008.
- Oakley, Robert B. and Michael Casey, Jr. "The Country Team, Restructuring America's First Line of Engagement," *Strategic Forum No. 227*, National Strategic Studies, National Defense University, September 2007.
- Rice, Condoleezza, Secretary of State. "Building Partnership Capacity and Development of the Interagency Process," Testimony before the House Armed Services Committee,



- Washington, DC, April 15, 2008, available at <http://www.state.gov/secretary/rm/2008/04/103589.htm>, 2008.
- Rice, Condoleezza, Secretary of State. "Remarks on Transformational Diplomacy," Gaston Hall, Georgetown University, Washington, DC, February 12, 2008, available at <http://www.state.gov/secretary/rm/2008/02/100703.htm>, Accessed May 17, 2008.
- Schake, Kore and Bruce Berkowitz. "National Security: A Better Approach," available at <http://www.hoover.org/publications/digest/2913101.html>, Accessed May 5, 2008.
- US Department of Defense. "Area of Focus - US Southern Command (USSOUTHCOM)," US Southern Command, available at <http://www.southcom.mil/appssc/pages/aoi.php>, Accessed May 20, 2008.
- US Department of Defense. "Draft Area of Responsibility," available at <http://www.defenselink.mil/DODcmsshare/briefingslide/295/070207-D-6570C-006.jpg>, Accessed May 20, 2008.
- US Department of Defense. "US Pacific Command, Official Website," US Pacific Command, available at <http://www.pacom.mil/about/AOR.shtml>, Accessed May 30, 2008.
- US Department of Defense. *Unified Command Plan*, "Combatant Command Structure," available at <http://www.defenselink.mil/specials/unifiedcommandplan/>, Accessed May 15, 2008.
- US Department of Defense. "United States Central Command- AOR Countries." United States Central Command, available at <http://www.centcom.mil/en/AOR-countries/2.html>, Accessed May 20, 2008.
- US Department of Defense. "USEUCOM Areas of Responsibility." US European Command, available at <http://www.eucom.mil/english/AOR/main.asp>, Accessed May 20, 2008.
- US Department of State. "Countries," available at <http://www.state.gov/countries/>, Accessed May 20, 2008.
- US Department of State. "US Foreign Policy in the 21st Century: Regional Issues." Ejournalusa, Volume 11, Number 3 (September 2006), available at <http://usinfo.state.gov/pub/ejournalusa.html>, Accessed May 20, 2008.
- US Department of State. "US Foreign Policy in the 21st Century: Global Actions." Ejournalusa, Volume 12, Number 2, available at <http://usinfo.state.gov/pub/ejournalusa.html>, Accessed May 20, 2008.
- US Department of State. Press Release, October 29, 2007, available at <http://www.america.gov/st/washfile-english/2007/October/20071029124738SztiwomoD0.5084345.html>, Accessed May 21, 2008.
- US Department of State. Website, available at: <http://www.state.gov/t/pm/>, Accessed May 19, 2008.
- US Department of State. Website, available at: <http://www.state.gov/r/pa/ei/rls/DOS/7926.htm>, Accessed May 19, 2008.



US Department of State. Website, available at: <http://www.state.gov/t/pm/c17251.htm>, Accessed May 19, 2008.

US Department of State. Website, available at: <http://www.state.gov/p/>, Accessed May 19, 2008.

US Government Accountability Office. Testimony Before the Committee on Oversight and Government Reform, House of Representatives, "Rebuilding Iraq: Reconstruction Progress Hindered by Contracting, Security, and Capacity Challenges," February 15, 2007.

US Government, Strategic Studies Institute. "Turning on the Dime: Diplomacy's Role in National Security." October 2007, available at <http://www.strategicstudiesinstitute.army.mil/pdf/PUB801.pdf>, Accessed May 22, 2008.

US Joint Forces Command Joint Warfighting Center. "Commander's Handbook for the Joint Interagency Coordination Group", March 7, 2007.

The White House. *The Budget for Fiscal Year 2008*, "Historical Tables", Table 5.2, available at <http://www.whitehouse.gov/omb/budget/fy2008/pdf/hist.pdf>, Accessed May 19, 2008.

The White House. *National Security Strategy of the United States of America*, Washington, D.C., 2006.

The White House. "Management of Interagency Efforts Concerning Reconstruction and Stabilization," December 7, 2005.

The White House. "Management of Interagency Efforts Concerning Reconstruction and Stabilization, National Security Presidential Directive- 44." December 7, 2005.

The White House. "Organization of the National Security Council System, National Security Presidential Directive-1." February 13, 2001.



College Happenings

Distance Learning Center Dedicated to Jeremiah Denton

JFSC dedicated the Jeremiah A. Denton, Jr. Distance Learning Center Wednesday, 13 August. Denton was a Naval Aviator during the Vietnam War. Shot down July 18th, 1965, he was held as a POW for the next seven and a half years. On May 2nd, 1966, he was forced to take part in a taped interview. During the interview Denton blinked his eyes in Morse code to spell out the word "T-O-R-T-U-R-E" to communicate that his captors were torturing him and his fellow POWs. He was also questioned about his support for the U.S. war in Vietnam, to which he replied: "I don't know what is happening now in Vietnam, because the only news sources I have are Vietnamese. But whatever the position of my government is, I believe in it, I support it, and I will support it as long as I live." Released from captivity in 1973, he became the Commandant of the (then) Armed Forces Staff College the following year. RADM Denton is also a retired United States Senator from the State of Alabama. RADM Denton spoke about the JFSC motto "That All May Labor As One". Recalling his years of captivity, he said all the POWs had to work as one in order to survive. He thanked the Staff College by saying he would remember this day for eternity.

JFSC Welcomes New Commandant

Brigadier General Katherine "Kate" Kasun, USAR, became the 28th Commandant of the Joint Forces Staff College on Monday, September 15th. The President of the National Defense University, Marine LtGen Frances Wilson, officiated at the assumption of command ceremony. BG Kasun thanked LtGen Wilson "for selecting me to this incredible position. I am very excited to be here." BG Kasun told the audience "This opportunity will allow me to apply my interagency experience and expand the positive connections between governmental agencies and other organizations with JFSC. Most of the linkages are already in place but I want to increase the bandwidth and frequency of our coordination and interaction with agencies with a special focus on our international partners. JFSC has an outstanding reputation worldwide. I just returned from CAPSTONE and met many senior leaders in Australia, Malaysia, Nepal and Thailand...several of whom are graduates of either JFSC or NDU. I was so proud! As JFSC's chief advocate, I plan to continue this great collaboration." BG Kasun graduated from Western Carolina University, in Cullowhee, NC, in 1979 with a BS in Criminal Justice and Law Enforcement. Prior to becoming the JFSC Commandant, BG Kasun was the Deputy Commanding General, US Army Intelligence Security Command (INSCOM), Fort Belvoir, VA.

JFSC Alumni and Ambassador to Djibouti visits JFSC

Stuart Symington, U.S. Ambassador to Djibouti and JCWS Alumni, recently visited JFSC. Ambassador Symington began the day by addressing the first interagency conference of the Maritime Civil Affairs Group. He then spoke to JCWS, JAWS, and AJPME students. Symington called on students to act jointly across agency and service lines and in concert with the private sector and other nations. All of you are "ambassadors for America and for our nation's principles," he told them. Walking among the students, shaking hands and thanking them for their service, the Ambassador cautioned "there is no exit strategy from the globe. Without the



help of partners and allies around the world we cannot succeed in ensuring our own safety. With such help -- and a lot of continuing U.S. effort -- we will not fail.” In September, Ambassador Symington will take up his new post as U.S. Ambassador to Rwanda. He was the State Department Chair here at JFSC in 2005-2006.

JCWS Class 08-04 Graduation

The Joint and Combined Warfighting School (JCWS) Class 08-04 graduated 29 August. It was the 112th Phase II class to graduate since adoption of the phased JPME model. Major General David Edgington, USAF, JFCOM Chief of Staff, was the graduation speaker. Significantly, JCWS Class 08-04 had the largest international fellow population of all of the classes since JCWS became a Phase II institution in 1990. Class 08-04 had 28 international fellows representing 20 nations from around the globe. They, and their fellow 222 American officers, are the 199th class that can trace their origins back to Class 1 which graduated in 1947.

The Joint and Combined Warfighting School Crest

The Mermaid holds multiple symbolic references to the Joint and Combined Warfighting School. The mermaid symbolizes eloquence in speech, applicable to the graduates of the school, but in more familiar terms, the Mermaid signifies the school's strong bond and heartfelt association with Norfolk, Virginia.

The Mermaid is colored purple to represent the combination of all colors of the Military Forces of the United States. Green for the Army, Navy Blue for the Navy, Ultra-Marine Blue for the Air Force and Cardinal and Gold for the Marine Corps.

The Torch she carries symbolizes liberty, truth and intelligence, the keystones of genuine Education.

Her flowing hair, the hallmark of the Mermaid's vanity, reflects the Service colors of the Joint and Combined military services that attend the school.

Her scales represent the armor protection provided by the synergistic combination of the joint forces working together.

The shaft of the Spear she brandishes represents the supreme force of National Power. The mantle that connects the shaft to the four tines represents the inter-agency coordination that bolsters the strength of those four tines. Each of the tines represents the four Branches of the Military Arm of national Power.





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