Underdog Strategy and Special Forces Planning Operations and Giving Battle Orders Given Terrorist-Insurgent Thinking

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Introduction

"I'm an advocate of learning to be an insurgent." [1]

Russell D. Howard, Brigadier General, US Army (Ret.)

The United States has been deeply committed to a "war on terror" since the World Trade Center towers attack on 11 September 2001 (9/11). Yet, despite extraordinary efforts, commitment of astounding resources, and the loss of countless lives, the war goes on. Some argue that it is not really a war, but such an argument is spurious and more wishful thinking than factual. A conflict exists, whatever the definition may be. If law enforcement cannot deal with the level of organized violence, it is war whether you call it that or not. We are long past arguments over whether it is a "war." The facts are clear to the reasonably minded. If a group of people or actors—political opportunists, even if disguised in religious quotes—declares war on you, then *war* exists. If you commit one of the world's largest and most proficient militaries to combat, it is war.

It would be much more productive to debate what kind of war we are involved in and how we should fight it. Military power cannot alleviate the underlying social maladies that motivate many people to support terrorism and insurgency, but it can, in theory, create security conditions in which social remedies can be applied. Yet, even this result appears to have eluded the US for too long. Despite the best efforts of a great military machine, terrorists and/or insurgents continue to retain a high level of strategic initiative—how is this possible? What is needed to help resolve this situation is a new idea—or more properly stated, what is needed is an old idea renewed. Most military professionals recognize Sun Tzu's "If you know both yourself and your enemy, you can win a hundred battles without a single loss."[2], yet few have assessed what it implies for the war on

1. Gen. Russell Howard, Director, Centre for Counterterrorism, Fletcher School of Diplomacy, 22 February 2008, personal communication.

2. Sun Tzu, The Art of War (London: Oxford University Press, 1963. Tr. S.B. Griffiths), last sentence of Chapter 3.

terror. The existing US planning framework fails to account for the uniqueness of terrorist-insurgent thinking in the design and planning of US operations. Why this mismatch occurs and how the terrorist-insurgent operates within the seams of our cognitive frame of reference of fighting in theaters of war, theaters of operations, and areas of operations are half of a prolonged story of terrorist warfare. The second half of this story and its conclusion will be written by how well it is possible to understand the characteristics of terrorist-insurgent thinking and use that knowledge to change approaches to strategy, planning, and tactics.

This book focuses on terrorists as weak-side strategists. For the purposes of this book, terrorism is the deliberate creation and exploitation of fear through violence of the threat of violence in the pursuit of political change.[3] (It is distinct from insurgency, as it is from conventional warfare. In insurgency, battles are waged among and for the people, who are the central prize, and the community conducting insurgency crosses national and institutional boundaries.)[4] The evidence of terrorism considered here falls between the years 1985 and 2005. The information is biased in favor of the failures in terrorism, since success often means continuing freedom of the terrorists. The evidence also considers information on both the leaders of groups and the groups themselves.

This study will be of interest to all ranks and trades of the special operations forces (SOF) which might be called upon to plan, design, or implement tactics or strategies (as defined here, somewhat more broadly) against terrorists. By thinking more like a terrorist, it becomes easier for SOF to identify terrorists so they can be neutralized; the SOF can also improve their performance during red team exercises in training; and it will help them understand the attitudes and decisions of host nations, who are almost by definition underdogs compared to the US.

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3. "Terrorism Defined," in R. D. Howard and R. L. Sawyer, *Terrorism and Counterterrorrism/ Understanding The New Security Environment*, (New York: Mcgraw-Hill, 2006, 2nd edition), 23.

4. M.C. Libicki, D.C. Gompert, D.R. Frelinger, R. Smith, *Byting Back/Regaining Information Superiority Against 21st-Century Insurgents,* (Washington: Rand, 2008).

The key research questions of this study are:

o   Is there evidence that terrorists are behaving like underdogs?

o   If so, are they using underdog strategy, or are they behaving in some other manner?

o   If they are using underdog strategy, is it possible to train people to think like terrorists, to better counter them?

o   If so, how do we train SOF to do so?

This study has three aims. First, it examines whether the mistakes underdogs make are also the mistakes that terrorists make. Second, it examines ways in which these mistakes can be exploited by the SOF. Third, it looks at how the SOF can exploit this given the complexity of the environment. Given these aims, this study has several parts: in the first, it reviews what is known of counterterrorism to see whether it matches up with the known mistakes of weak-side strategists. The second part also draws on the literature, and more particularly case studies, to look for examples of how these mistakes have been exploited already, and also some suggestions on the basis of other spheres exploiting these mistakes. Next, it will propose a method of analysis illustrated with a simple, fictional task, to manage and control terrorists. Then, it will apply that method of analysis and forecasting to a case study, that of a fictional terrorist attack on the US.

There is much in these pages that is novel and will challenge established ways of thinking. I ask only this, that the study be judged on the basis of the criteria proposed for assessing counterinsurgency doctrine.   (1) Can the intended audience accept it? (2) Is it teachable? (3) Is it relevant and current? And (4), is it manageable and accessible?[5]   In the alternative, one may consider the following:

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5. Alexander Alderson, "US COIN Doctrine and Practice: An Ally's Perspective," *Parameters* (Winter 2007-08), 33-45, 37ss

- o Can analysts demonstrate the skills they have acquired through this book?

- o How much knowledge is retained by the analyst who has worked through the case studies?

- o Do analysts have the ability to apply, in practical situations, the knowledge and skills that have been acquired?

The paper that follows is organized in eight parts. The first discusses the characteristics of terrorist or insurgent thinking. The second discusses characteristics of terrorist-insurgent thinking. The third part discusses terrorist strategy. The fourth part proposes the application of the method to battle orders. The fifth part discusses the implications for planning doctrine. The sixth part discusses the implications for planning procedures. The exploration will apply primarily to limited contingency operations or crisis response, or multipurpose operations influenced by fluid and changing situations.[6] The seventh part discusses the obstacles to the changes necessary. The eighth part discusses the implications for training.

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6. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), xii.

1. HOW THE UNDERDOG THINKS STRATEGICALLY (WHEN HE DOES)

The underdog at his best thinks strategically, but his strategy is different from what dominant or strong strategy is like. The weakling does not act like a bully. This paper explores how underdogs in general use strategy and proposes two ways in which SOF can use this information. There are thirteen differences between underdog strategy and dominant strategy. First, as part of the planning and assessment process, military forces, traditionally consider enemy forces when developing their own plans and tactics, and they can take those differences into account. Second, while friendly force superiority is considered an advantage, this very superiority can make it difficult to think like someone who is at a disadvantage. The military can learn from underdogs. Because there are underdogs in all walks of life, not just in terrorist organizations or insurgent militias, it is possible to use what we know about underdog strategy in other areas (politics, public management, diplomacy) and apply to the needs and training of the military, particularly the SOF community. There is precedent for this kind of transfer of knowledge from one area to another, in situations that are dramatically more different: hospitals learning about patient hand-offs from the Ferrari racing teams or airline pilots, engineers using the way bees communicate nectar location to each other to improve high-speed robotic assembly lines in days.[7] Many leaders have now called for warriors with multiple skills who can adapt to changing circumstances, which is exactly what underdogs do.[8]

Not all underdogs think strategically, but the ones the military is likely to meet are more likely to. The underdog strategy discussed here is the strategy of the learning underdog not the crazy one, not the inept one, not the stupid one, not the ineffective one. One

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7. Gautam Naik "Hospital Races to Learn Lessons of Ferrari Pit Stop," Wall Street Journal 14 Nov 2006; . Kate Murphy, "What Pilots Can Teach Hospitals About Patient Safety," New York Times, October 31, 2006; "The Waggle Dance" New Scientist, 25 Nov 2006, 56.

8. Including DeFence Secretary Robert M. Gates, in a speech to a Marine Corps Association chapter on July 18, 2007 in Arlington, Virginia. Gerry J. Gilmore, "Winning War on Terror Requires Adaptable Warriors, Gates Says," American Forces Press Service, July 19, 2007.

should never underestimate any opponent, but underdogs who survive long enough to be facing special operations are either lucky or gifted — and luck runs out sooner or later.

The topic is even more important now since terrorists and insurgents, among others, think like underdogs. The military community would find it useful to incorporate that kind of thinking, but finds itself by and large without the means to do so. This is happening at the very moment when their political masters are more interested than ever in having them fighting terrorists and insurgents. The SOF, with its broader and more flexible way of thinking, is probably much better able to consider this than regular armed forces. They are routinely called upon to deal with a broader range of people (in foreign internal defence, in civil affairs, in psychological operations, in counterinsurgency and in irregular warfare) many of whom think like underdogs.

The first part of this article looks at the differences between underdog and dominant strategy. The second part proposes a simple test to see whether SOF personnel (all ranks, all trades) already think like underdogs. In fifteen years of training civilians to use underdog strategy, many people already used it (they just did not have a word for what they did), but the proportion of those natural strategists varied a lot from group to group. The number of military training in this manner is very small (and they were all non-SOF reservists), but there were natural strategists among them. There should be SOF personnel who already use underdog strategy. There is already limited evidence that there are military personnel who do.[9]

The main characteristics of underdog strategy, as compared to dominant strategy are: the underdog uses a slightly different definition of strategy, with big practical consequences; the underdog is holistic; the underdog is adaptive at every tactics; the underdog plays a waiting game; the underdog is creative; the underdog sees the big picture much more easily; the underdog uses strategic intervention; the underdog is always trying to figure out what his opponent is thinking; the underdog is constantly forecasting for all events and all other actors; the underdog is constantly coming up

9. The author's training and testing of about thirty Canadian military reserve personnel, Navy and Army, commissioned and non-commissioned, various trades. May 2007.

with tactics for all the preceding eventualities; the underdog assumes that any direct confrontation will lead to his own defeat; the underdog will break even his own rules of behavior in order to achieve his goal; and the underdog's passions or passionate feelings are engaged.

Difference #1: the underdog uses a different definition of strategy. The underdog may not have an explicit concept of strategy written down somewhere. But he behaves as if he conceives strategy as an imaginative idea which orchestrates and/or inspires sets of actions (tactics) in response to a given situation. Among the many definitions of strategy as used by the strong, strategy is a plan to use the instruments of national power to achieve a goal; or the art and science of using instruments of national power to achieve military goals. What is different here is that strategy need not be confrontation; it can be used to take advantage of an opportunity; that strategy is more than simply rational or based on rational decision-making; and that the instruments of power are not necessarily national in scope. For example, some of the Palestinian insurgents are using improvised means to build explosive devices: these are not means controlled by the Palestinian Authority. Some of the Palestinian extremists are not rational in their behavior; indeed some of the problems of the Palestinian movements have been the lack of control of some of its partisans, some of whose passionate commitments are outside the traditional bounds of rational decision-making.

Difference #2: the underdog is holistic. That is a consequence of difference #11, that he cannot win a head-on confrontation. Since the underdog is weaker than the opponents in one or more ways, then he is forced to seek out weaknesses in his enemy and strengths on his own side in other dimensions or aspects. In all likelihood the underdog is going to do this repeatedly, and this will lead him to consider a wide range of possible tactics, not just one dimension of any particular problem, challenge or opportunity. For example, al-Qaeda would never win a head-on confrontation with the

US military on the traditional battlefield. Rather, it has sought to 'harass and frustrate larger, regular armies and sow chaos," in the words of Secretary Robert M. Gates.[10]

Difference #3: the underdog is adaptive at every tactic. This characteristic arises from the constant experience of being at a disadvantage, sometimes critically at a disadvantage. This means that the underdog, in order to survive, must learn with every move of his adversary or competitor. With strategy being a metaphor or a visualization, the underdog is free to change actions constantly, without having to go through the process of changing his whole strategy. His strategy is metaphorical, and can therefore easily change in terms of actions chosen. That can be seen in the increase by the Taliban in Afghanistan of the use of improvised explosive devices and other tactics used in Iraq.

Difference #4: the underdog plays a waiting game. This characteristic is at its most pronounced among the Chinese and other cultures who have a non-linear, non-atomized concept of time, but it is true of much underdog strategy.[11]   Since the underdog is certain that direct confrontation will end in defeat, the underdog has no choice but to wait for opportunities for him to act that do not bring him in direct confrontation with his adversaries or competitors. He must also wait to find out what other characteristics his adversaries may have, beyond the dimension where they are at their strongest. This also takes time and observation. For example, after the attacks on the World Trade Center and the Pentagon on September 11, 2001, al-Qaeda has not targeted the US again, although regular reports surface about plans to do so. The time is not yet ripe because of high alert levels, whereas other targets are more vulnerable. In the short term, it is not possible to distinguish this from an underdog simply stopping his activities.

Difference #5: the underdog is creative.   This characteristic arises from the constant experience of being at a disadvantage, sometimes critically at a disadvantage. His

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10. Gerry Gilmore, "Winning War on Terror Requires Adaptable Warriors, Gates Says," *American Forces Press Service*, July 19, 2007.

11. Laure Paquette, "A Study of Strategy and Time in Clausewitz's On War and Sun Tzu's The Art of War", *Comparative Strategy* 10:1 (January 1991).

means are limited, and usually dramatically more limited that the means available to his adversary. Since he cannot meet him head on without being defeated, the underdog, in order to survive, must find new and different ways to counter every move of his adversary or competitor. With strategy being an idea, the underdog is free to change actions constantly, without having to go through the process of changing his whole strategy. It also helps that his strategy is metaphorical, and can therefore easily change in terms of actions chosen. Finally, the underdog will not hesitate to violate the rules of the game, if necessary, all of which can help with creativity. For example, the Taliban in Afghanistan has developed many new methods of fighting with US and NATO troops since its removal from power. It reportedly uses blackmail to get otherwise uninvolved citizens to set out bombs. It has borrowed tactics from insurgents in Iraq, like IED's.

Difference #6: the underdog changes the scope of the strategy very easily.   The underdog is used to living and acting in a hostile and unpredictable environment. If he has survived as long as he has, it is because he has developed the habit of constantly scanning his environment for possible threats and for possible opportunities. He also has to make a connection between events in the environment and possible actions on his part. This habit of moving from the broader environment to the specifics of his own situation means that he has the capacity to see strategy as a set of nesting bowls or Russian dolls, one fitting in with the other. Let us assume that the violence in Iraq is sectarian at present. For the time being, the coalition troops and development workers may well be targets. Let us further assume that the US troops withdraw completely at some point in the future. The underdog would then easily and quickly shift the target from the US enemy to a local enemy, say the Kurds if the underdog is a Shia Muslim.

Difference #7: the underdog uses strategic intervention.   By strategic intervention, I mean a tactic specifically designed in very difficult circumstances, to turn the situation around, or in close keeping with the strategy adopted. What this means is that the underdog sees the impact of every action, every tactics, on the whole picture, and takes all the potential consequences into account when he designs his tactics or actions. This is easily understood when considering, for example, the use of kidnapping of prominent citizens by criminal elements in Colombia. The planning and carrying out of single events shows the underdog capacity to design tactics well. Although this is

beyond the scope of this article, there is training available for military personnel in strategic intervention.[12]

Difference #8: the underdog is always trying to figure out what his opponent is thinking. His life and limb depend on it, and the more important or powerful or stronger the opponent, the more the underdog will think about it. It is a little like being a mouse in bed with an elephant: every twitch and quiver is worth examining to see if the elephant is about to turn over, and crush the mouse. One example of this is the constant observation by enemies indistinguishable from the local population of US troops in Iraq or NATO troops in Afghanistan.

Difference #9: the underdog is constantly forecasting for all events and all other actors, and invests in the development of even unlikely scenarios. Call it *gedankenexperimenten* as Einstein did, or thought experiments, or behavioral rehearsal. No underdog who survives to challenge a great power like the United States can do so without constantly scanning the environment for events that can be threats or opportunities. With each of these events, the underdog forecasts all the possible consequences and all of his own and others' possible responses, in a cascading matrix of options and scenarios. This must occur for each event and action throughout the underdog's strategy and political/military life, or he is in danger for his life or limb. This is also what leads him to be adaptive and flexible. He invests in even unlikely scenarios because the outcome of any of them is usually his own extinction. One example of this sort of investment can be seen in the long-standing strategy of the Palestinians in the Arab-Israeli conflict. Over time, Palestinians moved from the passivity of the early refugee camps through the use of terrorism, and then moved to different factions and movements using a combination of violence and political action, to the present day where there are political parties who completely renounce the use of violence and are represented in such international venues as the United Nations.

Difference #10: the underdog is constantly coming up with tactics for all the preceding eventualities. For the underdog, strategy is an idea about action. He has identified the idea he is going to work with, and he is constantly identifying actions and courses of

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12. Laure Paquette, *Strategic Intervention* (Nova, forthcoming).

actions that go with this strategy and are suited to the events discussed under difference #9.

Difference #11: the underdog assumes that any direct confrontation will lead to his own defeat. This is absolutely the case of any enemy of the United States, which is the unquestioned predominant military power in the world today. There are possible enemies that could inflict serious damage and casualties to the United States military, such as the People's Republic of China, but it is extremely unlikely that even China would go into a war with the US thinking itself superior. This is different of course, from what an underdog might say or do publicly – that is in the realm of posturing.

Difference #12: the underdog will break even his own rules of behavior in order to achieve his goal. It is not so much that the underdog has no rules of behavior, but that his rules are so different that they may seem like they do not exist. I am reminded of the story of one of the first students from the People's Republic of China to study abroad, in the 1990's. The People's Republic of China had become a puritanical society where modesty was essential. However, this student found that the US society was very permissive, by his standards. He was expelled from a university for having changed his clothes in front of a window on the ground floor, where he was seen by other students. His protests were to no avail, but culturally it is easy to understand: to him, the rules in the US were so much more permissive that it seemed to him that there were no rules at all. In which he was, of course, wrong. It was that he could not perceive those implicit rules of behavior because they were so different and so much broader than his own. The same is true of the underdog. He understands the rules of behavior that apply to the adversary or the enemy – but he does not share them and considers it legitimate to ignore some of the rules of war. He has rules of his own, but either those rules do not interfere with his actions or he choose to break them if necessary.

Difference #13: the underdog's passions or passionate feelings are engaged. This became obvious to me when I was teaching a class in political strategy. Strong feelings, even passion, are involved. I am reminded of the year where I was teaching students how to use strategy in analyzing the domestic policies of foreign countries. I required them to identify a core idea in the course of a three-hour seminar, but each successive week and each successive case, nobody came up with one. Romano Prodi's near legislative defeat in Italy, Spain's terrorism laws, New Zealand's Maori, no

student could come up with core ideas for any of those cases. Then we studied the Catholic Church's response to child sexual abuse by clergy in Ireland – something that had also occurred in North America — then all the students came up with core ideas quickly and easily (Keep the kids in church, keep the church out of kids, and more of that ilk). Underdogs are pursuing a strategy because they are passionately committed and emotionally engaged in achieving their goal. This is a help in creativity, since it allows access to more than rational decision-making.

It is possible to summarize these differences between underdog strategy and dominant strategy using the core idea. The core idea itself is a slogan, an image, a role model or a metaphor that allows the strategist to make it intuitively and immediately clear to his collaborators what the strategy is. The best-known historical example is of Winston Churchill during World War II, saying to the Allied general staff planning the second invasion of continental Europe: "We shall attack the underbelly of Europe." The core idea is used by the best strategists to guide or communicate their strategy, especially in very complicated or unpredictable situations, or when there are a lot of unknowns. The core idea allows people who design or carry out a strategy to use not just their powers of reasoning (which is all Aristotle was even interested in), but also their experience, judgement, intuition, character and creativity. In technical terms, it allows the user to call on the tacit dimension of knowledge. Most people have had the experience of answering a question, and not knowing that they knew the answer until they started answering. No doubt SOF personnel, with the wide range of tasks and the unpredictability of their working environments, often have the experience of coming up with creative solutions to problems without quite knowing where those ideas came from. Those answers come from the tacit dimension, the large supply of information and understanding that everyone has but don't know that they have, the reservoir of knowledge and understanding that is not explicit or conscious.[13] The core idea allows people to tap into that part of themselves.

The core idea is just a device to help learn and remember the best parts of underdog strategy. But it does point to some important differences between underdog strategy

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13. Michael Polanyi, *The Tacit Dimension* (New York : Doubleday, 1966).

and dominant strategy: underdogs think more globally, almost in another dimension, whereas dominant strategy thinks in only two or three dimensions. The core idea is a metaphor at the heart of a strategy that will help a user to include mètis, i.e. to make, under pressure, decisions consistent with the broader goals and objectives, and forces the user into using a broader range of intellectual capacity than the rational. Now that we have studied the characteristics of underdog strategy, we can now look at how to learn from underdog strategy, either by identifying who is already using underdog strategy, or by training people to improve their own strategic thinking by thinking like underdogs. Knowing which personnel already can use underdog strategy is helpful in planning operations of all kinds. However, it is not just hard for the military to understand the underdog. In fact, it is hard for any member of society, and to explain why it is necessary to understand where underdog strategy comes from.

Strategy is a very old idea, but the idea as it is used in the military, even since the time of the Ancient Greeks, is only half the idea. The two most influential philosophers in the history of the Western world are Plato and Aristotle, and Aristotle is the philosopher whose thinking led to science as we know it. Aristotle actually decided what was going to be studied and thought about, and what was not, and those decisions still have an impact in modern life today (which is one good reason why we should bother to understand what he said). Well, we did not just enshrine his great contributions, we also took his mistakes for cash. Aristotle in his lifetime consciously and specifically excluded from further study and discussion *mètis*, which means the holistic and broader way of thinking strategically, because he thought it was the way of thinking of "women and the vanquished."[14] This held true for centuries. Eventually, European philosophy and all forms of knowledge were renewed at the end of the Middle Ages, Aristotle's philosophy came in for a big revival, and mètis was set aside all over again.[15] It is only in recent years that this other way of thinking strategically has come under study, and even then it took fifteen years of research to realize what had happened to make all the intellectuals ignore it. However, underdogs did not go away, nor did they stop using it.

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14. Marcel Detienne, Les ruses de l'intelligence (Paris: Flammarion, 1993), 124.

15. Although attempting such a correction is not without recent precedent.Philippe Nemo, What Is the West? (New York: Duquesne University Press, 2007).

Underdog strategy disappeared from ideas, but not from practice. So it is now possible to identify people who already use it, and it is also possible to train people to use it to improve their strategy. Those improvements among civilians have made them dramatically more effective, although the improvement in is proportion to people's abilities. At present, research is under way to develop training methods specifically for the military.[16]

That being said, we can now return to the core idea. The core idea also gives rise to a simple test to see whether there are any SOF personnel who already naturally think like underdogs. In this diagnostic test, which takes about 1 or 1.5 hours, the objective is to introduce the participants to the basics of strategy including mètis. Individuals are asked to play a simple board game, such as checkers or chess, and are given a structured set of tasks of increasing complexity to force the failure of rational thought alone. First, players are required to list all possible moves before making their decision about moving a particular checker, and then for each possible move, they must be able to list all the possible response moves by their opponent. Most players will discount a number of possibilities as not being good ones, for example. Many also are more interested in explaining the reasons for their choice rather than considering all the possibilities. Those responses are revealing of the sort of strategy participants usually think out. In the next phase of play, participants need to list all the moves possible in the first instance, then forecast all the possible responses of their opponent for each of those possibilities, and then once again list their own response for each of those possibilities. This is very difficult for most people, since it requires the construction of what is called in algebra a matrix. The number of possibilities is too large for anyone to be able to keep track. In the last phase, participants are asked to identify a core idea for themselves. The facilitator may have to assist participants in developing such a core idea. Depending on whether participants immediately come up with a core idea, need to have an example of a core idea in order to come with their own, or need to be coached through the choice of a core idea by the facilitator, the type of learner will be identified.

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16. Laure Paquette, in Counterinsurgency and the Armed Forces (Nova, 2010), proposes case studies and a method of forms and checklists drawn from the Socratic method.

In the course of this diagnostic exercise, you may expect three types of participants:

- the natural strategists: as mentioned already, those who only need to have a new concept of strategy including the mètis explained to them, for them to identify it for themselves, learn how to improve their practice, and implement it immediately;

- the on-sight strategist: who will need to see the new concept of strategy including the mètis demonstrated to them, for them to identify it for themselves, learn how to improve their practice, and implement it immediately; and

- the coachable strategist: who will need to be coached through a total of five or six applications (using case studies, for example) of a new concept of strategy including the mètis to them, for them to identify it for themselves, learn how to improve their practice, and implement it immediately.

Conclusion

At the time of this writing, the number of armed forces personnel tested through the checkers game is small, and none were SOF personnel. However, it is already clear that the most common obstacle is going to be the rigid habits of thinking, the system of long-lasting learned attitudes produced by training under specific conditions.[17] The more successful the individuals and groups are, the more specialized the training, the more reinforced this thinking can become, and it is not even necessarily conscious. Among the NATO armed forces, therefore, it would make it more likely, say, for the US armed forces to be held back by the rigid thinking than, say the Lithuanian forces. Fortunately crisis creates a window of opportunity: the rigidity of thinking decreases in a crisis, and the more severe the crisis the more open at least some people become. That is the moment to introduce some of these tests and training.[18] But it is also clear

17. Technically called the habitus. See Pierre Bourdieu, Le sens pratique (Paris: Minuit, 1980), p. 88.

18 There is a third factor, of which I am aware, but which I have only begun to analyze, and which I will not address more than in the note: in the generation of people who grew up with access to the Internet and video games, I notice a difference in the ability to think abstractly, to take the initiative, and to concentrate for longer periods.

that there are a proportion of natural strategists who can be readily identified in this way. It is also clear that there are natural strategists who are not identified in the training itself, but realize it after taking the training. Moreover, the proportion of natural strategists among visible minorities, women, the disabled, and others with some sort of permanent disadvantage is much greater. If this also holds true for armed forces, then those who have made efforts at diversity may be receiving an unexpected dividend.

It is possible to use underdog thinking in the analysis of an enemy, but it is also possible to use it to make better strategy. That possibility is beyond the scope of this article, but is the subject of a book still being revised at the time of this writing.[19] Improving strategy in counterinsurgency situations, for example, can be done using a process using checklists and forms, the subject of this book.

"What we now call 'asymmetric war' has become a mainstay of the contemporary battlefield, if not its centerpiece…"[20] as Secretary Robert Gates has said. Understanding how the enemy in the asymmetric war is just one piece in the puzzle of the response. Whether SOF personnel find themselves in an underdog position or there is an underdog in their environment that can affect the outcome, it is important to understand how an underdog thinks strategically. Not all underdogs do. But the underdog thinks differently from the strong, and it is important to understand that, whatever the outcome. US military personnel have a strong can-do ethic which has led to countless successes and victories in the past.[21] But in the case of irregular war, counterinsurgency, counterterrorism, foreign internal defense, fighting narcotics- or people-smuggling, three-block wars, long wars, and many other challenges, it is important for them to consider how the enemy thinks, not just what they themselves have to do. Their very excellence in traditional, middle of the spectrum warfare has driven enemies to either end of the spectrum. SOF personnel, by their training and

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19 Laure Paquette, *idem.*

20 Including DeFence Secretary Robert M. Gates, in a speech to a Marine Corps Association chapter on July 18, 2007 in Arlington, Virginia. Gerry J. Gilmore, "Winning War on Terror Requires Adaptable Warriors, Gates Says," American Forces Press Service, July 19, 2007.

21 Nigel Aylwin-Foster, "Changing the Army for Counterinsurgency Operations," Military Review (Nov-Dec 2005), 1-14.

mission, are in a much better position to understand and counter underdog strategy, but they also can benefit from taking it into consideration in planning operations. Add to existing conditions the constraints normal to a liberal democracy, and what makes their strengths in many situations may become a sharp liability. Whatever the outcome, it pays to consider how the underdog strategizes. Underdogs are certainly always thinking about what the strongman is about to do – life and limb depend on it. It is also possible to design a wide range of exercises to train SOF in underdog thinking. On-line testing and training may also be possible.

DO THE INSURGENTS HAVE THE FOLLOWING CHARACTERISTICS?

Worksheet: Characteristic Insurgent Thinking

	YES	NO
Do they always think about what you/your allies are going to do?		
Are they holistic and indirect, since they know they cannot win a direct confrontation?		
Are they always adapting? Learning with every move?		
Do they play a waiting game?		
Are they creative? Always changing their way of operating?		
Do they see the big picture?		
Are they always watching for an opportunity or a threat? Are they alert?		
Do they design each action to suit the strategy, and see the impact of each action on the whole picture?		
Do they anticipate your actions? Are they prepared for even the least likely event?		
Will they break their own rules to achieve their goals?		
Are they passionate or fanatical about what they are doing?		

Use the core idea to neutralize any advantage.

2. CHARACTERISTICS OF TERRORIST-INSURGENT THINKING

In the nearly ten years following 9/11, the research and literature on the terrorist-insurgent has grown exponentially. The 21st century terrorist/insurgent phenomenon has been studied from the perspectives of numerous disciplines leading to various categorizations, models, and conclusions. This wealth of information has informed US military planning doctrine and procedures in multiple ways, but any changes have been US-centric and based on countering terrorist-insurgent actions—not founded in knowing how these adversaries think. Consequently, the US military response has been largely reactive, and attempts that have tended to be proactive have been slightly off target. In explaining US shortcomings some have suggested omnipresence or genius on the part of these global irreconcilables, and some have blamed chance. Few of the conjectures as to why this occurs are convincing, and many fail to even make the obvious observation that planning and operations do not adequately account for terrorist-insurgent thinking. Nonetheless these studies, when synthesized, begin to give us a good appreciation for the characteristics of terrorist thinking and reveal that the terrorist-insurgent mindset—their way of thinking—naturally misaligns with US cultural assumptions and doctrinal preferences. The terrorist-insurgent's success and longevity is, more likely than omnipresence or chance, a case of the terrorist following his natural mental precepts with audacity; it exploits the cognitive dissonance in our planning doctrine and procedures and the reality created by terrorists on the ground. In other words, combating terrorist-insurgent success requires the US to align its planning doctrine and procedures with the demands of the war it is fighting—the one the terrorist-insurgent has brought to the door step. All of this starts with understanding the characteristics of his thinking.

The research fits into four broad categories: game theory; empirical analyses, like historical or policy case studies; the study of a particular issue, like martyr contracts or women suicide bombers; and the application of frameworks which were developed for other uses but are now being tried out on terrorism and counterterrorism.[22] In this last category, one finds social network analysis, collective action analysis, and some

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22 Some of the categories come from B. Peter Rosendorff and Todd Sandler's "Political Economy of Transnational Terrorism," Journal of Conflict Resolution 49:2 (April 2005), 171-182.

counterinsurgency techniques. Finally comes military literature. Each makes a significant contribution, but fails to realign completely thinking.

Game Theory

Game theory is a branch of applied mathematics that attempts to capture behavior in strategic situations, in which an individual's success in making choices depends on the choices of others. To follow it requires at least college-level calculus. While initially developed to analyze competitions in which one individual does better at another's expense (zero sum games), it has expanded to include a wide range of situations, in particular war bargaining. However significant in the academic literature, this theory is of little interest for our purposes, since the number of users with enough (and fresh enough) mathematical background to transpose its contributions to their own problems is likely to be very small. Nor is it likely that SOF will have the time to learn enough calculus to use it in the field or before an operation.

Empirical Analyses

This category includes a wide range of studies, and they have been very popular with academics in the US. In general, these studies are based on the analysis of experience and evidence. Usually, they test hypotheses and theories against observations in the real world. To become recognized, empirical studies must meet very specific criteria, which results in the exclusion of much that is considered true by practitioners.

Some studies lead to policy advice, like telling liberal democratic governments what to do and what not to do about internment without trial, coercive interrogative techniques, and the use of live ammunition during protests.[23] In general, governments are advised to stay the course for the long term, but they are rarely advised on how to maintain public support for that policy, for example. Empirical studies relevant to terrorism or insurgency occur by definition after the fact. They also tend to allow little in

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[23]Tom Parker, "Fighting an Antaean Enemy: How Democratic States Unintentionally Sustain the Terrorist Movements They Oppose," Terrorism and Political Violence (19:2, June 2007), 155-179.

the way of generalizing learning from one situation to the next, which limits their usefulness.

Some studies suppose or conclude that US allies in the war on terror behave like what we call here *weak-side strategists.*[24] That is to say, some allies might rush headlong into action, ignoring the consequences of domestic opinion failing to support government moves, as in a number of European liberal democracies one could name. Or allies might ignore the unintended consequences of their own actions, such as the possibility of violent opposition to the government commitments or the provocation of internal terrorist threats, such as may be a consideration in Saudi Arabia. These studies provide some support for the research presented here.

Other well-known themes in the scholarly literature are less supportive, principally the rational-choice theorists.[25] Rational choice theory provides no opportunity for the intuitive decision-making so crucial to the art of strategy, for example. Nor does rational-choice theory take into account non-rational beliefs of patriotism or non-rational acts of self-sacrifice, for example, observable among US troops. Nor does it take into account political or religious extremism, which are observable in many parts of the world.

Finally there are areas of active research that are not directly relevant to the question of understanding and countering terrorist or insurgents, for example the literature that researches why liberal democracies are resistant to coercion as a means of constraining or provoking action by the government.[26]

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24.   Daniel Byman, "Remaking Alliances for the War on Terrorism," in Journal of Strategic Studies 29:5 (October 2006), 767-811; Gregory Miller, "Confronting Terrorisms: Group Motivation and Successful State Policies,", in Terrorism and Political Violence 19:3 (September 2007), 331-350

25.   Martha Crenshaw, "Logic Of Terrorism: Terrorist Behavior As A Product Of Strategic Choice," in Howard and Sawyer, ibid., 54.

26.   Max Abrahms, "Why Democracies Make Superior Counterterrorists," Security Studies 16:2 (April 2007), 223-253.

Special Issue Studies

In this category of research, there are a large number of detailed discussions of very specific, very circumscribed questions regarding insurgency or terrorism, and there is usually no pattern or overarching theme among them. One example is Alimi's study of collective action.[27] Another is the study of women as suicide bombers. An article by DeNardo looks at terrorism in a positive light now forgotten, with it being a bulwark against tyranny.[28] DeNardo nonetheless makes an interesting distinction between terrorism and insurgency, the fundamental difference being that terrorism emanates from the underground, where insurgency, with activities like looting or protesting, happens publicly. Kilcullen applies approaches to counterinsurgency to the global war on terror.[29] Also preceding the present work are articles that generalize from experiments with college students to military applications.[30] Although there are significant differences in the choice, the amount of information used, the decision strategy employed and the effect of exogenous conditions on decision strategy and choice in international relations, those differences are quantitative rather than qualitative.

The most useful part of this collection of odds and ends lies in the discussion of the role of uncertainty, and the various levels of uncertainty, in counterterrorism. Considered here is "the small, secretive nature of terrorist plots and the indeterminate nature of the target," a circumstance to which a weak-side strategy would make a significant contribution. [31]

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27.   Eitan Y. Alimi, "Contextualizing Political Terrorism: A Collective Action Perspective for Understanding the Tanzim," *Studies in Conflict & Terrorism* 29 (2006), 263-283.

28.   James De Nardo, *Power in Numbers/The Political Strategy of Protest and Rebellion* (Princeton: Princeton University Press, 1985), 229.

29.   David J. Kilcullen, "Countering Global Insurgency," *Journal of Strategic Studies* 28:4 (August 2005), 597-617.

30.   Alex Mintz, Steven B. Redd, and Arnold Vedlitz, "Can We Generalize from Student Experiments to the Real World in Political Science, Military Affairs, and International Relations?" *Journal of Conflict Resolution* 50:5 (October 2006), 757-776.

31.   Paul R. Pillar, "Counterterrorism After Al Qaeda," *Washington Quarterly* 27 (Summer 2004): 3, 101-113, 102.

Existing Frameworks

These studies include perspectives such as social network analysis or psychological theories, which were created to study phenomena other than terrorism or insurgency, but have been brought to bear on it. For example, the social action perspective is a precedent for the present paper, to the extent that it applies an existing approach to terrorism. The expansion of thinking called for above certainly is in sympathy with Tilly and some of the military literature, who argue that an epistemological expansion is necessary.[32] Moreover, it is no great leap from the application of social network analysis, which has already been used in studies of crime, criminal intelligence, and criminal networks, to its application in counterterrorism.[33]

There are a number of such frameworks, grouped here by discipline for the sake of convenience. These disciplines include psychology, ethology, anthropology and other social sciences, cognitive theory, and the study of biological factors.

Psychology has considered the issues surrounding terrorism at considerable length. In this area of research, psychoanalysis is the most widely recognized theory that addresses the roots of all forms of violence. Freud viewed aggression more generally as an innate and instinctual human trait, which most should outgrow in the normal course of human development. Ethology, a different area of psychology, has been alternately defined as the scientific study of animal behavior, especially as it occurs in a natural environment and as the study of human ethos, and its formation. For ethologists, aggression arises from a very basic biological need—a *fighting instinct* that has had adaptive value as humans have evolved.

However, in non-psychological areas of research, such as anthropology and other social sciences, research has found significant differences both in the nature and level of aggression in different cultures. Here, experimental research has demonstrated that aggression can be environmentally manipulated; findings that argue against a

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32.   Charles Tilly, *Politics of Collective Violence* (Cambridge: Cambridge University Press), 2003.

33.   Stuart Koschade, "Social Network Analysis of Jemaah Islamiyah: The Applications to Counterterrorism and Intelligence," *Studies in Conflict & Terrorism*, 29 (2006), 559-575.

universal human instinct. Another theory is that of frustration aggression. The basic premise is that aggression is always produced by frustration, and that frustration always produces aggression. However, research has shown that frustration does not inevitably lead to aggression. Social learning theory holds that behavior (e.g., aggression) is learned not only through one's direct experience, but also through observation of how such contingencies occur in one's environment.

Cognitive theory holds that people interact with their environment based on how they perceive and interpret it. Perceptions of intent affect aggression. Moreover, there are internal and external factors that can affect one's perceptions of provocation or intent. Biological factors affecting aggression are also an important element in a comprehensive biopsychosocial understanding of behavior. Biological studies are rarely conducted on terrorists.

Researchers have also tried to apply statistical models to explain violence and to identify its predictors. This line of inquiry has yielded some positive findings on risk factors for violent behavior. Literally hundreds of studies in psychology, criminology, sociology, and other behavioral sciences have yielded significant risk factors for violence. Unfortunately, they are unlikely to be useful predictors. Although terrorism is a type of violence, risk factors tend to operate differently at different ages, in different groups, and for different—specific—types of violent behavior.[34]

Military Literature

The review of military literature is striking for the compatibility found with the processes and ideas outlined in later sections of this paper. It also illustrates how important the formalization of these ideas actually is. In the military literature, there have been several new conceptual frameworks that try to help solve problems in operational art.[35] Most share some of the objectives and techniques outlined below. They also consider the

34.   Randy Borum, *Psychology of Terrorism* (Miami: University of South Florida, 2004), p. 9.

35.   TRADOC Pamphlet 525-50-500, *Commander's Appreciation and Campaign Design* (Washington: Department of Defense, 2008), 59 p.; *A Concept for Countering Irregular Threats / A Comprehensive Approach* (US Marine Corps Warfighting Laboratory: Quantico: 2006).

issues of complexity, unpredictability, and lack of information. An excellent example of this is Yarger's review of strategic theory, including its premises.[36] He seeks to improve the concept of strategy by proposing some characteristics of weak-side strategy. Yarger also identifies common traps into which strategists fall.

The military literature also includes a wide range of fictional and actual case studies, such as E.D. Swinton's *Defense of Duffer's Drift*.[37] There are also proposals for applying operational design more systemically, but these explore specific questions rather than identifying the steps in a process. Dugan's monograph on strategic intuition, for example, explores the non-rational but nonetheless significant contribution made to planning and carrying out strategy that is made by what he and Johnston call strategic intuition, what Clausewitz called *coup d'oeil*, what Klein called analogical thinking, and what is called here and in extensive previous research the *core idea*.[38] "Patton was a striking example of strategic intuition by applying examples from history through coup d'oeil."[39] Moreover, without core idea, it [I'm not sure how to try to word what this "it" refers to] is bound to fail. Finally, the US Army has proposed a seven-step military decision-making model.[40]

Taylor and Horgan's research examines the process of terrorist thinking.[41] They identify some problems, like the *bridging with assumption* in the absence of sound empirical knowledge. Terrorists share some of the characteristics of ordinary people. There is usually a context which facilitates the transition to terrorism: the act of terrorism brings the terrorist some benefit, if only in his own mind, and terrorism can operate at an individual and/or political level.

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36.   Harry R. Yargar, "Strategic theory for the 21st Century: The Little Book on Big Strategy," *Letort Papers* (February 2006).

37.   E.D. Swinton, "Defense of Duffer's Drift,"Infantry Journal (1905).

38.   For Klein, Johnston, Paquette, and others, see references given below.

39.   William Dugan, *Coup d'Oeil: Strategic Intuition in Army Planning*, (Washington: US Government, November 2005), 59 pages, p. 5.

40.   FM 101-5 *Staff Organization and Operations* (Department of the Army: Washington, 1997).

41.   Max Taylor and John Horgan, "A Conceptual Framework for Addressing Psychological Process in the Development of the Terrorist," *Terrorism and Political Violence* 18 (2006), 585-601.

The profiling of terrorist leaders is one of the richer veins of military literature. Taking the research discussed above into account, it is possible to develop a profile of a terrorist leader which includes an impressive number of characteristics:

- Often educated to university level, often in subjects that have terrorist applications (science, business);

- Often organized planners, with some military training/experience;

- Usually the brains behind operations or targeting and having the most detailed knowledge of the workings and intentions;

- Often appear to be law-abiding, in order to remain under the radar;

- Often charismatic, being able to convince and manipulate people, and being able to conceptualize and articulate an idea into a mission;

- Truly convinced of the cause;

- Possibly involved in personal risk-taking but usually keeps a certain distance to avoid capture and prosecution and maintain plausible deniability;[42]

- Holistic;

- Playing a waiting game;

- Creative;

- Looking at the big picture;

- Constantly scanning his environment for possible threats and for possible opportunities;

- Specifically designing each action to suit his strategy;

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42.   Graeme Steven and Rohan Guanaratna, *Counterterrorism* (Santa Barbara: ABC-CLIO, 2004).

- Constantly forecasting for all events and all other actors, and investing in the development of even unlikely scenarios;

- Going to assume s/he will lose any direct confrontation;

- Engaging their own passions or passionate feelings; and

- Thinking like a weak-side strategist all the time, not just when there is a problem.

While all of these characteristics are significant, it is not practical to try to take all of them into account in operational planning doctrine and procedure. For these purposes, there are two characteristics that matter most. The next section discusses those two characteristics.

3. TERRORIST STRATEGY

The Core Idea

This paper's contention is that some terrorists think like weak-side strategists, and that the terrorists who are the hardest to defeat use their own form of strategy. The author of this paper has been using this form of strategy for thirty years and studying it for twenty. It has been applied to the study of relations among states, to the domestic politics of nations, to military affairs and national and international security, but also to individuals and groups trying to achieve political goals, as well as to counterinsurgency. As mentioned in the first chapter, underdog strategy as an idea has given rise to a framework that is composed of a description of the main characteristics of underdog strategy, a list of the mistakes they most commonly make, a distinct general theory of strategy, and an analytical method that can analyze and predict what underdogs using strategy do. In addition, it is possible to use underdog strategy in practical situations, using the cognitive heuristic device of structurally analogous thinking. A cognitive device is a mental short-cut for making decisions, large and small, and we all use them in every day life. Using analogies for decision-making or problem solving simply means this. First, we ask ourselves whether we have ever encountered this situation before. Second, we try the solution that worked before. Structurally analogous thinking builds on this common sense.

There has been an increase in the use of analogous thinking in recent years, among scientists with some surprising collaborators. "In one of the more unlikely collaborations of modern medicine, Britain's largest children's hospital has revamped its patient hand-off techniques by copying the choreographed pit stops of Italy's Formula One Ferrari racing team. The hospital project has been in place for two years and has already helped reduce the number of mishaps."[43] Physicians in the US have also sought out unusual collaborators: "A growing number of health care providers are trying to learn form aviation accidents and, more specifically, from what the airlines have done to

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43 . Gautam Naik "Hospital Races to Learn Lessons of Ferrari Pit Stop," Wall Street Journal November 14 2006 p.1.

prevent them. In the last five years, several major hospitals have hired professional pilots to train their critical-care staff members on how to apply aviation safety principles to their work…it is well established that, like airplane crashes, the majority of adverse events in health care are the result of human error, particularly failures in communication, leadership and decision-making."[44] There is also structurally analogous thinking in other areas of science. For example, "In a trial for a company with a high speed robotic assembly line, it took the algorithm for the waggle dance of bees identifying nectar location (developed by Cardiff University's Manufacturing Engineering Centre) just a few days to identify the most efficient way to run the machines, much faster than a more conventional program.'[45]

But there have been structurally analogous thinking in the military sphere, going back to the Duke of Wellington's "A mosquito attack, not a cannon attack,"" Churchill's "We shall attack the underbelly of Europe," and Patton's flashes of insight.[46] The study of emergency responders using intuitive methods of decision-making, including military people, is also established.[47] This author has also used the capacity for analogous thinking as a diagnostic test in assessing potential for effective counterinsurgency training in the Canadian Forces reserves.

Next, we look at characteristics of terrorist thinking and the typical mistakes they make. For the exploration of characteristics terrorists may have in common, I used a single in-depth case study, of the Taliban in Afghanistan after its military defeat in late 2001. For the exploration of mistakes, I have ranged across various terrorist groups and movements, in an attempt to compensate for the problems of documentation.

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44 . Kate Murphy, "What Pilots Can Teach Hospitals About Patient Safety," New York Times, October 31, 2006, 1.

45 . "The Waggle Dance" New Scientist, 25 November 2006, 56.

46 . John Keegan, The Mask of Command (New York: Viking, 1987).

47. Gary Klein, Sources of Power (Boston: MIT Press 1998).

Characteristics of Terrorist Weak-Side Thinking

1.   **Underdog strategists are always aware of what the stronger groups or governments may do.** The Taliban were clearly observing what the Afghan and foreign police were doing – at one point, they moved some of the Helmand opium trade to Nimroz when they realized that province was more weakly policed, in the spring of 2005.[48]

2.   **Underdog strategists are always adapting**. The Taliban changed its methods repeatedly after the initial US-led invasion, then after its defeat, and finally after the arrival of the NATO troops. These methods included assassinations, kidnappings, insurgency tactics, suicide bombings, and improvised explosive devices.[49] Among the occurrences for each of there are: (1) assassinations: the death of Vice-President Haji Abdul Qadir in July 2002; attempts on President Hamid Karzai in September 2002, on a vice-presidential candidate in 2004, and on the former governor of Badakhshan in October 2007; (2) kidnappings: of groups of foreigners in both July 2007 and October 2007; (3) insurgency tactics: the recruitment and training on the Pakistan border, and the repeated ambush of soldiers; (4) suicide bombings: there were sixty-four between January 2005 and August 2006; and (5) improvised explosive devices: against US and NATO troops, and against Afghan military and civilian vehicles, with the number steadily increasing.[50] The Taliban also quickly developed a symbiotic relationship with the opium traders, in order to finance these and other operations.[51]

3.   **Underdog strategists almost always play a waiting game**. After its defeat by the US in 2001, the Taliban took a few months to regroup and start recruiting. The violence fell to nothing during that period, before increasing again later.

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48 .Andrew North, "Losing The War On Afghan Drugs," BBC News, 12 April 2005.

49. Scott Baldauf and Faye Bowers, "Afghan Riddled with Drug Ties," Christian Science Monitor, May 13, 2005.

50. "IED, A Weapon's Profile," Defense Update/An International Online Defense Magazine (2004) 3, updated 23 August 2006.

51. Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," Terrorism Monitor 5:9 (May 10, 2007).

4. **Underdogs are creative, because their means are so limited**. The Taliban used improvised explosive devices before the Iraq insurgents, but they did import the Iraqi's different IED technology. The Taliban showed creativity in the adoption of the opium trade to finance itself.[52] The Taliban-based opium trade also showed creativity in effectively exploiting Afghanistan's harsh terrain, the easy corruption of some of its officials, and the insecurity of the population.[53]

5. **Underdog strategists are more holistic.** After its defeat in 2001, it was clear that the Taliban were no longer seeking a military victory over NATO or the US-led forces. Instead, they are targeted the unwillingness of NATO's domestic populations to take casualties. The Taliban also exploited certain tactics to which the US or NATO troops cannot respond in kind, for legal or ethical reasons. Those tactics include threatening relatives of dangerous Taliban, blackmailing the civilian population into providing information, or exploiting the widespread poverty. Exploiting such opportunities would be impossible without a holistic perspective.

6. **Underdog strategists constantly scan the environment for possible threats and opportunities.** The Taliban are quick to spot their opportunities, something that is made more obvious by their ruthlessness. They quickly identified the poverty of farmers as a possibly way to exert power over them, for example, by offering them money, by getting into an extortion racket, or by promoting the opium trade. Since farm prices for poppy have declined as production has increased, many farmers are falling into debt, making them vulnerable to Taliban blackmail.[54] Poverty also makes exploitation easy: the Taliban have recruited for as little as $US 20 a day.[55] Unemployed men may be

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52. Anthony Cordesman, "Testimony to the US House Armed Services Committee," January 2007.

53. Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," Terrorism Monitor 5:9 (May 10, 2007).

54. Gregg Zoroya and Donna Leinwand, "Rise of drug trade threat to Afghanistan's security," USA Today, May 13, 2005.

55. Senlis Group, Afghanistan, Countering the Insurgency in Afghanistan: Losing Friends and Making Enemies (London: MF Publishing, 2007).

inferior to NATO troops, but they can easily be used to conduct reconnaissance on NATO or Coalition forces, arrange roadside bombs, or harvest opium.[56]

7.   Underdogs specifically design each action to suit their strategy. There is no evidence in open sources about the Taliban's planning in this manner.

8.   Underdogs forecast for each tactic and each scenario, however unlikely. There is no evidence from open sources about the Taliban's forecasting capability.

9.   Underdog strategists assume they will lose any direct confrontation. The Taliban as a government may have been attacked directly by the US, but once defeated and reduced to the status of an insurgent political group with no place in the political system, it avoided any direct military or political confrontation. The Taliban did not participate in the Afghanistan elections.

10.   If the situation gets bad enough, underdog strategists will break their own rules of behavior. While the Taliban were in power, they banned opium production. As insurgents, however, they have quickly come to rely on the opium trade in order to finance their operations.[57]

11.   Underdog strategists are passionately committed. Despite long-standing adverse circumstances, Taliban supporters are willing to fight on, even though they face a much more powerful military enemy.

Overall, there is a good level of evidence that the Taliban use weak-side strategy. Table 1, Evidence of Characteristics of Weak-Side Strategy, summarizes the findings. In the next section, the Taliban insurgents are making some of the mistakes underdog strategists have in common.

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56. Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," Terrorism Monitor 5:9 (May 10, 2007).

57. Unofficial comments by international staff working in the region, April 2007, cited in Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," Terrorism Monitor 5:9 (May 10, 2007).

Table 1: Evidence of Characteristics of Weak-Side Strategy

Characteristic	Taliban insurgents
They are always thinking about the strong.	Opium traders moved to Nimroz from Helmand because it was more weakly policed
They are always adapting.	Changed from regular warfare to assassinations, kidnappings, insurgency, suicide bombings, IED's, financed by opium trade.
They wait.	Took time to regroup after losing control of country
They are creative.	Adopting roadside bombs, imported from the Iraq insurgency; opium traders exploit harsh terrain, easy corruption of officials, poverty of the population
They are holistic.	Abandoned goal of military victory over ISAF; now targeting unwillingness of domestic NATO populations, using unanswerable methods
They scan their environment.	Quickly identified the poverty of farmers as a possibly way to exert power over them
They specifically design each action.	—
They forecast for all events.	—
They know they will lose a direct confrontation.	Gave up regular warfare; did not compete in elections
They break their own rules.	Banned opium when in power, relied on opium trade as insurgents
Their commitment is complete.	willing to fight on despite facing a much more powerful enemy

Common Mistakes of Terrorists

Mistakes terrorists make are in their reasoning and/or planning, which is difficult to document when they are successful, and difficult to document after their failure, since that usually means death or capture. Moreover, what can be discovered after their defeat, the information is not always completely available in a timely way in open sources. It is therefore no surprise that some mistakes cannot be illustrated.

1. Working on the Wrong Problem. The Mujaehdin-e Khalq Organization (known as the MEK or the MKO), was expelled from Iran after the Islamic revolution in1979, for being Marxist. At that point the problem was anyone or anything that was not Marxist. After its expulsion, however, its primary support came from Saddam Hussein, and it perpetrated anti-Western attacks and terrorist attacks on the interests of the clerical Iranian regime. At that point, the problem was the Iranian regime. Similarly, the Salafist Group for Call and Combat, is a splinter faction which gained popular support in Algeria through its pledge to avoid civilian attacks inside Algeria – as opposed to the rest of the group who was willing to sacrifice civilians. Later, however, they did attack civilians.[58]

2. Not Specifying Their Objectives Enough. The fact that the Islamic Group (Al-Fama'a al-Islamiyya), Egypt's largest militant group has been active since the 1970s, but has not conducted attacks within Egypt since August 1998. This led to a split in the group, with one supporting the cease-fire, led by Mustafa Hamza, and the other calling for a return to armed operations, including attacks on US and Israeli interests. The split could have been avoided if the objectives had been clear all along. The same is true of, on the one hand, the General Command of the Popular Front for the Liberation of Palestine and, on the other, the Popular Front for the Liberation of Palestine itself. The General Command split from the rest of the Front in 1968, wanting to focus more on fighting and less on politics. FARC periodically hides its actual aims under an ideological struggle that is no longer credible.[59] And finally, there is also indirect evidence this was a problem for Al Qaeda, i.e. the fact that Khalid Shaikh Mohommad introduced the

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58. .Russell D. Howard and Reid L. Sawyer, Terrorism and Counterterrorism/Understanding the New Security Environment, 2nd edition, (New York: McGraw Hill, 2006).

59. Graeme Steven and Rohan Gunaratna, Counterterrorism (Santa Barbara: ABC-CLIO, 2004), p. 189.

principle of being goal-oriented and not rule-oriented. This was revealed when it came to plans to attack government or other hard targets were disrupted in Southeast Asia. Then Khalid approved attacks on soft targets, including nightclubs, cafes, and most famously, the Bali nightclub on October 12, 2002.[60]

3. Not Developing Enough Alternatives. One group that does develop enough alternatives is the Liberation Tigers of Tamil Eelam (LTTE), the most powerful Tamil group in Sir Lanka. It uses overt an illegal methods to raise funds, acquire weapons, and publicize its cause, which is to establish an independent Tamil state. It uses a guerilla strategy that includes the use of terrorist tactics. Khalid Shaik Mohommad also develops alternatives most clearly regarding financing. Whenever he needed money, he discreetly approached businessmen, politicians, and even charity workers he has cultivated over the years.[61] But those are exceptions. "Today's international terrorist groups function not as tightly structured hierarchies, but rather as shadowy networks that, when necessary, strike ad hoc tactical alliances, bridging religious and ideological schisms."[62] The lack of alternatives leads to contradictory actions, as when Osama Bin Laden's call to Muslims to come to Iraq's defense came as he derided the regime in Baghdad. The fact that cease-fires are used as stalling tactics by, among others, Hizbollah and the IRA reflect this lack of alternatives. Partly the lack of alternatives comes as a protection against the group splintering. For example the Real Irish Republic Army was formed in early 1998 as a clandestine armed wing opposing Sin Fein's adoption in September 1997 of the Mitchell principles of democracy and non-violence. It is composed of perhaps 200 activists and some IRA hard-liners dissatisfied with the cease-fire.

4. Giving Inadequate Thought To Tradeoffs. Some, of course, do give adequate thought to trade-offs, like the the Kurdistan Workers Party (PKK) started with a Marxist ideology, but by the 1990s advocated nationalism over communism, then started including Islam. It adopted violent tactics in 1984, with an enlarged campaign of violence in 1993 and

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60. Graeme Steven and Rohan Gunaratna, *id*.

61. Graeme Steven and Rohan Gunaratna, *ibid*.

62. BBC Transcript (www.newsbbc.co.uk/2/hi/middle-east/2751019.htm) of Al-Jazeera's broadcast of Bin Laden's audio message, 11 February 2003.

1994 that led to 1600 deaths.[63] But the reverse is more often true. Jamal Al Fadl was a Sudanese national who walked into authorities in 1996 and provided information on Al Qaeda's activities in various countries.[64] He had embezzled money because of his low pay, a situation that would have been easy to avoid. Perhaps Al Qaeda thought the social rewards would be enough: a recurring theme in Al Qaeda's recruiting 'is the formation of a network of friendships that solidified and preceded formal induction into the terrorist organization"[65] Similarly, ETA (Euzkadi Ta Askatasuna), the Basque separatist group founded in 1959, finances its activities through kidnappings, robberies, and extortion. Its political tactics, so to speak, are limited to bombings and assassinations of Spanish Government officials. As time goes on, however, the practices are likely to spread from one goal to the other. The FARC, the Revolutionary Armed Forces of Colombia, went from being a Marxist revolutionary political organization to a terrorist organization as a response to political failure. They tried to enter mainstream Colombian politics in the mid 1980s, through the Patriotic Union party. Large landowners and the army responded with a campaign of murder against their officials.[66] FARC then increased its military capacity, but needed money, which it got from narcotics smuggling. The business eventually took over the political aspect, which could have been avoided if they had sought political success in a different way. The Abu Sayaf Group has a similar story. The Abu Sayaf Group is one of the most violent of the Islamic separatist groups in the South Philippines. It engages in kidnappings for ransom, bombings, assassinations, and extortion. It shows the willingness to break the rules, in this case the law, if necessary. In 2000, a faction kidnapped twenty-one persons, including ten foreign tourists, from a resort in Malaysia. It also abducted several foreign journalists.

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63. Alison Jamieson, "Transnational Organized Crime: A European Perspective," in Studies in Conflict & Terrorism 24 (2001), 383.

64. Peter Bergen, "The Bin Laden Trial: What Did We Learn?" Studies in Conflict and Terrorism 24:6 (November-December 2001), 430, in Robert Sheperd, "Human Intelligence and Counterterrorism," graduate paper, University of Calgary, 2007.

65. Marc Sageman, Understanding Terror Networks (Philadelphia: University of Pennsylvania Pressk 2004), 108 in Robert Sheperd, "Human Intelligence and Counterterrorism," graduate paper, University of Calgary, 2007.

66. Michaelf Shifter, "Colombia on the Brink: There Goes the Neighborhood," Foreign Affairs 78:4 (July-August 1999), 14ss, 16.

It has a few hundred core fighters, but now it also counts in its ranks over 1000 individuals motivated by the prospect of ransom payments joined in 2000-2001. They have moved from an extremist political group to one dominated by criminals.

5. Disregarding Uncertainty. The essence of strategy is how to deal flexibly and creatively with new developments, not in nailing down the perfect plan on paper. This means, for example, that in a terrorist group the membership, but not the leadership, is expendable. When some member of the leadership is captured, it becomes obvious that the terrorist group relies on the leadership, and suffers accordingly. This was seen with the capture of three leaders in three different terrorist groups: Abimael Guzman, who founded the Shining Path; Rohan Wijeweera, who led the Janatha Vimukthi Peamuna (JVP); and Abdullah Ocalan, who led the Kurdish Workers Party (PKK). After Shoko Ashara was captured by police, Aum Shinrikyo's new leader rejected the founder's violent and apocalyptic teachings.

6. Failing to Account For Your Risk Tolerance. Risk tolerance is a tool used and misused by terrorists. For example, Kalid Shaikh Mohommad, third in command of Al Qaeda, was only captured in March 2003, after putting layers of operatives between him and front-end organizers for years.[67] On the other hand, the leader of the Tamil Tiger (or LTTE), Velupillai Prabhakaran, became obsessed by security over time. He rarely gave interviews and kept his movements between jungle hideouts under the strictest secrecy, after he narrowly avoided being assassinated or captured several times. The near misses made him paranoid, and he eventually murdered several of his trusted commanders for suspected treason. He reportedly wears a cyanide capsule around his neck to be swallowed in the event of capture, and expects his Tiger soldiers to do the same. Seldom seen in public except before battles, he has a reputation for being fearless – and ruthless. [68] Leaders themselves have relatively low tolerance for risk when shorn of their supporters, and tend to behave poorly when captured: the PKK leader Ocalan and the JVP leader Wijeweera both pled not to be tortured when they were captured, a fact their supporters have trouble believing.

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67. Graeme Steven and Rohan Gunaratna, *ibid.*
68. Graeme Steven and Rohan Gunaratna, *id.*, p. 180.

7. Failing to Plan Ahead When Decisions Are Linked Over Time. Hizbollah failed to do this in 2006. Founded in 1982 in response to the Israeli invasion of Lebanon that year, Hizbollah (Party of God) is unwilling to work within the established political system. Having previously captured three Israeli soldiers in the Shabaa Farms, and then having kidnapped an Israeli non-combatant, in 2006, it kidnapped two Israeli soldiers. That time, Israel responded with arms – a response whose effectiveness may be debated, but whose intensity cannot be doubted.

8. Not trusting your intuition. In strategy, it is important to work easily with the non-rational aspects in decision-making, as well as the tacit or non-explicit processes.

9. Not keeping things simple and discreet. Here there are several examples of brazen behavior. For example, the Jaish-e-Mohammed (JEM or Army of Mohammed) of Pakistan is an Islamic extremist group formed in early 2000. It collected funds through donation requests in magazines and pamphlets. This understandably drew the attention of the government, and forced withdrawal of funds from bank account in anticipation of asset seizures. (They invested them in legal businesses such as commodity trading, real estate and production of consumer goods!)[69] The Kahane Chai (Kahane Lives), was founded to restore the biblical state of Israel. One of several fundamentalist organizations in Israel, Kahane Chai was only declared a terrorist organization by the Israeli cabinet in March 1994— after it supported a Jewish attack on the Al Ibrahimi mosque. A long-standing organization, today the FARC's vulnerability involves the politics of the organization, complete with statutes defining its structure (squad, guerrilla, company, column, fronts, block of fronts, and central high command).[70] The Tamil Tigers today have their own newspaper, press and propaganda section, in addition to a political wing, a research and development wing, and an intelligence wing. Is it any wonder they attract attention?

69. Russell D. Howard and Reid L. Sawyer, Terrorism and Counterterrorism/Understanding the New Security Environment, 2nd edition, (New York: McGraw Hill, 2006).

70. Economist, April 19, 2001.

Table 2: Evidence of Strategic Mistakes

Type of Mistake	Terrorist Group and Action
Not Keeping Things Simple, Honest, Moderately Discreet	JEM collected funds through donation requests in magazines and pamphlets (assets seized by Pakistani government); Kahane Chai declared terror organization by Israel after it supported a Feb. 1994 attack on the al Ibrahimi Mosque; FARC's internal politics, statutes defining the structure (squad, guerrilla, company, column, fronts, block of fronts, central high command); Tamil Tigers's newspapers, press and propaganda section, political wing, research and development wing, and intelligence wing.
Going Against, Instead Of With, The Flow Of Events	No evidence found
Ignoring The Need To Wait, Rushing Headlong Into Action.	Al Qaeda, Kalid Shaikh Mohommad had to introduce "losing and learning" doctrine, i.e. only a defeat if nothing is learned and mistakes repeated
Ignoring The Unintended Consequences Of Your Actions	No evidence found
Working on the Wrong Problem	MEK expelled from Iran in 1979 for being Marxist, then perpetrated anti-Western attacks; Salafist Group for Call and Combat gained popularity through pledge to avoid Algerian civilians, then attacked them anyway
Failing to Plan Ahead When Decisions Are Linked Over Time	Hizbollah repeatedly kidnapped Israeli soldiers or civilians; In 2006, kidnapping of two Israeli soldiers brought Israeli armed response
Not Specifying Their Objectives Enough	Islamic Group of Egypt split into a faction supporting a ceasefire and a faction wanting to carry out attacks on US and Israeli interests; General Command of the Popular Front for the Liberation of Palestine split from the rest of the Popular Front in 1968, wanting to fight more and politick less; Al Qaeda's Kalid Shaikh Mohommad has to move from government, hard targets in Southeast Asia for soft targets like the Bali nightclub on October 12, 2002; FARC actual aims versus official, ideological struggle
Not Developing Enough Alternatives	Cease-fires used as stalling tactics by Hizbollah, IRA
Giving Inadequate Thought To Tradeoffs	Move from Marxism to nationalism to Islamism of PKK; move to enlarged campaign of violence in 1993; Sudanese walk-in from Al Qaeda over embezzlement, low pay; use of kidnapping, robbery and extortion by ETA for money, instead of bombings and assassinations of officials for political reasons; FARC turned to terrorism after political failure; got into narcotics smuggling for money; Abu Sayaf Group, Islamic separatists in south Philippines, uses kidnapping, bombings, assassinations, and extortion for money; its numbers, over 1000 in 2002-2001, now motivated by money rather than extremism
Disregard Uncertainty	Discomfiture of Shining Path, JVP, Aum Shinrkyo, and PKK after capture of leaders
Failing To Account For Your Risk Tolerance.	Kalid Shaikh Mohommad, third in command of Al Qaeda, used layers of operatives between himself and organizers to protect himself; Leader of the LTTE murdered several of his own commanders for suspected treason, wore a cyanide capsule around his neck in case of capture; captured leaders of PKK and JVP begged not to be tortured

10. Going against the flow of events. This is unadvisable except at the very start of operations, before any positions are taken or decisions made. It is only with experience and some developments that it is possible to judge momentum, and it only then becomes possible to divert it to best advantage. However, inexperienced or irrational terrorists may not behave in this way.

11. Ignoring the need to wait, rushing headlong into action. In positions of disadvantage, this is a costly mistake to make. There is indirect evidence this was a problem for Al Qaeda, and the fact that Kalid Shaikh Mohommad introduced the principle of losing and learning doctrine. In other words, if an al Qaeda operation fails or suffers losses, it is not considered a strategic loss if the group learns, improves, and vows not to repeat its mistake. [71] Such a policy would not be necessary if there were no serious, repeated problems.

12. Ignoring the unintended consequences of your actions. Any strategist should beware of the unintended consequences that flow from actions. Situations are unpredictable, and consequences arising from terrorist action affect not just achieving a goal, but also affect a range of other situations. These unintended consequences have to be managed or they can interfere with success.

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71. Graeme Steven and Rohan Gunaratna, Counterterrorism (Santa Barbara: ABC-CLIO, 2004), p. 163.

4. LEARNING TO THINK LIKE A TERRORIST

How does one educate highly trained, highly intelligent, highly competent people to think like terrorists? The answer for very high-performing individuals is different than for the average person, and in recent years seems to lie with analogical or metaphorical thinking. The use of analogical thinking is recommended for emergency responders, among others, in highly complex situations with uncertainty by Klein. [72] But it has spread beyond that sphere. "In one of the more unlikely collaborations of modern medicine, Britain's largest children's hospital has revamped its patient hand-off techniques by copying the choreographed pit stops of Italy's Formula One Ferrari racing team. The hospital project has been in place for two years and has already helped reduce the number of mishaps."[73] This has also been true for US hospitals. "A growing number of health care providers are trying to learn from aviation accidents and, more specifically, from what the airlines have done to prevent them. In the last five years, several major hospitals have hired professional pilots to train their critical-care staff members on how to apply aviation safety principles to their work…it is well established that, like airplane crashes, the majority of adverse events in health care are the result of human error, particularly failures in communication, leadership and decision-making."[74] Outside the delivery of health care, there have been interesting results. In a trial for a company with a high speed robotic assembly line, it took the algorithm for the waggle dance of bees identifying nectar location (developed by Cardiff University's Manufacturing Engineering Centre) just a few days to identify the most efficient way to run the machines, much faster than a more conventional program.[75]

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72. Gary Klein, Sources of Power (Boston: MIT Press, 1998), 213ss.

73. Gautam Naik "Hospital Races to Learn Lessons of Ferrari Pit Stop," Wall Street Journal November 14 2006 p.1

74. Kate Murphy, "What Pilots Can Teach Hospitals About Patient Safety," New York Times, October 31, 2006, 1.

75. "The Waggle Dance" New Scientist, 25 November 2006, 56.

Analogical thinking has the additional benefit of crystallizing in a cognitive heuristic device some of the characteristics of weak-side strategy in practical situations. A cognitive device is a mental short-cut for making decisions, large and small, and we all use them in every day life. Using analogies for decision making or problem solving simply means this: we ask ourselves if we have ever encountered this situation before, and try the solution that worked before. Structurally analogous thinking builds on this form of common sense. There have been structurally analogous thinking in the military sphere, going back to the Duke of Wellington.[76] And the study of emergency responders using intuitive methods of decision-making, including military people, is also established.[77] This author has also used the capacity for analogous thinking as a diagnostic test in assessing potential for effective counterinsurgency training in the Canadian Forces reserves. Overall, the training available consists of exercises, forms, and checklists. The use of checklists is common in a number of fields, including medicine.[78]

What may well be required to learn to think like terrorists may amount to a change of mindset for military personnel is something amounting to changing the mindset. For regular armed forces, defensive positions and ways of thinking: clearly like the enemy is like yourself, trying to maneuver the enemy so that your advantages will be decisive. But in complex environments such as are now faced, the enemy do not care to meet with a decisive engagement, which they are now convinced they will lose. They will attack the weak points, not the strong points, and are willing to wait because it is not being decimated.[79]

Klein developed the recognition-primed model.[80] He claims that with experienced decision makers, the focus is on the way they assess the situation and judge it familiar, not on comparing options. Courses of action can be quickly evaluated by imagining

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76. John Keegan, The Mask of Command (New York: Viking, 1987).

77. Gary Klein, Sources of Power (Boston: MIT Press 1998).

78. Atul Gawande, "The Checklist," New Yorker December 10, 2007, 86-95, 92.

79. John Keegan, The Mask of Command (New York: Viking, 1987).

80. Gary Klein, Sources of Power (Boston: MIT Press, 1998), 213ss.

how they will be carried out, not by formal analysis and comparison. Decision makers usually look for the first workable option they can find, not the best option. Since the first option they consider is usually workable, they do not have to generate a large set of options to be sure they get a good one. They generate and evaluate options one at a time and do not bother comparing the advantages and disadvantages of alternatives. By imagining the option being carried out, they can spot weaknesses and find ways to avoid these, thereby making the option stronger. Conventional models just select the best, without seeing how it can be improved. The emphasis is on being posed to act rather than being paralyzed until all the evaluations have been completed. Metaphors and analogues direct thinking by framing situation awareness, identifying appropriate goals, and flagging relevant pieces of information. Analogies provide a structure for making predictions when there are many unknown factors. Analogies function like experiments, linking interactive sets of causes to outcomes. And by taking into account the difference between the analogue and the current case, we can adjust the analogue data to derive a prediction. Analogical predictions are most helpful when there is a good database but not enough information to apply more rigorous analyses. Analogues are useful for generating expectancies and solving problems.

The use of forms and checklists is familiar to military personnel. However, checklists also establish a higher standard of baseline performance in ICU staff. "Pronovost is routinely described by colleagues as 'brilliant,' inspiring,' a 'genius'." He has an M.D. and a Ph.D. in public health from Johns Hopkins, and is trained in emergency medicine, anesthesiology, and critical-care medicine. But, really, does it take all that to figure out what house movers, wedding planners, and tax accountants figured out ages ago? Pronovost is hardly the first person in medicine to use a checklist. But he is among the first to recognize its power to save lives and take advantage of the breadth of its possibilities."[81]

It is on the basis of analogies and checklists that the learning of terrorist strategy rests. The first step in defeating underdog thinking is in understanding what underdog thinking entails. This chapter analyses how underdogs use both strategy and tactics. This type

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81. Atul Gawande, "The Checklist," New Yorker December 10, 2007, 86-95, 92.

of analysis relies on the characteristics of their strategic thinking outlined in the previous chapter. It also relies on the repeated differentiation of *significant* events, actions, actors, or resources used by any of them, from *insignificant* ones. Someone trying to defeat underdog thinking for the first time can learn the steps of analysis by using the worksheet system discussed below.

The process described below ends with an application of structurally analogous thinking combined with a structured set of open-ended questions. The worksheets presented here are basically forms you use to answer specific questions that will walk you through your strategic and tactical analysis in a step-by-step, structured way. Each worksheet represents one step in the process of analyzing underdog strategy and tactics, with each box representing a further breaking down in the analysis. (As you get more experienced using the worksheets, it is possible to use the same worksheets to design strategies or tactics that will defeat underdogs). Although the structure and wording of most worksheets is simple, thinking, or sometimes "thought experiments", may be required to answer each question.

If a group is analyzing a problem, then considerable discussion may be necessary to fill out each worksheet – the aim is to reach consensus in the responses, which leads to the team reaching consensus on the overall approach. There is no right or wrong answer in any situation, or on any worksheet: the *process* is what is important. Taken together, the worksheets form a system that breaks down the analysis of underdog strategy, and helps design actions to defeat it.

What follow are descriptions, instructions and examples of ten core worksheets that can be used to develop or analyze strategy in all its applications. To keep the number of worksheets manageable, these particular examples were chosen to address the most common difficulties encountered, while still offering a comprehensive analysis of a strategy. Worksheets also vary in complexity. For each, there is an explanation of its purpose, a blank worksheet, a set of instructions on how to fill it out, and an example of a completed worksheet. Sample worksheets presented here all cover the same hypothetical situation: soldiers on patrol in hostile territory captured a prisoner and now returning to base camp over a two-day period.

The goal of the worksheets is *not* to provide an exhaustive set of minutely described steps to reach a single correct conclusion – the intent is support the art of analyzing or

designing underdog strategy. In most cases, you will become more comfortable using these worksheets after using them six or seven times. Once you are proficient, however, worksheets can still be used anytime a problem needs to be solved, or as long as is necessary for the strategy or strategic analysis to be completed.

The worksheets' uses are illustrated using a simple case study, that of an infantry squad having to hold and then return a captured enemy to their base. The ten worksheets are:

- Strategy

- Key Actors

- An Actor's Actions or Tactics

- Resources A Strategy Can Draw On

- Rules of the Game

- All Other Factors

- Steps and Nodes

- Tactics and Counter Tactics

- Core Idea

You need not use all the worksheets, but you can pick and choose any subset of six and the chances are still good that the process will work.

Worksheet 1: Strategy

In this worksheet, you are expected to identify the components of a strategy to deal with a particular challenge. You should use point form to fill this out, and restrict yourself to no more than a single page to complete the worksheet. This will force you to be very, very specific and focused, and to choose among competing priorities. This way, it is possible to assess your judgment, as well as your capacity to think using strategy.

Worksheet 1: Strategy		
1. Issue		
2. Goal		
3. Core Idea		
4. Tactics	1	
	2	
	3	
	4	

You do not need to develop a strategy only in an adversarial situation – you can use this system to deal with a challenge of any type. Because it is demanding to develop and implement, it is usually only used in dire circumstances where there are at least one and usually many enemy players. As usual, you must be detailed, specific, and succinct. You should also be careful to work always at the same level: most strategies are like nesting bowls, and you can cover more or less broadly the situation. For the process to work properly, you need to decide how much of the situation you want to cover, and stick to it.

Your problem is described succinctly in the top box, "1. Issue." The best solution to that problem is described succinctly in the middle box, "2. Goal." The metaphor or analogy you want to use is in the next box, "3. Core Idea." The steps that will have the analyst reach the goal, or the method to be used, in the bottom box, "4. Tactics."

Sample Worksheet 1: Strategy		
1. Issue		Tired troops in a hostile environment
2. Goal		Provide secure, safe and restful environment for troops for one night
3. Core Idea		"Let's circle around the queen bee" (principle behind all-round defense)
4. Tactics	1	Identify most defensible location within accessible range
	2	Assign guard duty
	3	Assign tasks re: setting up camp
	4	Other

Worksheet 2: Key Actors

In any strategy, there are a number of possible actors. Those actors can be individuals, groups, governments or even groups of governments. The actors can be involved in the planning of a strategy, or be on the outside. They may be helpful, neutral, or hostile. They may be aware of the strategy or actions, or not. But most importantly, they may have an impact either on the tactics or the strategy itself you are analyzing or designing or carrying out. The goal of this worksheet is to identify which ones may have an impact, so that you can set the others aside and concentrate your energies on the actors who matter.

Worksheet 2: Key Actors						
1. Your Goal						
2. Your Latest Tactic						
3. Latest Action or Event, if different from above						
4.a Your Possible Tactic A						
4.b Your Possible Tactic B						
4.c Your Possible Tactic C						
4.d Your Possible Tactic D						
5. All Actors	6. Can this actor affect your achieving the goal? (Yes or No)	7. Can this actor prevent your achieving the goal? (Yes or No)	8. Can this actor affect any of your possible tactics?			
			Tactic A	Tactic B	Tactic C	Tactic D

Box 1: State the goal of the strategy is.

Box 2: State what was your last action relevant to your strategy.

Box 3: State what was the last action or event, relevant to the strategy. This action or event can come from anywhere, but it has to have happened after the last tactics.

Box 4: List the actions under consideration with respect to the strategy. Up to four may be considered.

Box 5: Here, make a comprehensive list of actors. Various headings, such as civilian, military, domestic, foreign, army, navy, air force, etc. might be useful. Do not be concerned about putting people or groups in the right categories: the headings just help to ensure every individual and/or group possible is listed. Ask whether the groups listed ought to be broken down further into smaller groups – for example, should a foreign national government be listed as such, or should it be broken down into ministry of the interior, ministry of defense, legislators, executive council or cabinet, local government, etc.

Once the list of actors is complete, the next column helps differentiate between significant and insignificant actors.

Boxes 6, 7, 8: A significant actor is one without whom it is impossible for the tactic cannot succeed. To be more specific, a significant actor can affect whether or not the tactic required can move the strategy toward the achievement of the goal. Without who is a particular tactic is guaranteed to fail? Whose cooperation and support is essential to the success of the tactic? Which actor or actors have the power to affect the outcome? Who, on the other hand, is irrelevant? Are there actors whom you know stand no chance of affecting the outcome? Can they be spoilers? Are there other individuals or groups for which the same can be said? On the other hand, are there any groups or individuals who can affect the outcome? Are there any actors that present a picture of disproportionate influence or power on the outcome? Place the checkmarks as you go along, and then select for further analysis actors who are significant.

Sample Worksheet 2: Key Actors						
1. Your Goal			Getting prisoner back to camp			
2. Your Latest Tactic			Setting up camp for the night			
3. Latest Action or Event, if different from above			Night is falling			
4a. Your Possible Tactic A			Order black out			
4b. Your Possible Tactic B			Allow lights to be used			
4c. Your Possible Tactic C			Allow minimal lights to be used			
4d. Your Possible Tactic D						
5. All Actors	6. Can this actor affect your achieving the goal? (Yes or No)	7. Can this actor prevent your achieving the goal? (Yes or No)	8. Can this actor affect any of your possible tactics?			
			8a. Tactic A	8b. Tactic B	8c. Tactic C	8d. Tactic D
Squad Leader	Yes	Yes	Yes	Yes	Yes	
Soldier 1	Yes	Yes	No	No	No	
Soldier 2	Yes	Yes	No	No	No	
Soldier 3	Yes	Yes	No	No	No	
Soldier 4	Yes	Yes	No	No	No	
Soldier 5	Yes	Yes	No	No	No	
Prisoner 1	Yes	No	No	No	No	
Nearby	Yes	No	No	No	No	

civilian 1					
Nearby civilian 2	Yes	No	No	No	No
Nearby civilian 3	Yes	No	No	No	No
Nearby civilian 4	Yes	No	No	No	No
Nearby civilian 5	Yes	No	No	No	No
Possible enemy fighter 1	Yes	Yes	Yes	Yes	Yes
Possible enemy fighter 2	Yes	Yes	Yes	Yes	Yes
Possible enemy fighter 3	Yes	Yes	Yes	Yes	Yes
Possible enemy fighter 4	Yes	Yes	Yes	Yes	Yes
Possible enemy fighter 5	Yes	Yes	Yes	Yes	Yes
Local authorities	Yes	No	No	No	No

Worksheet 3: An Actor's Actions and Tactics

The next step in the tactical analysis of a situation focuses on the tactics, and also differentiates between significant and insignificant actions. There are a number of actions on the part of each significant actor. Those actions may be tactics, i.e. relevant to the strategy, or not. In order to be tactics, they must directly or indirectly move the situation towards the goal being achieved. Tactics themselves may prevent the goal from being achieved or the strategy from being successful, i.e. they can be key tactics.

Which of these actions are relevant to the achievement of the goal? In what situations is that unclear? If it is possible that the tactic is relevant to the goal, include it. Better to include too many than to miss some critical aspect of the strategy, which will come back later to haunt you. If you are pressed for time, list the tactics of which you are unsure, but just analyze the tactics that you are certain are relevant. If your analysis later turns out to be incomplete, you will be able to start again from this point.

Box 1: give the date and time of the action you are analyzing. During the first draft, you can list actions as you remember them, but in later draft it is helpful to list them chronologically. Only if more than one action takes place on a particular day do you need to list the time.

Box 2: give a time and date for the action you are analyzing.

Box 3: give a title to the action you are analyzing.

Worksheet 3: An Actor's Actions and Tactics				
1. Actor: ☐Individual ☐Group				
2. Time/Date	3. Action	4. Detailed Description	5. Is this a tactic?	6. Is a response necessary?

Box 3: give a detailed description of the action you are describing. Use point form rather than full sentences: this will help focus on the most important features of the action.

Box 4: an action is a tactic if it is relevant to the achievement of the goal identified in the strategy. If the answer to the question: "Does this affect reaching my goal in any way?" is yes, than the action is a tactic. Only if the answer is "yes" do you proceed to Box 5.

Box 5: if the action is a tactic, i.e. if it is relevant to the strategy, then it may or may not require a response. In other words, did the tactic have an effect that was bad for your chances of achieving your strategy? If so, a response is necessary and the answer is 'yes.' For Box 6, if the tactic may have had an effect that was bad for your chances of achieving your strategy, then a response is necessary and the answer is 'yes.'

Worksheet 4: Resources a Strategy Can Draw On

The next step is the identification of resources, using Worksheet 4: Resources a Strategy Can Draw On. Put at its broadest, resources which make tactics possible are generated by "the symbolic experiences, mythic lore, and ritual practices of a group or society [that] create moods and motivations, ways of organizing experience and evaluating reality, modes of regulating conduct, and way of forming social bonds".[82] Conventional wisdom usually finds that money is the most important resource, and it can certainly be a severely limiting factor. Much more scarce, and much easier to waste, is the attention and good will of people with power. The four general types of resources discussed below are: the right equipment, the right people, time, and information.

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82. Ann Swidler, "Culture in Action: Symbols and Strategies," American Sociological Review 51:2 (April 1986), 273-286.

Sample Worksheet 3: An Actor's Actions and Tactics					
1. Actor: Prisoner _X_ Individual __Group					
2.Time/Date	3.Action	4.Detailed Description	5. Is this a tactic?	6. Is a response necessary?
1st day of capture, 6 pm	Smokes	Asks for a cigarette, is given a cigarette by a soldier, has cigarette lit, squats down, smokes cigarette	no	
1st day of capture, 3 pm	Drinks water	Tries to drink water from a stream, is stopped by soldier, asks for water, is given a bottle of water, unscrews the cap, drinks entire contents, screws cap back on, returns bottle to soldier	No	
1st day of capture, 6:30 pm	Eats dinner	Is given vegetarian rations and plastic fork, unwraps rations, opens plastic box, uses fork to taste food, grimaces and complains, eats remainder, gives back fork and food wraps to soldier	No	
1st day of capture, on and off	Observes his captors	Squats down and watches soldiers go about the task of setting up camp and other duties	Yes	No
1st day of capture, 6 pm	Observes the soldiers assigned specifically to guard him	Squats down and watches the soldier specifically guarding him	Yes	No
1st day of capture, 8 pm	Tries to cut his hand restraints	While soldier guarding him turns away for a moment, tries to cut the plastic restraints on his hands on a sharp rock; stops when soldier turns back towards him	Yes	Yes

There are two categories of equipment and materiel: equipment you have, in which case the issue is deciding how to use it; and equipment you do not have, in which case the issue is finding it and justifying it. First, you need to decide how much and what kind of equipment you actually need. There are three types of equipment or materiel that you may need: those that are essential to success, those that would make a significant difference to success, and those that would be nice, but are not sure to make a significant difference to success. There are also things that affect politicians, who control the purse strings of the overall operations, which you may include here. You have to be pragmatic: some equipment may not be as important as you think.

Although more ink is spilled and meetings held on money and money-related issues than anything else, the most important resource is human: skills, energy, and numbers. The first step is to establish what skills are useful, and then scan for them among the significant actors. Among the non-technical skills that may be needed are: command, writing, speaking, planning, research, tactical analysis, strategic analysis, forecasting, calm under pressure, good judgment, integrity, courage. Resources can be finite or limitless; helpful or neutral; and essential or not. Worksheet 4: Resources a Strategy Can Draw On should be filled out listing as many of the resources as possible.

Box 1: list here all the materials, services, people (beyond the people who are carrying out the strategy with your), information, and funds that you need to achieve your goal. The list should be comprehensive, i.e. it should include absolutely everything you will need. In order to increase the chances of writing a comprehensive list, it is helpful to look at categories of resources, so that you are less likely to forget anything. You may use as categories materials, services, people, information and funds. You may also develop categories that are specific to your situation, as has been done in Sample Worksheet 4.

Box 2: here, describe the effect that a particular resource has on the tactic you are considering applying next. For example, if the squad leader in the example given already is considering whether to use lights or not, he needs to think about the power source for those lights and whether it is renewable or if there is enough non-renewable power source for his light.

Worksheet 4: Resources a Strategy Can Draw On				
1. Resource	2. Effect on tactic	3.Limited?	4.Helpful?	5.Essential?

The next three columns are answered 'yes' or 'no.'

Box 3: is the resource being analyzed in this line limited or not? Is there a specific amount of it available, or is there plenty of it around? For example, if the squad leader needs water for soldiers to wash some equipment, and the camp is near a river, then that water resource is not limited. If, on the other hand, the squad leader is considering whether to allow lights, and the lamps are all kerosene, the amount of kerosene he has with him is limited. He may have enough for his foreseeable needs, or even more than his foreseeable needs, but it is still a specific amount available. Whether the resource is limited or not is an important point for carrying out the strategy. The strategist needs to take into account the limited resources as the strategy unfolds.

Box 4: is the resource being analyzed helpful to the goal being reached? Is it something that will move the strategy forward? If so, the answer is 'yes.' For example, having fuel for vehicles will definitely move the squad leader's strategy of bringing his prisoner back to the military base forward. The same can be true of a number of resources. Whether soldiers have recreational reading with them does not directly move the strategy about the prisoner forward. The answer then would be 'no.' Only the resources for whom you have answered 'yes' in this column need to be analyzed further, to Box 6.

Box 5: if the answer in the previous column is 'yes,' then it is necessary to analyze the resource further. Here, ask yourself whether the resource being analyzed is absolutely necessary for reaching the goal, whether if there is none of this particular resource left you could still achieve the goal. If so, then you may write 'yes' in this column. If the squad leader runs out of fuel for his vehicles, he can still walk to base and reach his mission. There would be considerably more danger involved, but it would still be possible. So the answer here would be 'no.' However, if the squad leader were to run out of ammunition and continued to encounter enemy fighters, then it would become impossible to carry out the strategy because the enemy fighters would kill everyone in the squad. Whether the resource is limited or not is an important point for carrying out the strategy, but if it is an essential resource, then the strategist has to put it at the highest priority. The list below is an illustration of the type of analysis that needs to be done; it is not a complete list of resources necessary.

Sample Worksheet 4: Resources a Strategy Can Draw On				
1. Resource	2.Effect on tactic	3.Limited?	4.Helpful?	5.Essential?
Water for equipment	N	N	Y	N
Fuel for lamps	Y	Y	Y	N
Food	N	Y	Y	Y
Drinking water	N	Y	Y	Y
Ammunition	N	Y	Y	Y
Fuel for vehicles	N	Y	Y	N
Spare parts for vehicles	N	Y	Y	N
Change of clothes	N	Y	Y	N
Medication for cuts	N	Y	Y	N
Medication for illness	N	Y	Y	N
Bandages	N	Y	Y	N
Spare parts for weapons	N	Y	Y	Y

Worksheet 5: Rules of the Game

The fifth step in the tactical analysis requires an examination of the rules involved. Taken together, rules may form a system. A system is a coherent whole of processes or practices that are organized or institutionalized; it sometimes takes the form of a combination of rules that produce a predictable effect on the outcome. The role of a

system is to ensure a defined function or role, or guarantee the production of a particular result. Such systems can be helpful or essential (or not), to the outcome of the strategy. They are particularly critical when it comes to irregular warfare. In this type of warfare, soldiers are operating in a heavily constrained environment, and not all the rules are known. Systems can be either formal or informal, and they may be incomplete; if you are dealing with hostile actors, these rules may not be obvious although yours will be to them. Systems are enforced through sanctions, so one way to spot informal systems is to watch for behavior changes among the hostile actors, and then look for the factors that led to the modification. If there were sanctions, then you are on the right track. Sanctions tend to be obvious, even if the system leading to them is not.

Systems can affect actions, be they tactics, the management of resources, or strategies. Systems can also affect the significance of actions. In addition to the considerable formal rules, which are easy to identify, at least, there can be informal rules to consider, governing ethics or choices of allocation of scarce resources. There could be local cultural practices which may have to be taken into consideration.

Box 1: list here all the formal and informal rules about materials, services, people (beyond the people who are carrying out the strategy with your), information, and funds that you need to achieve your goal. The list should be comprehensive, i.e. it should include absolutely everything you will need. In order to increase the chances of writing a comprehensive list, it is helpful to look at categories of rules, listed above, so that you are less likely to forget anything. You may use as categories materials, services, people, information and funds. You may also develop categories that are specific to your situation, as has been done in sample worksheet 5.

Box 2: here, describe the effect that a particular rule has on the tactic you are considering applying next. Rules constrain behavior, but it is important to be aware of how and why each rule constrains which behavior or action. For example, if the squad leader in the example is thinking about withholding medical care from a prisoner, he needs to think about the rules governing prisoners of war and enemy fighters. The

Worksheet 5: Rules of the Game				
1. Rule	2. Description	3. Formal (yes/no)?	4.Helpful (yes/no)?	5.Essential (yes/no)?
1a.Actions				
1b.People				
1c.Resources				
1d.Time management				
1e.Cultural etc. factors				
1f.Intelligence				
1g.Attitude towards casualties				
1h.Other rules				

squad leader also needs to consider whether his conscience or culture provides him with rules in this situation.

The next three columns are answered 'yes' or 'no.'

Box 3, 4, 5: is the rule being analyzed in this line formal or not? Would infringing this rule have consequences in the near- or long-term? For example, if the squad leader has more need of medical care than he has resources to meet that need, is he within his rights to withhold medical care from the prisoner? Or does that prisoner come first? Or should he make his decision, as best he can, on the basis of medical need? What are his orders in this regard? What are the general orders on this matter? Do the Geneva conventions on treatment of prisoners of war apply? Do any other international conventions apply? To make this decision and so many others, the squad leader needs to understand the rules applying to his situation. The strategist needs to take into account the rules as the strategy unfolds.

Box 4: is the rule being analyzed helpful to the goal being reached? Is it something that will move the strategy forward? If so, the answer is 'yes.' For example, there may be standing orders not to execute prisoners on the spot, but to return them to camp. If the squad leader's strategy is to bring the prisoner back for interrogation, then the order or rule is helpful. Some rules may simply be irrelevant: for example, there may be rules regarding environmental protection and the river nearby, but if there are no fuel spills during the encampment, then the rules about how to deal with that do not apply. The same can be true of a number of rules. For example, there may be standing orders regarding the use of personal laptops. But if no soldiers are carrying them during the patrol, those rules are simply irrelevant. The answer then would be 'no.' Only those resources with the answer 'yes' need to be analyzed further.

Box 5: if the answer in the previous column is yes, then it is necessary to analyze the rule further. Here, ask yourself whether the rule being analyzed is absolutely necessary for reaching the goal, whether if this rule is broken or ignored, whether you could still achieve the goal. If so, then you may write 'yes' in this column. For example, if the squad leader ignores a fuel spill because his patrol comes under enemy fire, he can still get his patrol and his prisoner back to the base. There could be consequences for that squad leader, but reaching the goal is still possible. So the answer would be 'no. ' However, if the squad leader was to deny medical care to the prisoner, and the

Sample Worksheet 5: Rules of the Game				
1. Rule	2. Description	3.Formal (yes/no)?	4.Helpful (yes/no)?	5.Essential (yes/no)?
Geneva conventions	International treaty regarding the treatment of civilians in war and prisoners of war	Y	Y	
Procedures regarding patrol	How to conduct a patrol in unknown and possibly hostile territory	Y	Y	
Specific orders regarding patrol	Objectives for that specific patrol, such as traveling in a particular area, watching for particular activities, etc.	N	Y	
Standing orders regarding prisoners	Procedures regarding how to restrain, guard, interrogate, and generally treat prisoners	Y	Y	
Standing orders regarding fuel spills contaminating water	Procedures and regulations about how to deal with the spill of various types of fuel in to various types of bodies of water	Y	Y	
Moral imperatives regarding treatment of another human being	Expectations, values, and principles about humanity instilled by culture and association	N	Y	
Procedures regarding allocation of medical care	Guidance for behavior in making decisions about who gets what kind of medical care when, including various types of individuals who may be in the charge of a squad leader	Y	Y	

prisoner were to die from it, the goal would not be achieved and the consequences for the squad leader would still occur. For those rules, then the strategist has to put it at the highest priority. The list below is an illustration of the type of analysis that needs to be done; it is not a complete list of rules necessary.

Worksheet 6: All Other Factors

At this stage in the analysis, it becomes necessary to analyze what factors favor or work against your tactical or strategic goal. Among these factors are forces, trends, or events that affect the outcome, which you can list in Worksheet 6: All Other Factors. Factors may not be in anyone's control or necessarily predictable: there could be a sudden storm, a stock market could crash and destabilize the economy, a new virus could emerge, someone important might suddenly die or become disabled, a fanatic might call on the population to rise. The only way to identify these factors is to scan the environment in which your tactic will take place. To avoid missing any factors, it is better to divide the relevant environment spatially, temporally or functionally into different sectors and then scan each sector. The environment could be divided up spatially, temporally, or functionally. It is also possible to divide up the environment according the major players involved in the strategy or tactic.

Box 1: the desired strategic outcome is the goal listed in the strategy. These may include goals drawn from a variety of categories, or can be very simple. Among the categories from which goals may be drawn are: complete elimination of hostile actors, complete elimination of fatalities of civilians, complete elimination of fatalities of military, complete elimination of fatalities of civilians and military, complete elimination of casualties of civilians, complete elimination of casualties of civilians, elimination of both civilian and military casualties, instauration of rule of law everywhere, instauration of rule of law in rural areas, instauration of rule of law in cities, instauration rule of law in some sectors, instauration of rule democratic institutions everywhere, instauration of democratic institutions in rural areas, instauration of democratic institutions in cities, instauration of democratic institutions in some sectors, and others. In the case of our ongoing example, the squad leader's goal is simply to return to base or base camp with the prisoner.

Worksheet 6: All Other Factors			
1. Desired Strategic Outcome:			
2. Driving Factors		3. Restraining Factors	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	

Box 2: driving factors may include public anxiety, political pressure, or threats in other locations. In the case of our ongoing example, the squad leader would have no control over the weather. Certain types of weather could be favorable, such as preventing attacks from the air, or other types of weather might make the patrol's work more difficult, such as rain so intense it washes out roads and turns creeks that could be crossed into torrents that could not be crossed.

Box 3: restraining factors in a broader military situation may include budget constraints, lack of information, few effective measures, lack of guides, lack of guidelines, and lack of experience.

Sample Worksheet 6: All Other Factors			
1. Desired Strategic Outcome: returning to camp with prisoner alive			
2. Driving Factors		3. Restraining Factors	
Favorable weather	→ ←	Lack of experience	
Popular expectations	→ ←	Lack of information	
Threats in other locations	→ ←	Lack of applicable procedures, orders	

Worksheet 7: Strategic Pathway

The strategic pathway is the succession of steps which are likeliest to lead to the achievement of the goal, for a particular tactic. It can be identified using a three-part process: first, all possible steps to the goal are identified; second, the significant steps out of all the possible ones are identified; third, the critical steps are identified. The strategic pathway is made up of the critical steps, i.e. strategic nodes.

Worksheet 7 asks the questions relevant to the first part. What are the steps to achieving the goal? For each step, what are the alternative steps that can also lead to goal? What are the scenarios you can think of that will achieve the goal? Who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Are any of the alternatives more economical, not just in terms of money, but also in terms of other resources? Are any of the alternatives more likely to succeed? What arguments are convincing to those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps?

Worksheet 7 also assists in identifying the strategic nodes. Among the questions are: What are the critical actors, actions, resources, rules? Where are they situated on in relationship to another? Draw a picture of the relationships and locations. For every

critical location, draw a big red circle. That is a strategic node. Then compare to your tactical plan. Are you focused on those nodes? Are you concentrating your efforts there? How does this change your own planning to reach your goals?

Box 1: the strategic goal is the goal that is given in the strategy from Worksheet 1.

In Box 2, write out each of the steps necessary to reach the goal, in sequence. This first column is for reaching the goal with no surprises or problems. You must fill in the steps until you reach your goal. Each step should represent a single tactic or action contributing to your goal. You need to list all the steps necessary to reach your goal. Next, you need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if you failed at this step. If the answer is 'yes', then you can circle that step. That is a strategic node, and you need to develop alternatives to make sure that you get beyond that step.

Worksheet 7: Strategic Pathway		
1. Strategic Goal:		
2. Pathway 1	3. Alternative 1	4. Alternative 2
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼

Circle nodes on each pathway.

In Box 3: write alternative steps to reach the goal for each of the problems you can anticipate at a strategic node. If at any point your pathway starts to be the same as in column 1, then just draw an arrow returning to that step. Next, you need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if you failed at this step. If the answer is 'yes', then you can circle that step. That is again a strategic node, and you need to develop an alternative to make sure you get past it.

In Box 4: fill in the steps to reach your goal if another set of problems occurs after what you have predicted in the middle column. Again, fill in the steps until you reach the goal, and if at any point your pathway starts to be the same as in the middle or left-hand column, then just draw an arrow returning to that step. You may use more than one copy of the worksheet if necessary. Remember to number the worksheets sequentially if you do that.

In the example given, the patrol struggle to get the prisoner back to base camp. On the way back, one of the vehicles gets a flat tire, and then the patrol comes under enemy fire. The squad leader deals with each situation, and adapts the pathway to return to base camp with his prisoner.

Sample Worksheet 7: Strategic Pathway		
1. Strategic Goal: getting prisoner back to camp		
2. Pathway 1	2. Alternative 1	3. Alternative 2
Assign guards to prisoner ▼		
Travel 20 km on first day ▼	Travel 12 km on first day ▼	
Set up camp for night ▼	Vehicle gets flat tire ▼	

Travel 20 km on second day ▼	Set up camp for day/night ▼	
Set up camp for second night ▼	Repair flat ▼	
Travel 10 km to base camp ▼	Travel 20 km on second day ▼	Travel 5 km on second day ▼
▼	Set up camp for second night ▼	Come under enemy fire ▼
▼	Travel 18 km to base camp ▼	Radio for air support ▼
▼	▼	Return fire ▼
▼	▼	Travel 10 km more ▼
▼	▼	Set up camp for second night ▼
▼	▼	Travel 20 km on third day ▼
		Set up camp for third night

▼	▼	▼
▼	▼	Travel 15 km to base camp ▼

Circle nodes on each pathway.

Worksheet 8: Tactics and Counter Tactics

In designing a response to a tactic, retrace the steps of tactical analysis, using the same sequence of worksheets and instructions as above. Countervailing tactics designed within the framework of a broader strategy are called strategic intervention, and some general rules apply.

- Choose the tactics to which you must respond.

- Choose the earliest possible moment in the decision making process.

- Choose only key actors.

- Brainstorm the possible actions without prejudging your own or others' ideas, but then assess them as carefully as if they were other actors'.

- Initially choose only four possible actions, and assess the cost and benefits of each.

Once the analysis is complete, choose tactics for their economy and maximum benefit. If that is not apparent, it is possible to develop multiple scenarios for outcomes, depending on how favorable various factors are to the tactic, using Worksheet 10: Countervailing Tactics. Questions to ask in terms of this latest worksheet include: Who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Are they economical in terms of personnel, equipment, casualties? Who is likely to succeed? What arguments are convincing to

those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps? For the next phase, start with steps, then actors, then factors, then resources, then actions/tactics, then at last rules for system analysis?

In Box 1: the issue listed at the top of the worksheet is the issue identified in the first worksheet, the problem on which you are working. The two columns represent the tactics of two actors. On the left is one actor, which can be you, and on the right is another actor who does not share the same strategic goal.

In Boxes 2 and 3: for each actor, the strategic goal is identified in the first worksheet. The goals need not be contradictory: they need only not be identical.

In Box 4: list all the actions that move that actor towards the strategic goal chosen.

Worksheet 8: Tactics and Counter Tactics			
1. Issue:			
2. Goal:		3. Goal:	
4. Tactics		5. Countervailing Tactics	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	

In Box 5: Countervailing Tactics, list all the actions that move that actor towards the other strategic goal chosen. The tactics and counter tactics do not have to match up, although many of them will. The list on each side needs to be complete, so that it may be useful to use categories of tactics to make sure you are not missing any.

Sample Worksheet 8: Tactics and Counter Tactics				
1. Issue: returning prisoner to base camp				
2. Goal: returning to base camp		3. Goal: prisoner seeks to escape		
4. Tactics		5. Countervailing Tactics		
Assigns guard	→	←	Observes guard	
Ties up prisoner's hands	→	←	Tries to free hands	
Gives prisoner medical care	→	←	Observes all soldiers	
Gives prisoner food and water	→	←	Eats, drinks to keep up strength	

Worksheet 9: Core Idea

Because coming up with a core idea is often the most difficult part of the exercise, there is a short worksheet that can be completed quickly that will stimulate the thinking of the participants. This worksheet is designed to force the participant to start thinking beyond the rational, linear model that has served him/her so far so well. The goal of the worksheet is to get the process of thinking metaphorically established, and then to give the participant some practice. It is deliberately simple to foster and focus thinking with strategy. The sample worksheet is being completed with the same task as set out above, setting up camp for the night. Not all the metaphors are actually practical or helpful. The point is to produce a number of them so that the participant can then develop the capacity to judge which are better or more practical.

Worksheet 9: Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4. Core Idea
Military	Machine gun, rifle, tank		
Geographical	River, waterfall, creek		
Plant	Tree, fern, Venus flytrap		
Transportation	Bus, golf cart, car		
Sports	Caddy, gymnastics, football		
Mechanical	Wrench, Allen key, ratchet		
Insects	Mosquito, ant, butterfly		
Animals	Cougar, puma rhinoceros		
Role models	Princess Diana, Donald Trump, Gandhi		
Your own Category:	Your own metaphors:		

Sample Worksheet 9: Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4.Core Idea
Military	Machine gun, rifle, tank	Battalion, submarine, armoured personnel carrier	Work together like a c-3 gun and a shell
Geographical	River, waterfall, creek	Mountain, plateau, desert	A 24-hour oasis
Plant	Tree, fern, Venus flytrap	Flower, tomato, potato	Let's close up camp like one of those evening prayer plants
Transportation	Bus, golf cart, car	Truck, walking, running, bicycle	Let's make our break like a cruise ship for the night
Sports	Caddy, gymnastics, football	Soccer, tennis, ping pong	
Mechanical	Wrench, Allen key, ratchet	Silicone gun, screwdriver	
Insects	Mosquito, ant, butterfly	Bee, wasp, slug	Let's circle around the queen bee
Animals	Cougar, puma rhinoceros	Tiger, lion, gazelle, turtle	
Role models	Princess Diana, Donald Trump, Gandhi	Mother Theresa, Montgomery of Alamein	
Your own Category:	Your own metaphors:		

In Box 3: list the metaphors, images, role models or images that come to your mind that fit the same category.

In Box 4: choose one image or metaphor and work it into a slogan that captures how you want to achieve your goal. Repeat these steps for the other categories. At the bottom of the page is a blank space for you to write in a category of images and metaphors that come to mind during this phase of your thinking. Then list the images or metaphors that come to mind, and then develop a slogan using that metaphor or image.

When the worksheet is completed, you will then have several possible core ideas to choose from for your strategy.

Having explained the above analytical systems, we can now explore three applications for them: for battle orders, for the analysis of actual situations, and for planning operations.

5. APPLICATION 1: BATTLE ORDER

The form on the next pages is a sample format for battle orders in a Western liberal democracy. To this I have added a series of annexes showing the user how to use worksheets at various stages of battle order development and implementation.

Battle Orders

Copy Number _____ of _____

Name of HQ   Location of HQ

OPS

OPERATION ORDER NUMBER (MINIMUM TWO DIGITS)	
References: A. B. C.	
Time Zone:	
Task Organization:	
Situation Enemy Forces Friendly Forces Attachments and Detachments	

Use Annexes A, B, C, D

Annex A

The first step on the way to a defeat of an insurgent is understanding how underdogs use both strategy and tactics. The easiest and quickest way to counter insurgent thinking is to use a metaphor or analogy. This method has developed recently for solving highly complex problems: pilots helping paediatric neurosurgeons, bee specialists helping robotic assembly lines. The great military geniuses like Wellington and Churchill also used it. You use the forms attached here to answer specific questions that will walk you through your strategic and tactical analysis step by step. If a group is working on this, then you may need some discussion to answer them. There is no right or wrong answers in any situation, or on any worksheet: the **process** is what is important. The goal of the worksheets is **not** to provide an exhaustive set of minutely described steps to reach a single correct conclusion – the intent is support the art of analyzing or designing insurgent strategy. You may need to use them six or seven times before you get really comfortable.

Strategy		
Issue		
Goal		
Core Idea		
Tactics	1	
	2	
	3	
	4	

In this worksheet, you are expected to identify the components of a strategy to deal with a particular challenge. You should use point form to fill this out, and restrict yourself to no more than a single page to complete the worksheet. This will force you to be very, very specific and focused, and to choose among competing priorities. This way, it is possible to assess your judgment, as well as your capacity to think using strategy.

You should also be careful to work always at the same level: most strategies are like nesting bowls, and you can cover more or less broadly the situation. For the process to work properly, you need to decide how much of the situation you want to cover, and stick to it. Your problem is described succinctly in the top box, "issue." The best solution to that problem is described succinctly in the middle box, "goal." The steps that will have the analyst reach the goal, or the method to be used, in the bottom box, "tactics."

Strategy		
1. Issue	Tired troops in a hostile environment	
2. Goal	Provide secure environment for troops for one night	
3. Core Idea	"Circle the queen bee" (principle behind all-round defence)	
4. Tactics	1	Identify most defensible location within accessible range
	2	Assign guard duty
	3	Assign tasks re: setting up camp
	4	Other

The worksheets' uses are illustrated using a simple case study, that of an infantry squad having to hold and then return a captured enemy to their base.

Annex B

At this stage in the analysis, it becomes necessary to analyze what factors favour or work against your tactical or strategic goal. Among these factors are forces, trends, or events that affect the outcome, which you can list below. Factors may not be in anyone's control or necessarily predictable: there could be a sudden storm, a stock market could crash and destabilize the economy, a new virus could emerge, someone important might suddenly die or become disabled, a fanatic might call on the population to rise. The only way to identify these factors is to scan the environment in which your tactic will take place. To avoid missing any factors, it is better to divide the relevant environment spatially, temporally or functionally into different sectors and then scan each sector. The environment could be divided up spatially, temporally, or functionally. It is also possible to divide up the environment according the major players involved in the strategy or tactic.

All Other Factors			
Desired Strategic Outcome:			
Driving Factors			Restraining Factors
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	

The desired strategic outcome is the goal listed in the strategy. These may include goals drawn from a variety of categories, or can be very simple. Among the categories from which goals may be drawn are: complete elimination of hostile individuals and groups, complete elimination of fatalities of civilians, complete elimination of fatalities of military, complete elimination of fatalities of civilians and military, complete elimination of casualties of civilians, complete elimination of casualties of civilians, elimination of both civilian and military casualties, instauration of rule of law everywhere, instauration of rule of law in rural areas, instauration of rule of law in cities, instauration rule of law in some sectors, instauration of rule democratic institutions everywhere, instauration of democratic institutions in rural areas, instauration of democratic institutions in cities, instauration of democratic institutions in some sectors, and others. In the case of our ongoing example, the squad leader's goal is simply to return to base or base camp with the prisoner.

All Other Factors			
1. Desired Strategic Outcome: returning to camp with prisoner alive			
2. Driving Factors		3. Restraining Factors	
Favourable weather	→ ←	Lack of experience	
Popular expectations	→ ←	Lack of information	
Threats in other locations	→ ←	Lack of applicable procedures, orders	

Driving factors may include public anxiety, political pressure, or threats in other locations. In the case of our ongoing example, the squad leader would have no control over the weather. Certain types of weather could be favourable, such as preventing attacks from the air, or other types of weather might make

the patrol's work more difficult, such as rain so intense it washes out roads and turns creeks that could be crossed into torrents that could not be crossed. Restraining factors in a broader military situation may include budget constraints, lack of information, few effective measures, lack of guides, lack of guidelines, and lack of experience.

Annex C

Have Insurgents Committed Some of These Common Mistakes?

Have they:	YES	NO
Been attacking the wrong target for the effect they want?		
Failed to specify their objectives enough?		
Been not developing enough alternatives?		
Not been thinking enough about tradeoffs in their operations?		
Been disregarding their own lack of information?		
Been failing to consider the fear of injury/other negative consequences of their subordinates?		
Not been planning ahead enough?		
Not been keeping operations simple and discreet/secret?		
Been going against the flow of events?		
Been rushing headlong into action?		
Ignoring the unintended consequences of their actions?		

Have you made any of these mistakes? How can you capitalize on them?

ANNEX D

DO THE INSURGENTS HAVE THE FOLLOWING CHARACTERISTICS?

	YES	NO
Do they always think about what you/your allies are going to do?		
Are they holistic and indirect, since they know they cannot win a direct confrontation?		
Are they always adapting? Learning with every move?		
Do they play a waiting game?		
Are they creative? Always changing their way of operating?		
Do they see the big picture?		
Are they always watching for an opportunity or a threat? Are they alert?		
Do they design each action to suit the strategy, and see the impact of each action on the whole picture?		
Do they anticipate your actions? Are they prepared for even the least likely event?		
Will they break their own rules to achieve their goals?		
Are they passionate or fanatical about what they are doing?		

Use the core idea to neutralize any advantage, see Annex M.

Battle Orders

Copy Number _____ of _____

Name of HQ   Location of HQ

Mission		Use Annexes E, F, G, H
Execution		
Concept of Operations		Use Annexes L, M
Unit		
Grouping		
Task		
Unit		
Grouping		
Task		
Coordination		Use Annexes I, J, K
Unit		
Grouping		
Task		

Expand and repeat as necessary

Annex E

The G2 staff should remember that insurgents use strategy that is different in three ways: it can shift in scope to greater or narrower very easily; it is more flexible and the decision-making is more decentralized; and they find a broader range of means acceptable.

In any strategy, there are a number of possible individuals and groups. Those individuals and groups can be individuals, groups, governments or even groups of governments. The individuals and groups can be involved in the planning of a strategy, or be on the outside. They may be helpful, neutral, or hostile. They may be aware of the strategy or actions, or not. But most importantly, they may have an impact either on the tactics or the strategy itself you are analyzing or designing or carrying out. The goal of this worksheet is to identify which ones may have an impact, so that you can set the others aside and concentrate your energies on the individuals and groups who matter.

Line 1: state the goal of the strategy is. Line 2: state what was your last action relevant to your strategy. Line 3: state what was the last action or event, relevant to the strategy. This action or event can come from anywhere, but it has to have happened after the last tactics. Line 4-7: list the actions under consideration with respect to the strategy. Up to four may be considered. Column 1: all individuals and groups. Here, make a comprehensive list of individuals and groups. Various headings, such as civilian, military, domestic, foreign, army, navy, air force, etc. might be useful. Do not be concerned about putting people or groups in the right categories: the headings just help to ensure every individual and/or group possible is listed. Ask whether the groups listed ought to be broken down further into smaller groups – for example, should a foreign national government be listed as such, or should it be broken down into ministry of the interior, ministry of defence, legislators, executive council or cabinet, local government, etc.

Key Individuals and Groups						
Your goal						
Your latest tactic						
Latest action or event, If different from above						
Your possible tactic a						
Your possible tactic b						
Your possible tactic c						
Your possible tactic d						
All Individuals and groups	Can this individual and group affect your achieving the goal? (yes or no)	Can this individual and group affect your achieving the goal? (yes or no)	Can this individual and group affect any of your possible tactics?			
			TACTIC A	TACTIC B	TACTIC C	TACTIC D

Once the list of individuals and groups is complete, the next column helps differentiate between significant and insignificant individuals and groups. Since the ongoing analysis is similarly and repeatedly reductionist. Column 2: a significant individual and group is one without whom it is impossible for the tactic cannot succeed. To be more specific, a significant individual and group can affect whether or not the tactic required can move the strategy toward the achievement of the goal. Without who is a particular tactic is guaranteed to fail? Whose cooperation and support is essential to the success of the tactic? Which individual and group or individuals and groups have the power to affect the outcome? Who, on the other hand, is irrelevant? Are there individuals and groups whom you know stand no chance of affecting the outcome? Can they be spoilers? Are there other individuals or groups for which the same can be said? On the other hand, are there any groups or individuals who can affect the outcome? Are there any individuals and groups that present a picture of disproportionate influence or power on the outcome? Place the checkmarks as you go along, and then select for further analysis individuals and groups who are significant.

Key Individuals and Groups	
1. Your Goal	Getting prisoner back to camp
2. Your Latest Tactic	Setting up camp for the night
3. Latest Action or Event, if different from above	Night is falling
4a. Your Possible Tactic A	Order black out
4b. Your Possible Tactic B	Allow lights to be used
4c. Your Possible Tactic C	Allow minimal lights to be used
4d. Your Possible Tactic D	

5. All Individuals and groups	6. Can this individual and group affect your achieving the goal? (Yes or No)	7. Can this individual and group prevent your achieving the goal? (Yes or No)	8. Can this individual and group affect any of your possible tactics?			
			8a. Tactic A	8b. Tactic B	8c. Tactic C	8d. Tactic D
Squad Leader	Yes	Yes	Yes	Yes	Yes	
Soldier 1	Yes	Yes	No	No	No	
Soldier 2	Yes	Yes	No	No	No	
Soldier 3	Yes	Yes	No	No	No	
Soldier 4	Yes	Yes	No	No	No	
Soldier 5	Yes	Yes	No	No	No	
Prisoner 1	Yes	No	No	No	No	
Nearby civilian 1	Yes	No	No	No	No	
Nearby civilian 2	Yes	No	No	No	No	
Nearby civilian 3	Yes	No	No	No	No	

Nearby civilian 4	Yes	No	No	No	No	
Nearby civilian 5	Yes	No	No	No	No	
Possible enemy fighter 1	Yes	Yes	Yes	Yes	Yes	
Possible enemy fighter 2	Yes	Yes	Yes	Yes	Yes	
Possible enemy fighter 3	Yes	Yes	Yes	Yes	Yes	
Possible enemy fighter 4	Yes	Yes	Yes	Yes	Yes	
Possible enemy fighter 5	Yes	Yes	Yes	Yes	Yes	
Local authorities	Yes	No	No	No	No	

Annex F

There are a number of actions on the part of each significant individual and group. Those actions may be tactics, i.e. relevant to the strategy, or not. In order to be tactics, they must directly or indirectly move the situation towards the goal being achieved. Tactics themselves may prevent the goal from being achieved or the strategy from being successful, i.e. they can be key tactics. Which of these actions are relevant to the achievement of the goal? In what situations is that unclear? If it is possible that the tactic is relevant to the goal, include it. Better to include too many than to miss some critical aspect of the strategy, which will come back later to haunt you. If you are pressed for time, list the tactics of which you are unsure, but just analyze the tactics that you are certain are relevant. If your analysis later turns out to be incomplete, you will be able to start again from this point.

An Individual and Group's Actions and Tactics				
Actor: ☐Individual ☐Group				
Time/Date	Action	Detailed Description	Is this a tactic?	Is a response necessary?

Column 1: give the date and time of the action you are analyzing. During the first draft, you can list actions as you remember them, but in later draft it is helpful to list them chronologically. Only if more than one action takes place on a particular day do you need to list the time. Column 2: give a title to the action you are analyzing. Column 3: give a detailed description of the action you are describing. Use point form rather than full sentences: this will help focus on the most important features of the action. Column 4: an action is a tactic if it is relevant to the achievement of the goal identified in the strategy. If the answer to the question: "does this affect reaching my goal in any way?" is "yes," than the action is a tactic. Only if the answer is "yes" do you proceed to column 5. Column 5: if the action is a tactic, i.e. if it is relevant to the strategy, then it may or may not require a response. In other words, did the tactic have an effect that was bad for your chances of achieving your strategy? If so, a response is necessary and the answer is "yes." If the tactic may have had an effect that was bad for your chances of achieving your strategy, then a response is necessary and the answer is 'yes.'

An individual and Group's Actions and Tactics					
1. individual or group: Prisoner _X_ Individual __Group					
2.Time/Date	3.Action	4.Detailed Description	5. Is this a tactic?	6. Is a response necessary?	
1st day of capture, 6 pm	Smokes	Asks for a cigarette, is given a cigarette by a soldier, has cigarette lit, squats down, smokes cigarette	no		
1st day of capture, 3 pm	Drinks water	Tries to drink water from stream, is stopped, asks for water, is given a bottle, unscrews cap, drinks entire contents, screws cap back, returns bottle to soldier	No		
1st day of capture, 6:30 pm	Eats dinner	Is given vegetarian rations and plastic fork, unwraps rations, opens plastic box, uses fork to taste food, grimaces and complains, eats remainder, gives back fork and food wraps to soldier	No		
1st day of capture, on and off	Observes his captors	Squats down and watches soldiers go about the task of setting up camp and other duties	Yes	No	
1st day of capture, 6 pm	Observes guards	Squats down and watches the soldier specifically guarding him	Yes	No	
1st day of capture, 8 pm	Tries to cut his hand restraints	soldier turns away, tries to cut plastic restraints on hands on rock; stops when soldier turns back	Yes	Yes	

Annex G

The next step in the tactical analysis requires an examination of the rules involved. Taken together, rules may form a system. Systems can affect actions, be they tactics, the management of resources, or strategies. Systems can also affect the significance of actions. In addition to the considerable formal rules, which are easy to identify, at least, there can be informal rules to consider, governing ethics or choices of allocation of scarce resources. There could be local cultural practices which may have to be taken into consideration.

 Column 1: list here all the formal and informal rules about materials, services, people (beyond the people who are carrying out the strategy with your), information, and funds that you need to achieve your goal. The list should be comprehensive, i.e. it should include absolutely everything you will need. In order to increase the chances of writing a comprehensive list, it is helpful to look at categories of rules, listed above, so that you are less likely to forget anything. You may use as categories materials, services, people, information and funds. You may also develop categories that are specific to your situation, as has been done in sample worksheet 5. Column 2: here, describe the effect that a particular rule has on the tactic you are considering applying next. Rules constrain behaviour, but it is important to be aware of how and why each rule constrains which behaviour or action. For example, if the squad leader in the example is thinking about withholding medical care from a prisoner, he needs to think about the rules governing prisoners of war and enemy fighters. The squad leader also needs to consider whether his conscience or culture provides him with rules in this situation. The next three columns are answered 'yes' or 'no.' Column 3: is the rule being analyzed in this line formal or not? Would infringing this rule have consequences in the near- or long-term? For example, if the squad leader has more need of medical care than he has resources to meet that need, is he within his rights to withhold medical care from the prisoner? Or does that prisoner come first? Or should he make his decision, as best he can, on the basis of medical need? What are his orders in this regard? What are the general orders on this matter? Do the Geneva conventions on treatment of prisoners of

Rules				
Rule	Description	Formal (Yes/No)?	HELPFUL (YES/NO)?	ESSENTIAL (YES/NO)?
Actions				
People				
Resources				
Time management				
Cultural etc. Factors				
Intelligence				
Attitude towards casualties				
Other rules				

war apply? Do any other international conventions apply? To make this decision and so many others, the squad leader needs to understand the rules applying to his situation. The strategist needs to take into account the rules as the strategy unfolds. Column 4: is the rule being analyzed helpful to the goal being reached? Is it something that will move the strategy forward? If so, the answer is 'yes.' For example, there may be standing orders not to execute prisoners on the spot, but to return them to camp. If the squad leader's strategy is to bring the prisoner back for interrogation, then the order or rule is helpful. Some rules may simply be irrelevant: for example, there may be rules regarding environmental protection and the river nearby, but if there are no fuel spills during the encampment, then the rules about how to deal with that do not apply. The same can be true of a number of rules. For example, there may be standing orders regarding the use of personal laptops. But if no soldiers are carrying them during the patrol, those rules are simply irrelevant. The answer then would be 'no.' Only those resources with the answer 'yes' need to be analyzed further. Column 5: if the answer in the previous column is yes, then it is necessary to analyze the rule further. Here, ask yourself whether the rule being analyzed is absolutely necessary for reaching the goal, whether if this rule is broken or ignored, whether you could still achieve the goal. If so, then you may write 'yes' in this column. For example, if the squad leader ignores a fuel spill because his patrol comes under enemy fire, he can still get his patrol and his prisoner back to the base. There could be consequences for that squad leader, but reaching the goal is still possible. So the answer would be 'no.' However, if the squad leader was to deny medical care to the prisoner and the prisoner were to die from it, the goal would not be achieved and the consequences for the squad leader would still occur. For those rules, then the strategist has to put it at the highest priority. The list below is an illustration of the type of analysis that needs to be done; it is not a complete list of rules necessary.

This list is an illustration of the type of analysis that needs to be done; it is not a complete list of rules necessary.

Rules				
1. Rule	2. Description	3.Formal (yes/no)?	4.Helpful (yes/no)?	5.Essential (yes/no)?
Geneva conventions	International treaty regarding the treatment of civilians in war and prisoners of war	Y	Y	
Procedures regarding patrol	How to conduct a patrol in unknown and possibly hostile territory	Y	Y	
Specific orders regarding patrol	Objectives for that specific patrol, such as traveling in a particular area, watching for particular activities, etc.	N	Y	
Standing orders regarding prisoners	Procedures regarding how to restrain, guard, interrogate, and generally treat prisoners	Y	Y	
Moral imperatives regarding treatment of another human being	Expectations, values, and principles about humanity instilled by culture and association	N	Y	
Procedures regarding allocation of medical care	Guidance for behaviour in making decisions about who gets what kind of medical care when, including various types of individuals who may be in the charge of a squad leader	Y	Y	

Annex K

The concept of operations should be unitary, flexible, and include an intuitively obvious metaphor or analogy, and it should be succinct. See annex I to facilitate use of metaphor.

The strategic pathway is the succession of steps which are likeliest to lead to the achievement of the goal, for a particular tactic. It can be identified using a three-part process: first, all possible steps to the goal are identified; second, the significant steps out of all the possible ones are identified; third, the critical steps are identified. The strategic pathway is made up of the critical steps, i.e. strategic nodes.

This Annex asks the questions relevant to the first part. What are the steps to achieving the goal? For each step, what are the alternative steps that can also lead to goal? What are the scenarios you can think of that will achieve the goal? Who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Is this economical, not just in terms of money, but also in terms of other resources? Is this likely to succeed? What arguments are convincing to those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps?

It also assists in identifying the strategic nodes. Among the questions are: what are the critical individuals or groups, actions, resources, rules? Where are they situated on in relationship to another? Draw a picture of the relationships and locations. For every critical location, draw a big red circle. That is a strategic node. Then compare to your tactical plan. Are you focused on those nodes? Are you concentrating your efforts there? How does this change your own planning to reach your goals?

The strategic goal is the goal that is given in the strategy worksheet. In the first column, write out each of the steps necessary to reach the goal, in sequence. This first column is for reaching the goal with no surprises or problems. You must fill in the steps until you reach your goal. Each step should represent a single tactic or action contributing to your goal. You need to list all the steps necessary to reach your goal. Next, you need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if

Strategic Pathway		
1. Strategic Goal:		
2. Pathway 1	3. Alternative 1	4. Alternative 2
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼
▼	▼	▼

Circle nodes on each pathway.

you failed at this step. If the answer is 'yes', then you can circle that step. That is a strategic node, and you need to develop alternatives to make sure that you get beyond that step. In the middle column, write alternative steps to reach the goal for each of the problems you can anticipate at a strategic node. If at any point your pathway starts to be the same as in column 1, then just draw an arrow returning to that step. Next, you need to identify which steps are absolutely essential to your reaching your goal. Consider each step in turn, and ask yourself whether it would still be possible to reach the goal if you failed at this step. If the answer is 'yes', then you can circle that step. That is again a strategic node, and you need to develop an alternative to make sure you get past it. In the right-hand column, fill in the steps to reach your goal if another set of problems occurs after what you have predicted in the middle column. Again, fill in the steps until you reach the goal, and if at any point your pathway starts to be the same as in the middle or left-hand column, then just draw an arrow returning to

that step. You may use more than one copy of the worksheet if necessary. Remember to number the worksheets sequentially if you do that.

In the example given, the patrol struggle to get the prisoner back to base camp. On the way back, one of the vehicles gets a flat tire, and then the patrol comes under enemy fire. The squad leader deals with each situation, and adapts the pathway to return to base camp with his prisoner.

Strategic Pathway		
1. Strategic Goal: getting prisoner back to camp		
2. Pathway 1	2. Alternative 1	3. Alternative 2
Assign guards to prisoner ▼		
Travel 20 km on first day ▼	Travel 12 km on first day ▼	
Set up camp for night ▼	Vehicle gets flat tire ▼	
Travel 20 km on second day ▼	Set up camp for day/night ▼	
Set up camp for second night ▼	Repair flat ▼	
Travel 10 km to base camp	Travel 20 km on second day	Travel 5 km on second day

▼	▼	▼
▼	Set up camp for second night ▼	Come under enemy fire ▼
▼	Travel 18 km to base camp ▼	Radio for air support ▼
▼	▼	Return fire ▼
▼	▼	Travel 10 km more ▼
▼	▼	Set up camp for second night ▼
▼	▼	Travel 20 km on third day ▼
▼	▼	Set up camp for third night ▼
▼	▼	Travel 15 km to base camp ▼

Circle nodes on each pathway.

Annex L

In designing a response to a tactic, retrace the steps of tactical analysis, using the same sequence of worksheets and instructions as above. Countervailing tactics designed within the framework of a broader strategy are called strategic intervention, and some general rules apply.

- Choose the tactics to which you must respond.

- Choose the earliest possible moment in the decision making process.

- Choose only key individuals and groups.

- Brainstorm the possible actions without prejudging your own or others' ideas, but then assess them as carefully as if they were other individuals or groups'.

- Initially choose only four possible actions, and assess the cost and benefits of each.

Once the analysis is complete, choose tactics for their economy and maximum benefit. If that is not apparent, it is possible to develop multiple scenarios for outcomes, depending on how favourable various factors are to the tactic. Questions to ask in terms of this latest worksheet include: who decides? Who has the power to make the changes? What are the other possibilities? Are any of the alternatives more effective? Are they economical in terms of personnel, equipment, casualties? Who is likely to succeed? What arguments are convincing to those who decide? What factors affect the decisions of those who decide? If you were to work backwards, how would you set the steps? For the next phase, start with steps, then individuals and groups, then factors, then resources, then actions/tactics, then at last rules for system analysis?

The issue listed at the top of the worksheet is the issue identified in the first worksheet, the problem on which you are working. The two columns represent the tactics of two individuals and groups. On the left is one individual or group, which can be you, and on the right is another individual or group who does not share the same strategic goal. For each individual or group, the strategic goal is identified in the first worksheet. The goals need not be contradictory: they need only not be identical. Under the heading tactics, on the left, list all the actions that move that individual or group towards the

strategic goal chosen. Under the heading countervailing tactics, on the right, list all the actions that move that individual or group towards the other strategic goal chosen.

Worksheet 8: tactics and counter tactics			
Issue:			
Goal:		Goal:	
Tactics		Countervailing tactics	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	
	→	←	

The tactics and counter tactics do not have to match up, although many of them will. The list on each side needs to be complete, so that it may be useful to use categories of tactics to make sure you are not missing any.

Tactics and Counter Tactics			
1. Issue: returning prisoner to base camp			
2. Goal: returning to base camp		3. Goal: prisoner seeks to escape	
4. Tactics		5. Countervailing Tactics	
Assigns guard	→ ←		Observes guard
Ties up prisoner's hands	→ ←		Tries to free hands
Gives prisoner medical care	→ ←		Observes all soldiers
Gives prisoner food and water	→ ←		Eats, drinks to keep up strength

Annex M

Because coming up with a core idea is often the most difficult part of the exercise, there is a short worksheet that can be completed quickly that will stimulate the thinking of the participants. This worksheet is designed to force the participant to start thinking beyond the rational, linear model that has served him/her so far so well. The goal of the worksheet is to get the process of thinking metaphorically established, and then to give the participant some practice. It is deliberately simple to foster and focus thinking with strategy including mètis. Not all the metaphors are actually practical or helpful. The point is to produce a number of them so that the participant can then develop the capacity to judge which are better or more practical.

Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4. Core Idea
Military	Machine gun, rifle, tank		
Geographical	River, waterfall, creek		
Plant	Tree, fern, Venus flytrap		
Transportation	Bus, golf cart, car		
Sports	Caddy, gymnastics, football		
Mechanical	Wrench, Allen key, ratchet		
Insects	Mosquito, ant, butterfly		
Animals	Cougar, puma rhinoceros		
Role models	Princess Diana, Donald Trump, Gandhi		
Your own Category:	Your own metaphors:		

In the third column, list the metaphors, images, role models or images that come to your mind that fit the same category. In the fourth column, chose one image or metaphor and work it into a slogan that captures how you want to achieve your goal. Repeat these steps for the other categories. At the bottom of the page is a blank space for you to write in a category of images and metaphors that come to mind during this phase of your thinking. Then list the images or metaphors that come to mind, and then develop a slogan using that metaphor or image.

Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4.Core Idea
Military	Machine gun, rifle, tank	Battalion, submarine, armoured personnel carrier	Work together like a c-3 gun and a shell
Geographical	River, waterfall, creek	Mountain, plateau, desert	A 24-hour oasis
Plant	Tree, fern, Venus flytrap	Flower, tomato, potato	Let's close up camp like one of those evening prayer plants
Transportation	Bus, golf cart, car	Truck, walking, running, bicycle	Let's make our break like a cruise ship for the night
Sports	Caddy, gymnastics, football	Soccer, tennis, ping pong	
Mechanical	Wrench, Allen key, ratchet	Silicone gun, screwdriver	
Insects	Mosquito, ant, butterfly	Bee, wasp, slug	Let's circle around the queen bee
Animals	Cougar, puma rhinoceros	Tiger, lion, gazelle, turtle	
Role models	Princess Diana, Donald Trump, Gandhi	Mother Theresa, Montgomery of Alamein	
Your category	Your own metaphors:		

6. APPLICATION 2: ANALYSIS OF ACTUAL SITUATIONS

The goal of the following semi-fictional case study of a biological attack on the US is to provide the reader with an opportunity to use the worksheets for an actual situation. The worksheets may be used in several ways: one is to analyze an ongoing terrorist attack, one is to analyze the behavior of a possible terrorist, and one is to show how SOF could use the worksheets to plan a counterterrorism operation.

The Fictional Case Study

After intense lobbying by legislators, the leader of Cuba released a known terrorist in July 2000. This terrorist, Ross Williams, had master-minded an attack which destroyed a US civilian aircraft in mid-flight back in 1996. In October 2000, there was an armed infiltration organized via Miami of two terrorists with orders to commit acts of violence. Their weapons and forged documents were confiscated, along with flyers inviting people to join the Cuban revolution, promising money. They also referred to a mole they had in the Washington, D.C. area.

In 1999, a United Nations report found that the attempts to strangle the terrorists' money supply had failing, and that the terrorists are intent on using chemical and biological weapons. The only thing stopping such an attack from taking place was the lack of expertise to conduct the operation. The wars in Africa, while a source for training in these attacks for terrorists, had not have provided a unique opportunity for terrorists to obtain weapons of mass destruction (WMDs). There was debate as to whether former Soviet Republics might be a source for WMDs. On October 1st, 2002, the Kuwaiti *Al-Siyassah* reported that Kuwait had foiled an attempt to smuggle $60 million worth of chemical weapons and biological warheads through their territory, although Kuwaiti officials quickly denied it. Starting in 2003, there were indications that terrorists were planning new types of attacks, including the possibility of using women or children. A self-proclaimed leader of the female terrorist network claimed she had been assigned to supervise the training of females, stating that female suicide bombers were to arrive at their targets in America shortly, for "a strike that will knock the September 11 attacks into oblivion". Upon arrest, another terrorist leader claimed that the terrorists had up to two dozen pending attacks against American interests. America went to Orange Alert in June 2003 due to a high level of chatter by terrorists. Internet forums used by the

terrorists talked about "big surprises" coming. There was a call on all Cubans to leave New York City, Boston, and other cities on the East Coast within forty-eight hours. Detainees talked of attacking the mainland by infiltrating through Canada, and possible plots against subway systems. A Nicaraguan paper published a letter from the terrorists' chief of training which referred to an impending attack against America involving a "fatal blow" to the "head of the international media serpent that serves the American whims and interests." The next wave would "cut off the wings of the Western eagle, slice its arteries, and finally butcher it." In October 2003, another audiotape was released. In it, the UK, the US, Poland, Japan, Spain, Italy, and Australia were threatened.

The terrorists were by this point thought to be focusing on attacking maritime targets. Western intelligence has information that the terrorist organization has an operational branch specifically for maritime operations that could target military ships, merchant ships, ports, oil terminals and oil tankers. According to foreign intelligence, the terrorists aimed to create a series of more low-level, sporadic attacks, with occasional major attacks. Most attacks would focus on insecure targets. The new strategy called for new methods of attack including surface-to-air missile use, poisons, etc. The targets of the occasional spectacular attacks would be decided by the target's prominence, ability to cause maximum panic, maximum casualties, maximum economic disruption, and the target's prominence. At the same time, there was a new focus on targets in the United States, and new focus on chemical and biological weapons. Further intelligence indicated that at least two major attacks were being prepared, low-level operatives in charge of logistics for the operations had been dispatched, and worldwide movement of operatives had been detected.

Indications of preparation for a nuclear attack or effort to acquire nukes began in the first half of 2004. Intelligence confirmed terrorists were trying to acquire them, and said further that they had a sophisticated biological weapons program, and are seeking chemical weapons. They cautioned that dozens of terrorist groups and countries are seeking such weapons. Russian and Chinese companies were called the key supplies of technical know-how and equipment for countries making WMD.

A sleeper operative posing as an asylum seeker was arrested in Toronto in July 2004 and was linked to a planned terrorist attack on President Bush. He had been trained as a

physician in Cuba, as part of Cuba's external relations' exercise. The city has been designated by intelligence chiefs as having the same threat level as Baghdad during his visit. The 36 year-old Chilean operative had documents about vials of anthrax and botulism which disappeared from a former Soviet Union secret lab outside Prague two years ago. Six months ago, he had been detained as an illegal immigrant. Intelligence agents began to check his background, and discovered contacts with a group of terrorists. They found he had made contact with supporters in France and Spain, and discovered biological warfare documents. A European Union diplomat told the Russian press that advanced weapons like guided missiles and remote-controlled devices and chemical weapons had been obtained from "friendly" nations. The year 2005 saw the first attempts at major chemical and biological attacks in Western Europe and elsewhere. Among the foiled attacks was a plot to poison the food supply of a British military base in England in January. Some of the preparations for these attacks seemed to have occurred in Georgia and Chechnya. In October, authorities in the Philippines found a bio-terror manual and traces of a "tetanus-germ-carrying chemical" found in the home of a raid to arrest members of the Jeemah Islamiya. There were also documents relating to the impact on public health of a chief doctor of some kind.

On April 9, 2008, at about 8:30 in the morning, a single-engine Fokker bush plane flew lazily over the hilliest section of Maryland, heading southwest at 3,400 feet. Then, and for about ten minutes, it flew over the suburbs of Baltimore and then Washington. It stayed in its transit corridor throughout its path in the D.C. flight rules area. It squawked the right code on the transponder. As a result, air traffic control ignores the plane, and the pilot did not file a flight plan, nor did she identify herself in any way.

Although the pilot does not know it, she flew over the sprawling homes of Beltway big shots drinking Espresso and eating Florida grapefruit (the Zone diet). It occurred to a particular Washington hostess and Democratic powerhouse that the sunny day at her country estate was perfectly chosen to take delivery of her new Saab convertible, at 1 o'clock. Later that evening, she was planning to celebrate the acquisition of her latest toy, but as she looked past the horse paddock, she noticed a fleeting white cloud overhead, like a very small rain squall, behind a plane. She made a mental note to put the Saab in the garage before choosing which Armani to wear to dinner.

Two days later, across town, a veterinarian from Bethesda was catching up on his latest case notes. That morning, he had euthanized a dog, Bobo. Her distraught owner had held the dog in her arms, feeding her cheese and saying she loved her for the duration of the entire procedure, despite the blue sores on Bobo's back, despite the dripping blood from the corner of Bobo's mouth. He could still hear the shrillness of Bobo's breathing. Driving to his accountant's during the lunch hour, he tried to remember. Blue sores? It was only in the early hours of the following Sunday that he sat up bolt upright in his bed, awakening his partner, Mick. It was in his final, pre-licensing course — a question about blue pig sores in animal epidemiology. He immediately left a message on the county health department's communicable diseases' answering machine.

That very same Sunday, an executive secretary from Chevy Chase was flying her Cessna 172 to join her husband in Virginia for the rest of the day. She spotted the abandoned Fokker in the middle of a vineyard. Wanting to help someone in distress, she banked left and set down. "Strange," she thought to herself, that black duct tape hanging off the inside of the cockpit door. Inside was a stainless-steel box, bolted to the floor behind the passenger's seat and connected to the aircraft's side-mounted vent by a black hose about three inches across. That was a biological agent delivery system: the pilot has delivered high grade, finely milled, light anthrax spores all over the area, helped by the wind and by the inversion of air that occurs every morning and evening. The spores came to settle in fields, on rooftops, in yards, on parking lots, floated into air and heat vents all over the Washington area: schools, hospitals, and freeways are all contaminated. Within three days, at least 500,000 people and an equally large number of animals had inhaled them – and this attack was about to make the September 2001 anthrax outbreak in New Jersey look like child's play. Yet there still was not a single human with symptoms. Symptoms, as everyone was about to be told, took about thirty-six hours to show. That Washington hostess came down with a cough, a fever, and a generally rotten feeling. Soon, she ignored even her cell phone, the one whose number was both closely guarded and highly prized by those in the know, too weak and exhausted to get out of bed. Her staff was still hesitating about calling a doctor. When the housekeeper saw her employer looking strangely bluish and feverish, and heard the whistling intake of breath, she called 9-1-1.

The doctor on call at the county health department was instantly alerted when she heard the anxiety in the veterinarian's voice when he talked about anthrax. Let him dig

up the dog, she thought to herself, and let him gather the specimens. She was more worried about the resident at Washington Hospital Center. He had splattered blood on his face and hands when he was putting a delirious patient on a ventilator. He had already gotten his prophylaxis when he called in a panic. A grossly extended mediastinum in the patient's X-rays… she knew what that could mean.

Then the veterinarian called back – he had been a reservist in while in veterinary school. He was full of Cold War Russian bio-weapons stories, enough to turn anyone's stomach. Useless now, of course, but then, those memories are what had reminded him of the blue sores' significance. During the famous Sverdlosk outbreak of anthrax after a biological weapon facility breach in the 1960s, the Soviets had ordered a dusk-to-dawn curfew. Low-flying aircraft sprayed chemicals over the fields and trees, while workers covered grassy areas with asphalt and lined ditches with concrete. All the local dogs were killed. Authorities came to victims' houses, doused their dead bodies in bleach, wrapped them in plastic and hauled them away for burial. It was worse than a horror movie. They took all the bed sheets and sprayed the dishes, too. A nightmare series of events, it was now the subject of countless Siberian folktales.

When the county health doctor arrived at Washington Hospital Center, she was presented with a death certificate and a blood culture positive for anthrax. She called her office, but it was one of the Virginia fire departments that dispatched its hazardous materials unit to the abandoned Fokker. The vacuum generator was covered with, apparently, anthrax spores. Phones lit up over three states. The District of Columbia, the Centers for Disease Control, the FBI, the Terrorism Early Warning group, the Department of Defense, the Department of Homeland Security, the White House, the Federal Emergency Management Agency, the Environmental Protection Agency, three governors, the mayor of Washington, the Coast Guard, and the Federal Aviation Authority got involved. Nothing like anthrax for a story, thought the doctor, the only calm person to be found in several square miles.

At the well-funded regional emergency operations center, staff rushed to their seats and computer screens. Meanwhile, at Reagan National, a National Weather Service Doppler operator pored over weather tapes for the previous forty-eight hours. He found the right blip, a small aircraft flying north to south. Like a needle in a haystack, he thought, given the air traffic on any given day. That blip was followed by a faint,

rapidly vanishing trace. Then he traced the cloud of anthrax. It was big, much bigger than they expected or hoped. His supervisor immediately reached for his open line to NORAD. "Holy Jesus Christ" was all he said – and he a practicing Christian who had never before been heard to invoke the name of the Lord in vain.

At a nearby Air National Guard Base, F-16 pilots ran for the cockpit of the duty aircraft, and started rolling onto the tarmac. Airborne within seconds, the local hotshot climbed almost vertically, passing through 7500 feet of altitude before crossing the barrier at the end of the field. By now it was 2 o'clock in the morning. Residents around the Potomac who were still up (and quite a few who were already asleep) heard the sonic booms. The National Guard was intercepting any slightly underperforming airline pilots, who had not yet heard about the attack and might be slightly off course, for instance, or who were flying at the wrong altitude, or who were giving out the wrong transponder code.

The Monday morning news shows proved, once again, their worth: television can be dramatic, and it is wonderful at communicating the 'you are there' feeling. But it is useless at transmitting detailed, specific information. Reporters were wearing gas masks for their live reports from the Pentagon, the State Department, and the White House, which viewers somehow did not find reassuring. They also did awkward, unwelcome, man-in-the-street interviews with alarmed, sometimes visibly panicked passers-by. For a change of pace, they scrummed fiercely with medical and law enforcement spokespeople, reporting rumors as well as facts.

The regional coordination team, only slightly calmer than the average viewer, decided on using the words 'containment zone' for the forty-five by ten mile rectangle drawn through it, rather than the word 'quarantine', although the word would mean more to astronauts than the average, post-smallpox, post-polio citizen. It would take months to clear the greater Washington area of contamination, to say nothing of preventing the spread infection in the Washington-New York corridor. Instead, starting at 6 a.m. Monday, a spokesperson for the regional emergency authorities start a series of TV, radio and internet announcements calling for "shelter in place" for residents. There was, astoundingly, a run on tape and food as people ignored the instructions to stay calm, stay indoors, tape the windows, bring in the pets, close the chimney dampers, put towels in any door cracks, and await further word.

The Centers for Disease Control held a press conference to announce that researchers at the Army infectious diseases research lab at Fort Detrich, Maryland, had just confirmed that the substance found on the Fokker was finely milled, weapons-grade anthrax. An estimated 4.4 pounds in weight was dropped. On Wednesday, after referencing a Defense Intelligence Agency study that concluded that 50% of the people who inhaled 25,000 spores apiece would die, an assistant professor of biology at Should-Know-Better University said on the air that there was enough anthrax on that plane to kill 200 million people. The professor failed to mention that he was assuming that every single spore would be inhaled by someone, rather than the majority sprinkling harmlessly on trees, roads and roofs.

An exodus from the Washington area had started the night before. With the broadcast of that interview, residents of the containment zone started crashing through barricades, ignoring both traffic copes and signal lights, and otherwise battling hard to join Beltway gridlock. They would rush up freeway on-ramps, only to discover a parking lot. When lanes on interstates jammed, drivers took to shoulders, medians, or even oncoming lanes. Since no one sought to enter the capital, these oncoming lanes turned into highways out. Within a few hours, there was a 400-mile traffic jam. Gas stations quickly ran short of fuel. Infuriated motorists threatened violence. Alternate routes quickly became impassable, as locals blocked roads into their towns with trailers and trucks, to keep the Typhoid Mary's out.

Meanwhile, at government offices, officials at all levels pulled out their bio-terrorism manuals, wondered whether they should have opted for the distribution of moon suits after all, opened the pages to anthrax and started nervously issuing commands. All incoming flights were diverted from Reagan National, and all outgoing flights were stopped on the ramp. National Guardsmen ran through the halls of airports, while bomb-sniffing dogs jumped over deserted ticket counters and pawed through luggage. The Federal Aviation Agency grounded all non-scheduled privately owned small planes in three states and the District of Columbia, which so irritated one currency trader with his own Cessna that he took off without permission, flying quickly east without navigation lights. He ignored repeated requests from the tower to land, and was predictably shot down by the Air National Guard. In doing so, he produced with pictures of smoking wreckage for the front pages. The Secretary of Defense put military bases on the highest alert level — Threat Condition Delta, used only when a terror

attack has just happened or was in progress. The governors mobilized the National Guard to protect potential high risk targets. FBI agents in bulletproof vests took up stations around federal buildings. Meanwhile, around the area police forces found it hard to adjust to a situation where other emergency personnel showed up and took control. There was plenty of what diplomats call "free and frank exchange of views." At the regional emergency operations center, a supply officer sent out a request for tents, 100,000 beds, blankets, bottled water, and 20,000 body bags. When they announce a hot line for reporting dangerous substances, frantic citizens overloaded it with reports of chalk dust, animal litter, sheet rock dust, lint, laundry detergent, sugar substitute, dandruff, cornstarch, Parmesan cheese, and nondairy creamer.

Despite the thousands of people descend on distribution centers for Cipro (doctors' offices, hospitals, city council members' offices, recreation offices and schools), stocks held out, thanks to advanced preparedness for the national capital region. People complained, however, that the line-ups and waiting were massive, this from citizens used to showing up with their sleeping bags at the offices of the Department of Motor Vehicles. Hospital beds, on the other hand, were in short supply and filled up, with patients spilling over into hospital corridors and waiting rooms. Laboratory technicians ran out of supplies. Exhausted staff tired of threats and abuse and walked permanently off their jobs. Hospitals had to produce danger pay, at 20% to 100% premiums. Snake oil salesmen come out in force, selling sun lamps that purportedly disinfected objects for $149 and fake doses of Cipro for $20 a pill. Health food stores jacked up prices of oil of mint, said to counter the effects of anthrax. Men in white overalls claiming to be decontamination crews vandalized homes and businesses. Despite assurances to the contrary, many residents insisted on drinking only bottled water – stores in three states run out of water almost immediately, including in the containment zone, and fresh stocks were imported from Canada.

The fourth day of the attack is the day where the first infected victims started to die. Church bells tolled. The greater Washington area was quiet, except for ambulances and police cars. People heeded instructions to hunker down almost too well. Mournful hymns dominated radio stations which a few days ago featured rap and hip hop. Cable channel pundits came unhinged, alternating with long hours of prayer services for the nation's capital, broadcast from cathedrals and temples around the country. Since hospitals could not cope with all the admissions, anthrax victims were redirected

to convention centers, high school gyms, and even monasteries and churches. Nurses and physician assistants triaged, withholding antibiotics or ventilators from people who were so advanced they were beyond hope, distressing families in the process. Questions were raised about access to care for the poor or the merely unknown. Although public officials repeatedly called for calm, the panic was more damaging than the outbreak.

On the fourth day, 153 people died, followed by 370 on the fifth day, 1,007 on the sixth and 4,650 on the seventh. On day eight, 11,404 died. The classic signs of epidemics out of control were reported routinely. Makeshift morgues were set up. Gravediggers worked round the clock with construction equipment. The flame of crematoriums could be seen by night. Vehicles piled high with suitcases, jewelry, heirlooms and photographs, poured out of the city. The people barricaded behind close doors pored agonized over newspaper lists of the dead — reporters, politicians, analysts, performers and artists, medical personnel, famous chefs, anti-war activists, the homeless, the poor, the vulnerable. Public services ground to a halt, although some police and firemen still showed up for duty. Also stopped were trains in and out of D.C., and bus stations were deserted. The National Guard was sent to water treatment and hydroelectric plants. A freak snowstorm just compounded the misery, and was reported almost as good news.

Politicians, on the other hand, made themselves seen and heard with increasing frequency, trying to look presidential, gubernatorial, senatorial, or simply representative. There efforts were given the lie by tabloid reports of some fortifying themselves with drink, others demanding care ahead of the rest at area hospitals, and still others sobbing with fear when they tested positive for anthrax. Clichés abounded, about national unity, about rising from the ashes, about going to a far, far better place than they had ever known before. Almost unnoticed, the Washington Post reported that the plan had been traced to a Cuban operative.

Meanwhile, the Chief Officer of Health of the District of Columbia disappeared. Analysis had shown a pattern of a few hours' delay at every critical juncture. The SOF was tasked with tracking him down, establishing contact and bringing him back, after he had been identified as a key figure in the epidemic by the FBI and the CIA. USSOCOM appointed a SOF veteran with experience directing others and who was then waiting for a new appointment, to head the effort. The SOF received information indicating

that he was to be found in Australia. A team went to Australia, but was unable to find the physician. By studying passenger lists and border crossing information, SOF concluded that he was now in London. A number of consultations were held: officials decided that if he were found in London, and if there were a need to bring him back to the US against his will, the kidnapping would not be done on British soil, in order to protect relations with a valuable ally. So a SOF team, including a female agent nicknamed "Cheryl," combed through London. With the help of information culled from various sources, the SOF managed to track down the good doctor. It identified his hotel and kept tabs on his contacts with reporters.

SOF combed the streets of London with a picture of the doctor in their pockets. In an incredible stroke of luck, "Cheryl" found the target as he was staring at a store window in Leicester Square. She stood alongside him, and established eye contact with him. The physician, normally shy with women, summoned the courage to talk with her. "Are you also a tourist?" he asked "Cheryl." She identified herself as a cosmetician by profession, and a Hispanic American who was touring London. The good doctor invited her for coffee; she played hard to get; the doctor was hooked. Three days later, a London tabloid released the doctor's picture and ridiculed his actions during the epidemic. The doctor was upset, and Cheryl exploited his high-strung state. She proposed they leave the following day for Rome, where her sister had an apartment. The physician took her up on her offer, despite the fact that a reporter warned him that Cheryl might be a secret agent of some sort. After they flew to Rome, and entered the apartment, two SOF agents pounced on him, tied his hands, and injected him with a drug. He was then brought back to the US by ship.

Meanwhile, back in the US suicide-prevention centers were deluged with calls from people wondering if life was worth living. Demand for Zoloft, Paxil, Prozac, Xanax, and Valium skyrocketed, but Viagra sales slumped. TV psychiatrists and psychologists were now at a premium, and a number of them were accused of jacking up their appearance fees in the crisis. From satellite hook-ups, they advised people to talk about their feelings, to live their lives normally, and to seek distraction in sitcoms which were not even being broadcast. Whoopi Goldberg, Robin Williams, and Billy Crystal tried to launch Federal Aid, and immediately put an end to their own careers. Others focused their emotions on the need to strike back, although against who was not clear.

The Internet filled with furious tirades and there were prolonged flame wars in chat groups.

The death rate followed its bell-shaped curve, peaking on the eighth day and dropping after that. In fifteen days, the death rate was zero, but almost 25,000 people had died. The post-disaster cleanup had authorities bewildered – was it necessary? Was it effective? While officials argued, city workers breathing through high efficiency particulate air filters drove equipped trucks and sprayed the streets, and washed spores into the storm drains. Some citizens simply washed off their roofs with garden hoses, an apparently common-sense solution that nonetheless re-aerosolized so many spores that over forty new anthrax infections occur. Epidemiologists and meteorologists took months to figure out what to do about the contamination problem, when the first of two fierce spring storms swept through the area – Mother Nature was sweeping Washington clean. Repeated testing showed few airborne spores, and surface spores were rendered harmless by the next summer's sun.

The US forces were ordered Monday night to prepare plans to target terror organizations in response. They also immediately reinforced troops along the Atlantic coast facing Cuba, as well as the border with Mexico, which security officials said the bomber used to infiltrate the US. "We will not cut terror groups any slack, and the cease-fire will not prevent us from targeting them," the Secretary of Defense said. He also called for an end to the government's policy of restraint, claiming that it was time to strike back, but other government officials said it was first necessary to establish convincingly where the bomber came from, and which organization was behind the attack. The President was set to hold talks with security officials to discuss the bombing and the US's response. Defense officials said the bomber infiltrated the US across the long undefended border with Canada that is mostly fenceless and patrolled by minimal forces. The bomber entered the US by canoeing across a river, and then was driven to the Washington area. Officials believe the US should ask Canada to do more to prevent this type of infiltration. However, the Secretary of State said the D.C. attack was "an exceptional event" and one that the defense establishment planned to keep that way. The President said that in recent months the US had foiled numerous terrorist attacks. The US forces asked for the erection of an electronic fence along the border, but due to the cost the money had yet to be transferred. At the moment, some five battalions

patrol the border. Funds that were meant to be transferred to the fence were diverted to other projects this past summer.

Overall, the US's strategy should be as shown on Worksheet 1 (US strategy).

Worksheet 1: US Strategy		
1. Issue	Prevent decrease in US's capacity to project power.	
2. Goal	Protect US population's trust in its government or forces, and therefore its will to fight	
3. Core Idea	Hang on until you're over the hump	
4. Tactics	1	Quarantine DC area by air and ground transportation
	2	Order supplies, antibiotics
	3	Act to preserve staff morale and provide public information, as well as law and order
	4	Prepare to dispose of the dead and plan for the clean-up after the epidemic is over

The first step is for the SOF to identify the terrorists' strategy, as shown in Worksheet 1 (Terrorist Strategy).

Let us assume that the SOF in this crisis are asked to keep watch on possible moles in the health system. There are only a limited number of physicians in the chain of command for an epidemic that could have an impact on the entire process, and therefore who need to be watched. Let us assume that the D. C. Officer of Health is only one of several suspects. By completing a worksheet 2 for each of the possible actors, the potential moles at critical points in the crisis can readily be identified The SOF tasked with watching his actions would forecast what the suspected Officer of Health should do, and how he would behave if the suspicions are correct.

Worksheet 1: (Terrorist Strategy)		
1. Issue	Decrease West's capacity to project power	
2. Goal	Shaking population's trust in its government and forces, reducing its will to fight	
3. Core Idea	'Cut off the wings of the Western eagle, slice its arteries, and finally butcher it."	
4. Tactics	1	Increase background noise to make actual attack harder to detect
	2	Attack repeatedly until successful
	3	Fly under the radar in a bush plane, not breaking any flight rules and regulations
	4	Disperse anthrax spores over the heavily-populated capital area
	5	Activate mole

Worksheet 2: Key Actors Chief Officer of Health, District of Columbia	
1. Your Goal	Contain epidemic
2. Your Latest Tactic	On Monday, ask regional emergency authorities to start public announcements
3. Latest Action or Event, if different from above	—
4.a Your Possible Tactic A	Order quarantine/stop air and car traffic
4.b Your Possible Tactic B	Ask Secretary of Defense for highest alert

4.c Your Possible Tactic C			Ask state governors to mobilize National Guard			
4.d Your Possible Tactic D			Request tents, beds, blankets, bottled water, body bags, etc.			
5. All Actors	6. Can this actor affect your achieving the goal? (Yes or No)	7. Can this actor prevent your achieving the goal? (Yes or No)	8. Can this actor affect any of your possible tactics?			
			Tactic A	Tactic B	Tactic C	Tactic D
Secretary of Defence	Y	Y	N	Y	N	N
Governors	Y	Y	Y	N	Y	N
Law enforcement	Y	Y	Y	N	N	N
National Guard	Y	Y	N	N	Y	N
Armed forces	Y	Y	Y	N	Y	N
Suppliers	Y	Y	N	N	N	Y

If the Chief Officer of Health is a mole, here is what he might do:

Worksheet 2: Key Actors Chief Officer of Health, District of Columbia, mole						
1. Your Goal			Allow epidemic			
2. Your Latest Tactic			On Tuesday, ask regional emergency authorities to start public announcements			
3. Latest Action or Event, if different from above			—			
4.a Your Possible Tactic A			Delay ordering quarantine/stop air and car traffic for 8 hours			
4.b Your Possible Tactic B			Delay asking Secretary of Defense for highest alert for a day			
4.c Your Possible Tactic C			Delay asking state governors to mobilize National Guard for a day			
4.d Your Possible Tactic D			Delay requests for tents, beds, blankets, bottled water, body bags, etc.			
5. All Actors	6. Can this actor affect your achieving the goal? (Yes or No)	7. Can this actor prevent your achieving the goal? (Yes or No)	8. Can this actor affect any of your possible tactics?			
			Tactic A	Tactic B	Tactic C	Tactic D
Secretary of Defense	Y	Y	N	Y	N	N
Governors	Y	Y	Y	N	Y	N
Law enforcement	Y	Y	Y	N	N	N
National Guard	Y	Y	N	N	Y	N
Armed forces	Y	Y	Y	N	Y	N
Suppliers	Y	Y	N	N	N	Y

Returning to the Chief Officer of Health acting as he should, we would see:

Worksheet 3: An Actor's Actions and Tactics				
1. Actor: Chief officer of Health, District of Columbia XX Individual				
2. Time/Date	3. Action	4. Detailed Description	5. Is this a tactic?	6. Is a response necessary?
Sunday	First warning	Call from county health officer regarding dog	N	Y
Sunday	Reviews emergency plans	First response to possibility of epidemic; sends out warning of possible epidemic	Y	N
Late Sunday	Test results	Gets news of positive anthrax test	N	Y
Early Monday morning	advisory	Warn regional emergency operations	Y	N
Monday morning	liaison	Establish links with regional coordinating team and relevant agencies	Y	N
Monday	preparation	Start	Y	N

		preparations for epidemic		
Monday	Mobilization of antibiotics	Mobilize Cipro stocks for staff	Y	N
Tuesday	Trouble shooting	Look into lack of laboratory supplies	Y	Y
Tuesday	Trouble shooting	Advise on staff morale and shortage	Y	Y
Wednesdays	burial	Advise on safe burial of deceased	Y	N

If the Chief Officer of Health is a mole, then the worksheet would look like this:

Worksheet 3: An Actor's Actions and Tactics				
1. Actor: Chief officer of Health, District of Columbia (mole) XX Individual				
2. Time/Date	3. Action	4. Detailed Description	5. Is this a tactic?	6. Is a response necessary?
Sunday	First warning	Call from county health officer regarding pig	N	Y
Sunday	Reviews emergency plans;	First response to possibility of epidemic;	Y	N

		sends out warning of possible epidemic		
Sunday	Considers effects of even short delays in taking action		Y	N
Late Sunday	Test results	Gets news of positive anthrax test	N	Y
Late Monday morning	advisory	Warn regional emergency operations	Y	N
Tuesday morning	liaison	Establish links with regional coordinating team and relevant agencies	Y	N
Tuesday	preparation	Start preparations for epidemic	Y	N
Tuesday	Mobilization of antibiotics	Mobilize Cipro stocks for staff	Y	N
Wednesday	Trouble shooting	Look into lack of laboratory supplies	Y	Y
Wednesday	Trouble shooting	Advise on staff morale and shortage	Y	Y
Thursday	burial	Advise on safe burial of deceased	Y	N

The next three worksheets are the same whether the Officer of Health is a mole or not.

Worksheet 4: Resources a Strategy Can Draw On				
1. Resource	2. Effect on tactic	3.Limited?	4.Helpful?	5.Essential?
National Guard	Y	Y	Y	Y
Hospital personnel	Y	Y	Y	Y
Governors	Y	Y	Y	Y
Secretary of Defense	Y	Y	Y	N
Suppliers	Y	Y	Y	Y
Law enforcement	Y	Y	Y	Y
Media	Y	Y	Y	N
General population	Y	Y	Y	Y
Meteorologists	Y	Y	Y	N

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Worksheet 5: Rules of the Game				
1. Rule	2. Description	3. Formal (yes/no)?	4.Helpful (yes/no)?	5.Essential (yes/no)?
1a.Actions				
1b.People	Scope of practice, health professionals	Y	Y	
	Criminal code	Y	Y	
	Civil liberties	Y	Y	
	Posse comitatus	Y		Y
1c.Resources				
1d.Time management				
1e.Cultural etc. factors				
1f.Intelligence				
1g.Attitude towards casualties				
1h.Other rules				

Worksheet 6: All Other Factors			
1. Desired Strategic Outcome: containment of epidemic			
2. Driving Factors		3. Restraining Factors	
Wind direction	→	←	Precipitation
Morbidity of virus	→	←	
Mortality of virus	→	←	
Rate of infection	→	←	

If the District of Columbia Officer of Health acts as he should, the next step in the analysis would look like this:

Worksheet 7: Strategic Pathway		
1. Strategic Goal: containment of epidemic		
2. Pathway 1	3. Alternative 1	4. Alternative 2
Test patients ▼	▼	▼
Advise of possibility ▼	▼	▼
Review emergency plans ▼	▼	▼

Advise of positive test ▼	▼	▼
Order quarantine ▼	▼	▼
Establish links with regional authorities ▼	▼	▼
Enforce quarantine ▼	Quarantine broken by car traffic ▼	▼
Order Supplies ▼	Establish containment at larger perimeter	
Provide antibiotics to staff ▼	Order Supplies ▼	Suppliers run out of laboratory necessities
Provide antibiotics to essential personnel ▼	Provide antibiotics to staff ▼	Order supplies from outside area
Prepare for disposal of deceased ▼	Provide antibiotics to essential personnel ▼	Provide antibiotics to staff ▼
	Prepare for disposal of deceased	Provide antibiotics to essential personnel

	▼	▼
		Prepare for disposal of deceased ▼

<div align="center">Circle nodes on each pathway.</div>

If the suspected mole acts with slight delays, then Worksheet 7 would look like this:

Worksheet 7: Strategic Pathway		
1. Strategic Goal: delayed containment of epidemic by actions of mole		
2. Pathway 1	3. Alternative 1	4. Alternative 2
Test patients ▼	▼	▼
Delay by 8 hours advising of possibility ▼	▼	▼
Review emergency plans ▼	▼	▼
Consider consequences of slight delays ▼	▼	▼

Delay advising of positive test by 8 hours ▼	▼	▼
Delay ordering of quarantine by one day ▼	▼	▼
Delay establishing links with regional authorities by one day ▼	▼	▼
Delay enforcing quarantine by one day ▼	Quarantine broken by car and air traffic ▼	▼
Delay ordering supplies by a day ▼	Establish containment at perimeter twice as large as otherwise would be the case	
Provide antibiotics late to staff ▼	Order Supplies ▼	Suppliers run out of laboratory necessities
Provide antibiotics to essential personnel ▼	Provide antibiotics to staff ▼	Order supplies from outside area
Prepare for disposal of	Provide antibiotics to	Provide antibiotics to staff

deceased ▼	essential personnel ▼	▼
	Prepare for disposal of twice as many deceased ▼	Provide antibiotics to essential personnel ▼
		Warn of spread of epidemic to three other major US cities: New York, Los Angeles, Chicago
		Prepare for disposal of deceased ▼
		Turn over responsibility for epidemic to national authorities

Circle nodes on each pathway.

Worksheet 8 would be the same in either case.

Worksheet 8: Tactics and Counter Tactics			
1. Issue: US's capacity to project power			
2. Goal: preserve it		**3. Goal: decrease it**	
4. Tactics		**5. Countervailing Tactics**	
Quarantine DC area by air and ground transportation	→	←	Increase background noise to make actual attack harder to detect
Order supplies, antibiotics	→	←	Attack repeatedly until successful
Act to preserve staff morale and provide public information, as well as law and order	→	←	Fly under the radar in a bush plane, not breaking any flight rules and regulations
Prepare to dispose of the dead and plan for the clean-up after the epidemic is over	→	←	Disperse anthrax spores over the heavily-populated capital area
			Activate mole to delay containment of epidemic

If the SOF choose to work with a core idea, they would begin by filling out Worksheet 9.

Worksheet 9: Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4. Core Idea
Military	Machine gun, rifle, tank	Artillery, submarine, warship	Let's mow the terrorists down
Geographical	River, waterfall, creek	Glen, forest, mountain	Let's drop the terrorists in the ocean, far from land
Plant	Tree, fern, Venus flytrap	Leaf, ivy, flower	Let's smother the terrorist organization like Virginia creeper
Transportation	Bus, golf cart, car	Airplane, power boat	Let's run them over with a bus
Sports	Caddy, gymnastics, football	Baseball bat, football tackle, basketball score	Let's wrestle the terrorists to the ground
Mechanical	Wrench, Allen key, ratchet	Screwdriver, hammer, axe	Let's behead the terrorists
Insects	Mosquito, ant, butterfly	Black widow spider	Let's kill them without even f***ing them
Animals	Cougar, puma, rhinoceros	Tiger, elephant, monkeys	Let's swarm the terrorists
Role models	Princess Diana, Donald Trump, Gandhi	Patton, Eisenhower, Montgomery, Wellington	Let's be like Churchill and attack the terrorists' underbelly
Your own Category: Groups of people	Your own metaphors: team, squad, mob	Let's gang up on the terrorists	

If they are tasked specifically with identifying a mole, then Worksheet 9 would look like this:

Worksheet 9: Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4. Core Idea
Military	Machine gun, rifle, tank	Artillery, submarine, warship	let's shoot down that mole
Geographical	River, waterfall, creek	Glen, forest, mountain	Let's throw the mole over Niagara Falls
Plant	Tree, fern, Venus flytrap	Leaf, ivy, flower	Let's root out the mole
Transportation	Bus, golf cart, car	Airplane, power boat	Let's run the mole over with a bus
Sports	Caddy, gymnastics, football	Baseball bat, football tackle, basketball score	Let's wrestle the mole to the ground
Mechanical	Wrench, Allen key, ratchet	Screwdriver, hammer, axe	Let's behead the mole
Insects	Mosquito, ant, butterfly	Black widow spider	Let's kill that mole without even f***ing him
Animals	Cougar, puma, rhinoceros	Tiger, elephant, monkeys	Let's swarm the mole
Role models	Princess Diana, Donald Trump, Gandhi	Patton, Eisenhower, Montgomery, Wellington	Let's be like Churchill and attack the mole's underbelly
Your own Category: Groups of people	Your own metaphors: team, squad, mob	Let's gang up on the mole	

Turning now to the task of locating and capturing the fugitive physician, the SOF might use the worksheets in the following way:

Worksheet 1: Strategy		
1. Issue	Assessing the role of the chief officer of health for the District of Columbia in the recent epidemic	
2. Goal	Gaining custody of the chief officer of health for the District of Columbia on US soil	
3. Core Idea	Let's cage this mountain cat	
4. Tactics	1	Locate him
	2	Gain his trust
	3	Lure him to a neutral location
	4	Physically and chemically restrain him
	5	Transport him back to the US

Listed below are what actually happened and what might have been considered as tactics.

Worksheet 2: Key Actors						
1. Your Goal			Gaining custody of the chief officer of health for the District of Columbia on US soil			
2. Your Latest Tactic			Realizing the suspect is missing			
3. Latest Action or Event, if different from above						
4.a Your Possible Tactic A			Follow up leads re: Australia			
4.b Your Possible Tactic B			Scan passenger lists of airlines			
4.c Your Possible Tactic C			Contact foreign governments re: his whereabouts			
4.d Your Possible Tactic D						
5. All Actors	6. Can this actor affect your achieving the goal? (Yes or No)	7. Can this actor prevent your achieving the goal? (Yes or No)	8. Can this actor affect any of your possible tactics?			
			Tactic A	Tactic B	Tactic C	Tactic D
Informants in Australia	Y	N	Y	N	N	
Airline personnel	Y	N	Y	Y	N	
Government of UK	Y	Y	N	N	Y	
Government of Italy	Y	Y	N	N	Y	

Worksheet 3: An Actor's Actions and Tactics					
1. Actor: CHERYL			XX Individual ☐Group		
2. Time/Date	3. Action	4. Detailed Description		5. Is this a tactic?	6. Is a response necessary?
Weeks 1 and 2	Cruising through London	Carries photos, looks for him around his hotel		Y	Y
Week 3, day 1	Contact	Greets suspect, tells cover story, plays hard to get		Y	Y
Week 3, day 6	Proposal	Meets suspect, exploits emotional state, proposes getaway		Y	Y
Week 4, day 1	Travel	Meets suspect, flies from London to Rome, brings suspect to apartment		Y	Y

Worksheet 4: Resources a Strategy Can Draw On				
1. Resource	2. Effect on tactic	3.Limited?	4.Helpful?	5.Essential?
Funds	Y	Y	Y	Y
Background information on target	Y	Y	Y	Y
Other personnel subduing and drugging and transporting target	Y	Y	Y	Y
Information for cover story	Y	Y	Y	Y
Other personnel booking plane tickets	Y	Y	Y	Y
Other personnel planning trip to Rome	Y	Y	Y	Y
Personal appearance and demeanor	Y	Y	Y	N
Skill as actress	Y	Y	Y	Y
Skill as agent	Y	Y	Y	Y

There are many more rules involved, but these provide you with a sample of what can be included.

Worksheet 5: Rules of the Game				
1. Rule	2. Description	3. Formal (yes/no)?	4.Helpful (yes/no)?	5.Essential (yes/no)?
Assassination	Cannot kill without permission	N	N	Y
Kidnapping	Cannot kidnap in UK	N	N	Y
Safety	Avoid injury or death of agents	N	N	N
Rules on money spent	Allowable and disallowed expenses	Y	N	N
Information security	Preserve sources of information; operate on need to know basis	Y	N	N

Worksheet 6: All Other Factors			
1. Desired Strategic Outcome: bring target to US			
2. Driving Factors		3. Restraining Factors	
	→	←	Weather permitting departure of ship
	→	←	Weather permitting departure of airplanes
	→	←	Traffic in Rome

Worksheet 7: Strategic Pathway		
1. Strategic Goal: getting target back to us		
2. Pathway 1	3. Alternative 1	4. Alternative 2
Follow up lead to Australia ▼	▼	▼
Find target in Australia ▼	Fail to find target in Australia ▼	▼
Subdue and drug target ▼	Check passenger lists ▼	▼
Bring target to port ▼	Follow up lead to UK ▼	▼
Put target on ship ▼	Comb streets of London with picture ▼	▼
Have ship leave harbor ▼	Have Cheryl make contact ▼	▼
Have ship cross Pacific ▼	Have Cheryl play hard to get ▼	▼
Have ship dock in US port ▼	Have Cheryl exploit emotional vulnerability ▼	▼
	Have Cheryl bring target to apartment	Have Cheryl propose Rome trip ▼
	Subdue and drug target ▼	Bring target to Rome ▼
	Bring target to port ▼	Subdue and drug target ▼

	Put target on ship ▼	Bring target to port ▼
	Have ship leave harbor ▼	Put target on ship ▼
	Have ship cross Atlantic ▼	Have ship leave harbor ▼
	Have ship dock in US port ▼	Have ship cross Atlantic ▼
		Have ship dock in US port ▼

Circle nodes on each pathway.

Worksheet 8: Tactics and Counter Tactics			
1. Issue: custody and location of target			
2. Goal: target remains free in London		3. Goal: capture and return target to US	
4. Tactics		5. Countervailing Tactics	
	→	←	Follow up lead to Australia
	→	←	Fail to find target in Australia
	→	←	Check passenger lists
	→	←	Follow up lead to UK
	→	←	Comb streets of London with picture
	→	←	Have Cheryl make contact
	→	←	Have Cheryl play hard to get
	→	←	Have Cheryl exploit emotional vulnerability
	→	←	Have Cheryl propose Rome trip
	→	←	Bring target to Rome
	→	←	Subdue and drug target
	→	←	Bring target to port
	→	←	Put target on ship
	→	←	Have ship leave harbor
	→	←	Have ship cross Atlantic
	→	←	Have ship dock in US port

If you find the right core idea, you don't need to keep filling out the form.

Worksheet 9: Core Idea			
1. Category	2. Suggested Metaphors, Images, Analogies, Role Models	3. Your Metaphors, Images, Role Models, Analogies	4. Core Idea
Military	Machine gun, rifle, tank	Air force	Bomb this target to bits
Sports	Caddy, gymnastics, football	Fishing	Hook this target and reel him in
Mechanical	Wrench, Allen key, ratchet	Screws	Screw this target over
Insects	Mosquito, ant, butterfly	Fly	Trap the target like a fly in a spider web
Animals	Cougar, puma rhinoceros	Bear	Have the target fall into a pit trap like a bear

The applications identified for the above process include:

o   the establishment of criteria by which to detect terrorists;

o   better preparation for red-teams in military exercises;

o   advising host nations;

o other types of military operations, such as combating insurgency.

o It is also possible that there are other types of underdogs, such as narco-terrorists and/or smugglers of all types that might be of interest to the SOF community.

The knowledge transfer system based on worksheets, when joined to an understanding of underdog strategic thinking, has a large number of applications in the Global War on Terror. The system is obviously incomplete, but the foregoing chapters only purport to be an introduction to underdog strategic thinking. It can be used to analyze a single terrorist's actions. It can be used to develop a proposal to promote greater safety for a single country. It can be used to analyze and improve the effectiveness of cooperation between two states, if that is one of the states' objectives, in combating terrorism. It can be used to examine the pattern of terrorism and design a response to it. It can be used to train analysts, gatherers of intelligence, or officers and personnel of combat units. It can be used by any kind of individual or group, civilian or military. It can also analyze the domestic politics of a state, or to the relations of non-governmental actors, or the relations of non-government groups to their own (or other) governments. It can be used for volitional and non-volitional hostile actors.

Underdog strategy comes with its own rules, and it is important to judge the proposal made within these pages by criteria which are valid for this type of enterprise.[83]

o How much knowledge is retained by the analyst who has worked through the case studies?

o Can analysts demonstrate the skills they have acquired through this book?

o Do analysts have the ability to apply, in practical situations, the knowledge and skills that have been acquired?

Any assessment should include categories that relate to the course content, should be reliable, should identify clearly the degree of difficulty of the skills being acquired, should discriminate different levels of skills having been acquired, should be free of bias

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83. Christian Wolff, Philosophia prima sive Ontologia, part I, section 2, heading 3, article 169, pp. 72-73.

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and should provide direction in the case of different standards between raters, should provide feedback to participants, and should be credible and functional.

I propose the following levels of assessment of individuals or units having acquired skills:

Level 1   demonstrates adequate knowledge of the tasks at hand; demonstrates ability to utilize new knowledge and experience.

Level 2   demonstrates by actions mastery of knowledge acquired; applies theory to specific situations or problems; does not make the same mistakes repeatedly; reorganizes approach or plan when needed.

Level 3   prepares realistic plans; can be used by a team, not just by individuals; stands up to the reasoning of others.

Level 4   plans with flexibility, adjusting actions to the situation; reflects on most effective use of particular skills of group members, learns from mistakes or changes in the situation.

Level 5   anticipates events and problems, and need resources; monitors events and anticipates changes to tactics or strategy.

One could also consider, as I have elsewhere, that weak-side strategy is the justifiable foundation for a new general theory of strategy. The general theory of strategy on which this book is based has theoretical and practical significance. At its broadest, it has the potential to change the way anyone understands power, analyzes the world, and acts. At its narrowest, it can help the single individual make a difference in his or her life. In addition to its numerous practical applications, the new general theory of strategy also spawns a complex research agenda: research on phenomena, infra-national groups, supra-national groups, and systemic applications will require several sets of case studies. If they are all successful, it will be possible to propose an integrated theory of the use of power in society. The more applied strand of research represents detailed instructions for the application of the theory in a variety of situations.

Not all underdogs use strategy, but those that do are unusually successful in political situations. Using weak-side strategy is not new to the study of either relations between states, or domestic politics and policy.[84] The development of the framework, and the study of its wide range of applications, has been published elsewhere. Traditionally, academics have declined to take responsibility for the consequences of their research being abused, and I find myself unable to do otherwise. But I wish to acknowledge here that strategy is and always has been ethically neutral. Its application and results depend entirely on how, and for what purpose, it is used.

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84. Laure Paquette, Security in the Pacific Century (New York: Nova, 2002), Strategy and Ethnic Conflict (New York: Praeger, 2002), Building and Analyzing National Policy (Lanham: Lexington, 2002).

7. APPLICATION 3: PLANNING OPERATIONS

For this application, we will look at how the US special forces plan their own operations.

The two main differences in the planning of operations by terrorists or insurgents, compared to the operational planning doctrine and procedures in the US military, are the following. First, when insurgents or terrorists discuss the level of the operation, the use many more levels than the three used by the US forces, and each of those levels is, so to speak, thinner.[85] The most important implication of this characteristic for planning is that terrorists or insurgents change levels of operation quickly and easily. The US forces usually confine themselves to one level when planning. Second, the range of tactics used is broader. In many ways it is a disadvantage that insurgents and terrorists do not have the more specialized or technologically sophisticated tactics available to the US forces. On the other hand, they change their tactics more quickly, and they use tactics which would not be allowed by the rules and laws of war. Rules and laws of war do not concern them. The range of tactics they will consider will therefore be broader.

There are a number of historical examples of these two characteristics in action. The Taliban's behavior after its military defeat in Afghanistan, for example, illustrates the change in level of operations. After its government fell, the Taliban changed its methods, and changed them again after the arrival of the NATO troops. In Pakistan, the Jaish-e-Mohammed (JEM or Army of Mohammed) is an Islamic extremist group formed in early 2000. It collected funds through donation requests in magazines and pamphlets. This understandably drew the attention of the government, and forced withdrawal of funds from bank accounts in anticipation of asset seizures. (They invested them in legal businesses such as commodity trading, real estate, and production of consumer goods!)[86] In Sri Lanka, the Tamil Tigers eventually developed their own newspaper, press and propaganda section, in addition to a political wing, a research and development wing, and an intelligence wing. Al Qaeda's Kalid Shaikh Mohommad

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85.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-59.

86.   Russell D. Howard and Reid L. Sawyer, *Terrorism and Counterterrorism/ Understanding the New Security Environment*, 2nd edition, (New York: McGraw Hill, 2006).

introduced the *principle of losing and learning* doctrine: if an al Qaeda operation fails or suffers losses, it is not considered a strategic loss if the group learns, improves, and vows not to repeat its mistake. [87]

An example of the broader range of tactics, most importantly tactics prohibited by the rules and laws of war, can also be found in the Taliban. The Taliban in Afghanistan were trading opium, at one point in 2005 moving their trade from Helmand to Nimroz when they realized that province was more weakly policed.[88] The Taliban's methods came to include assassinations, kidnappings, insurgency tactics, suicide bombings, and improvised explosive devices.[89] Among the occurrences for each of these are the following:

- Assassinations—the death of Vice-President Haji Abdul Qadir in July 2002; attempts on President Hamid Karzai in September 2002, on a vice-presidential candidate in 2004, and on the former governor of Badakhshan in October 2007

- Kidnappings—of groups of foreigners in both July 2007 and October 2007

- Insurgency tactics—the recruitment and training on the Pakistan border and the repeated ambush of soldiers

- Suicide bombings—there were sixty-four between January 2005 and August 2006

- Improvised explosive devices—against US and NATO troops, and against Afghan military and civilian vehicles, with the number steadily increasing[90]

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87.   Graeme Steven and Rohan Gunaratna, *Counterterrorism* (Santa Barbara: ABC-CLIO, 2004), p. 163.

88.   Andrew North, "Losing The War On Afghan Drugs," *BBC News*, 12 April 2005.

89.   Scott Baldauf and Faye Bowers, "Afghan Riddled with Drug Ties," *Christian Science Monitor*, May 13, 2005.

90 "IED, A Weapon's Profile," *Defense Update/An International Online Defense Magazine* (2004) 3, updated 23 August 2006.

The Taliban also quickly developed a symbiotic relationship with the opium traders, in order to finance these and other operations.[91] In addition, the Taliban exploited Afghanistan's easily corruptible officials and the insecurity of the population.[92] They banned opium while in power, but quickly turned to it to finance their operations.[93]

There are also examples of broader tactics in other terrorist movements. ETA (*Euzkadi Ta Askatasuna*), the Basque separatist group founded in 1959, finances its activities through kidnappings, robberies, and extortion. Its political tactics, so to speak, are limited to bombings and assassinations of Spanish Government officials. Similarly, the Salafist Group for Call and Combat (GSPC) is a splinter faction which gained popular support in Algeria through its pledge to avoid civilian attacks inside Algeria—as opposed to the rest of the group who were willing to sacrifice civilians. Later, however, the GSPC did attack civilians.[94] Other observers have noted the breadth of tactics: "Today's international terrorist groups function not as tightly structured hierarchies, but rather as shadowy networks that, when necessary, strike ad hoc tactical alliances, bridging religious and ideological schisms." [95]

We have seen that these characteristics are found in a number of hostile groups. The next section begins the exploration of the implications for operational planning doctrine.

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91. Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," *Terrorism Monitor* 5:9 (May 10, 2007).

92. Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," *Terrorism Monitor* 5:9 (May 10, 2007).

93. Unofficial comments by international staff working in the region, April 2007, cited in Hayder Mili and Jacob Townsend, "Afghanistan's Drug Trade and How It Funds Taliban Operations," *Terrorism Monitor* 5:9 (May 10, 2007).

94. Russell D. Howard and Reid L. Sawyer, *Terrorism and Counterterrorism/Understanding the New Security Environment*, 2nd edition, (New York: McGraw Hill, 2006).

95. BBC Transcript (www.newsbbc.co.uk/2/hi/middle-east/2751019.htm) of Al-Jazeera's broadcast of Bin Laden's audio message, 11 February 2003.

It will be necessary to examine in another section the implications for operational planning procedures. Only then will it be possible to consider what obstacles exist to learning from terrorist-insurgent thinking.

Implications for Planning Doctrine

The present section discusses the implications for planning doctrine of these two characteristics, and does so by analyzing the major doctrinal and planning documents of the US forces. These are:

JP1, Doctrine for the Armed Forces of the United States

JP 3-0, Joint Operations

JP 3-05, Doctrine of Joint Special Operations

JP 5, Joint Operation Planning

JP 1, Doctrine for the Armed Forces of the United States

JP 1, Doctrine for the Armed Forces of the United States is, naturally, a document whose ideas are presented in broad strokes. Opportunities for analysis are similarly broad. The first great opportunity for taking into account terrorist or insurgent thinking arises from the emphasis on unity of action found in JP 1.

JP-1 recognizes the need for the maximum unity of action. Maximum unity of action, in turn, requires maximum interoperability of the various components of the forces..[96] This maximum interoperability of the components of the armed forces requires unity of command. In practice, however, hasn't unity of command also meant centralization of command? Has the improved technology of communication, sometimes reaching real-time for some components of the forces, meant not just better decision-making, but also more centralized command? And if centralization is a tendency, what does this mean for counterinsurgency or counterterrorism planning? Can it become a

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96. Department of Defense, JP-1 *Doctrine for the Armed Forces of the United States,* (20 March 2009), xiii.

disadvantage or even a danger if the terrorist or insurgent employs a diversity of tactics or changes level of operations? [97] There is evidence of constant efforts to counter the tendency to centralize command at the expense of effectiveness, for example, and these efforts are valuable. Their value is enhanced by the dangers presented by terrorist or insurgent thinking.

JP 3-0, Joint Operations

In *JP 3-0, Joint Operations* there are more opportunities for special operations planning to integrate terrorist and/or insurgent thinking than in JP-1. In fact, JP 3-0 presents the special operator with four main opportunities to learn from terrorist or insurgent thinking. These arise from: the strategic estimates of the theater of action, the consideration of irregular war, cognitive dimension of the information environment, and the consideration of both desired and undesired effects of operations. The first opportunity for integrating terrorist-insurgent thinking presented by *JP 3-0, Joint Operations* comes from the establishment of the strategic estimates of the theater of action. In most situations, the theater level of operations is the largest that terrorists or insurgents will use.[98] *JP 3-0, Joint Operations* outlines the procedures for threat assessment, in the course of which the insurgent or terrorist capacity for changing levels and employing more diverse tactics can be integrated by command at all levels. To be specific, it is possible to integrate these two characteristics at the following points in the process:

- When the commander establishes his/her critical intelligence requirements

- When the protective function is being planned

- When operation art and design considers risk at the operational level

- When deciding to terminate an operation. [99]

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97. Department of Defense, JP-1 *Doctrine for the Armed Forces of the United States*, (20 March 2009), xv.

98. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), xi.

99. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), xvi, xviii, and xix.

The second major opportunity for learning from terrorist or insurgent thinking comes with the consideration of irregular war. [100] Irregular war includes various types of enemies and activities, but it is the category of warfare that specifically addresses terrorism and insurgency. When the characteristics of weaker opponents are discussed, there is an opportunity to include a consideration of the changes in level in operations and diversity of tactics. Those characteristics can also inform any discussion of enemies who do not engage directly and who use stealth in hit and run engagements. [101] Finally, irregular war requires the commander to be particularly aware and anticipate subtle shifts in political goals. Including the likelihood of changes in levels of operations and the diversity of tactics can help him/her anticipate the opponents.[102]

In the case of irregular war, the two characteristics of terrorist or insurgent thinking also mean that little massing of effects is possible, as mentioned in the previous discussion of *JP 1, Doctrine of the Armed Forces of the United States*.[103] Terrorists or insurgents avoid concentrating their assets or numbers, since an engagement then could result in too many losses for to survive.[104] Combining this with frequent, patternless hit-and-run engagements, and adding to it changes in level of operations and diversity of tactics means that for each of the following ways to deal with terrorists or insurgents, changes in level of operations and more diverse tactics are even more important.[105] Restraint, in particular, is important in any operation countering terrorism or insurgency.

Of those on offer, the best ways to deal with terrorists or insurgents are:

- Maneuverability

- Economy of force

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100. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), I-6.

101. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), I-6.

102. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), A-1.

103. Department of Defense, JP 3-0 *Joint Operations* (18 February 2005), I-7ss.

104. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), A-2.

105. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), A-3, 4.

- Simplicity, restraint, and concern for legitimacy.

The third opportunity for integrating the fact that insurgents and terrorists change level and use a broader range of tactics comes in the discussion of the cognitive dimension of the information environment. [106] There are repeated references to the intuition and creativity of command in *JP 3-0, Joint Operations*. Intuition and creativity are always important characteristics of special operators. But as with so much of the previous discussion, they are going to be even more significant when dealing with an enemy that changes levels of operation and employs a diversity of tactics. [107]

There are, of course, difficulties in using intuition and creativity in practical decisions. However, certain types of decisions can integrate them more easily. We can illustrate this by taking the decision to end operations as an example: any commander or operator must always consider the right point at which to end counterinsurgency and counterterrorist operations. Terrorist or insurgents, however, profit more from short operations and therefore seek to end them, and to leave the area of conflict, as quickly as possible. In practice, then, this means that there is even more pressure than usual for US forces to carry out engagements against an enemy that will disperse. The option of moving troops and equipment in and around the theater is limited by time constraints. A larger, more specialized or better equipped force may be at a disadvantage in some situations. Commanders, planners and special operators would do well to consider that the conclusion of operations may have as an undesired effect on the terrorist or insurgent, and whether this signifies in fact better operating conditions for them.[108]

Taking into account both desired and undesired effects of operations when planning is the fourth and last of the opportunities in *JP 3-0, Joint Operations*.[109] *JP 3-0* states that the enemy has a single center of gravity, whereas everything mentioned in this paper so far points to the fact that terrorists and/or insurgents are likely to have more than one

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106. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), II-22.

107. Department of Defense, JP 3-0 *Joint Operations*, (18 February 2008), IV-3.

108. Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-4.

109. Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-8.

center of gravity or a number of decisive points of interest.[110] To make matters more difficult, terrorists and insurgents may shift easily among these smaller and more numerous centers of gravity. Taking this into account is a great opportunity to improve the effectiveness of joint operations planning and procedures.

Overall, then, diversity of tactics and changes in levels of operations can be identified as critical capabilities in counter-operations. [111] They are essential in determining decisive points, as mentioned previously, which in turn will make the lines of operation more effective. [112] Integrating the possibility of a greater range of tactics and rapid changes in levels of operations will improve planning and procedures at the following points:

- When considering the potential for leverage [113]

- In the phasing model, where operations are integrated and synchronized by planners, as proposed by *JP 3-0, Joint Operations*, considering that terrorist or insurgent actions are more likely to be cyclical, rather than linear[114]

- In establishing the measures of evaluation and measures of performance.[115]

JP 3-05, Doctrine for Joint Special Operations

In *JP 3-05, Doctrine for Joint Special Operations*, there are two opportunities to integrate terrorist and/or insurgent thinking. First, joint special operation planning requires the

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110. Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-10.

111.   Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-11.

112.   Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-12.

113.   Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-17.

114.   Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-30.

115.   Department of Defense, JP 3-0 *Joint Operations* (18 February 2008), IV-33.

identification of the nodes of a system and the critical factors and decisive points. [116] The two differences in terrorist and/or insurgent thinking, change of levels and the diversity of tactics, have a role in identifying each of these. Second, the promotion of the indirect approach present in *JP 3-05* is a support for integrating terrorist and/or insurgent thinking, since insurgents and terrorists use indirect approaches consistently and universally. The indirect approach has an impact throughout the planning process. [117]

JP 5-0, Joint Operation Planning

There are sections of doctrine in *JP 5-0, Joint Operation Planning* that assist forces in learning from terrorist-insurgent thinking. For example, given that "SO differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets,"[118] planners ought to consider how the diversity of tactics and the change in operational levels affect their operations.

In addition, by definition, Special Operators will be more like insurgents than regular forces: they will consider or use a broader range of techniques, not only in themselves, but "inherently joint." Although many special operations may be conducted as a single-service operations, most are planned and executed as joint operations. Special operations routinely require joint support and coordination.[119] These are two significant advantages.

Doctrinal Publications Taken as a Whole

Considering the major documents as a group in light of the differences in level and tactics of insurgents and terrorists, it also becomes clear that the huge bulk of the doctrine is about the armed forces, not about the enemy. This way of thinking is natural

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116. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), xv.

117. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), IV-18.

118. Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), I-2.

119. Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), I-2.

as far as procedures are concerned, and certainly common, among large and well-equipped regular forces. Armed forces personnel are naturally thinking about what their role and capacities are. But the challenges counterinsurgency and counterterrorism present also mean there is an opportunity to learn from the enemy, with immediate and obvious benefits. Terrorists and insurgents are obsessed with what the US forces are going to do. A shift in emphasis towards what they may do, as opposed to what US forces are capable of doing, may be beneficial. For maximum benefit, however, capacity for change of level and more diverse tactics should be integrated by command at all levels of operation.

Planning Procedures

This section discusses in more detail the two characteristics, change in level and diversity of tactics, that are the most important to operational planning and procedures, and it discusses the implications for planning procedures. It does so by analyzing two major planning documents of the US forces:

JP 5-0, Joint Operation Planning

JP 3-05.1, Joint Special Operations Task Force Operations

The remaining two sections of the paper will cover the implications for training, and then the obstacles to the changes necessary to make full use of this new information about terrorist and/or insurgent thinking.

JP 5-0, Joint Operation Planning

The process outlined in *JP 5-0, Joint Operation Planning* is commonly referred to as JOPP, Joint Operation Planning Process. Here, we will examine four of the characteristics of JOPP that give special operators a chance to learn from terrorist and/or insurgent thinking. We will then examine steps in the JOPP process in order to identify where these two characteristics can be integrated into the planning process. Then, we examine the specific capabilities of special versus regular forces, and discusses how this presents opportunities to learn from terrorist or insurgent thinking. Finally, we discuss the application of the principles of war.

JOPP has four characteristics which make it easier to integrate the thinking of terrorists or insurgents into the process. First, in JOPP, planners and commanders use an adaptive process. [120] At any point in their ongoing adaptation, it is possible to include information like the two characteristics of terrorist and/or insurgent thinking. The adaptive process also means that the more diverse tactics of terrorists and/or insurgents can be countered at any point in the process. Second, JOPP works as much as possible with the levels above and below the commander. [121] This means that JOPP is already changing levels, and should find it easier to accommodate that characteristic of terrorist and/or insurgent thinking. Third, the increased flexibility of JOPP can be used to integrate the effects of terrorists or insurgents changing levels or using more diverse tactics.[122] There is a caveat, however: although there are assertions that "Joint Operation planning has the inherent flexibility to adjust to changing requirements for adaptive plans," they are not presently likely to be flexible enough to match the nimbleness of insurgents or terrorists.[123] Fourth and finally, JOPP is decentralized, so that it more closely resembles terrorist and/or insurgent thinking, but also so that the observations of novel tactics or changes of level can be more quickly taken into account. [124]

The steps of the Joint Operation Planning Process show where it is possible to integrate the diversity of tactics and the change in level of operations characteristic of terrorists or insurgents. These points are:

- Mission analysis, more specifically in the development of assumptions, i.e. statements thought to be true in the absence of facts [125]

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120. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), I-11.

121. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), I-11.

122 . See Section C of Chapter III. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-1ss and I-11.

123. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), I-12.

124. See Section C of Chapter III. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-1ss and I-11.

125. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-21.

- Analysis of the operational environment, more specifically in analyzing the higher command's intent and mission, and undesired effects[126]

- Development of mission termination criteria[127]

- Development of mission success criteria[128]

- Course of action analysis

- Determination of potential decisive points

- Risk assessments.[129]

In addition, there are two further opportunities to integrate the thinking of terrorist or insurgent thinking. These are even more important than those just cited. The first of these is war gaming, the physical and mental equivalent of *gedankenexperimenten*, or thought experiments. [130] Integrating the characteristics of terrorist or insurgent thinking in war gaming means that training is available to all participants, with all the benefits that training confers for actual operations. The second of these opportunities is in the development of the centerpiece of the operational plan, the concept of operations (CONOPS). Again, if the central ideas of the operational plan include the two characteristics of terrorist or insurgent thinking, then they become integrated in the entirety of the operation.

Joint special operations have unique characteristics which offer the chance to profit from terrorist and/or insurgent thinking. Joint special operations occur when there are special forces drawn from more than one service. These are the types of operations which boggle the mind of the lay person – the possibility that in situations of high psychological and physical stress and situations of extreme danger and

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126.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-22.

127.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-27.

128.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-27.

129.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-30.

130.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-31.

unpredictability, armed forces personnel of dramatically different services and organization cultures are expected to work together as seamlessly as possible, since lives are at stake.

Although it may seem obvious, it bears repeating that Special Operations warfare includes tempo, that is to say a "rapid execution of a mission allows SOF to mass combat power at the critical place and time, accomplish the mission, withdraw before the adversary can react, and then attack again." [131] This means both that it is vital for special operators to integrate the way of thinking of terrorists and/or insurgents quickly and easily, since things are evolving quickly, and also that these same characteristics contribute to an increase in tempo.

The two characteristics of terrorist or insurgent thinking exacerbate the challenge facing special forces in carrying out their mission. To be specific, the challenge will be greater in the following situations:

- Influencing the will of foreign leadership and/or populations to create conditions favorable to US strategic aims or objectives

- Action principally directed at high-value targets of strategic significance, that may be overt, clandestine, or covert

- Rehearsals of the mission

- Employment of sophisticated communication systems and means of insertion, support, and extraction

- Discriminating and precise use of force.[132]

The expectation that SOF should be "task-organized quickly and deployed rapidly to provide tailored responses to many different situations" presents a significant

131.   Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), I-8

132.   Department of Defense, JP 3.*05 Doctrine of Joint Special Operations* (17 December 2003), I-5.

advantage in coping with changes in levels of operation and diversity of tactics. [133] The same can be said of a number of capabilities. These include the following:

- Surveying and assessing local situations and reporting these assessments rapidly

- Working closely with regional military and civilian authorities and populations

- Organizing people into working teams to help solve local problems. [134]

Similarly, the special operator's core activities present certain points where the integration of terrorist or insurgent thinking needs more urgency.[135] Intelligence is likely to become dated even more quickly that is otherwise the case when SOF is engaged in direct action, special reconnaissance, and foreign internal defense operations. An argument can be made for other SOF activities as well. When it comes to types of operations, these are, under the heading of direct action:

- Raids

- Ambushes

- Direct assaults

- Standoff attacks

- Terminal attack control operations

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133. Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), II-3.

134. Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), II-4.

135. The SOF Core Activities are: Direct Action; Special Reconnaissance; Unconventional Warfare; Foreign Internal Defense; Civil Affairs Operations; Counterterrorism; Psychological Operations; Information Operations; Counterproliferation of Weapons of Mass Destruction ; Security Force Assistance ; Counterinsurgency Operations; and Activities Specified by the President or SECDEF. United States Special Operations Command Fact Book, p. 7, accessed 21 March 2010, http://www.socom.mil/SOCOMHome/newspub/pubs/Documents/FactBook.pdf.

- Terminal guidance operations

- Recovery operations

- Precision destruction operations

- Anti-surface operations.

Under the heading of special reconnaissance, there are:

- Raids

- Ambushes

- Environmental reconnaissance

- Armed reconnaissance

- Post-strike reconnaissance

- Target assessment

- Threat assessment.[136]

Under the heading of foreign internal defense, there are:

- Unconventional warfare

- Counterterrorism

- Psychological operations

- Civil affairs operations

- Counter-proliferation. [137]

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136.   Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), II-4.

137.   Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), II-4.

When it comes to the principles of war, US joint doctrine has nudged the historic objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity toward irregular warfare activity by adding "other principles" of restraint, perseverance, and legitimacy. [138]

Some of these principles make it easier to integrate the two characteristics of terrorist or insurgent thinking that we have been discussing. For example, special operations are called on more frequently to use much smaller measures for the concentration of mass, something that is appropriate for countering the thinking of terrorists or insurgents. A commander may simply assume that there will be no concentration of mass. [139] Another example is the enhanced maneuverability of special forces. You do not need to be a special operator to realize this is an advantage in coping with an enemy that changes levels of operation or uses a broader range of tactics. The same can be said of surprise and simplicity.

On the other hand, a greater diversity of tactics and changes in the level of operations make it more difficult to actualize other principles of war and strategic concepts. For example, preemption is much more difficult with someone who changes tactics and levels of operations. Similarly, dislocation (as explained in B. H. Liddell Hart's *Strategy*) is possible, but not as significant as in other cases.

Finally, exploitation also takes on a new meaning, since terrorists and/or insurgents are not a conventional enemy: the psychological operations are very important, but their aim is to separate the non-combatants from supporting the ideological movement of the insurgents/terrorists. Similarly, initiative is going to be a very important component of operations, to respond to the change of operational techniques and change of level.[140]

JP 3-05.1, Joint Special Operations Task Force Operations

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138.   Department of Defense, JP 3.0, Joint Operations (17 September 2006, w/ Ch 1 13 February 2008), p II-2.

139.   Department of Defense, JP 3.*05Doctrine of Joint Special Operations* (17 December 2003), I-5.

140.   Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), I-8

In this discussion of the publication *JP 3-05.1, Joint Special Operations Task Force Operations*, we shall consider the planning principles of special operations and the differences between special and regular operations. In the second half of this section, we will consider the process of planning of criticality, availability, recuperability, vulnerability, effect, and recognizability, known by the acronym CARVER.

The planning principles of special operations as presented in *JP 3-05.1, Joint Special Operations Task Force Operations* neither preclude nor exclude integrating the two characteristics of terrorist or insurgent thinking being studied here, the change in levels of operations and the diversity of tactics.[141] Implicit in these principles, however, is the fact that there are no second chances in this type of operations – they are by definition high-stakes, high-risk, and high-cost. This is a characteristic they share with terrorist or insurgent operations. They are also similar to terrorist or insurgent operations in that they can range in size, combat intensity and purpose.[142] The real question, of course, is whether they can range in level within a single operation.

The fact that the planning of operations requires fused intelligence about both theater and national assets is a good sign, a hint of greater flexibility in scope that is important in itself, but also the first detected in the review of doctrine and procedure executed so far.[143] This flexibility is more about the way in which operations are conceived than a purely geographical flexibility of location. It has the potential to reduce the surprise that could be experienced by forces fighting insurgents or terrorists.

Special forces operations differ from conventional operations in degree of physical or political risk, operational technique, use of special equipment, modes of employment, independence from friendly support, and dependence on detailed operation intelligence and indigenous assets.[144] Special forces also perform two unique types of activities. First, they perform tasks that no other forces in the Department of Defense

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141.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), xiii-xiv.

142.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), xiv.

143.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), xiv.

144.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), I-2.

conduct. Second, they perform missions that are conducted by Department of Defense forces, but do so to a unique set of conditions and standards, normally using equipment and tactics, techniques, and procedures not utilized by conventional forces. [145] Once again, this moves them closer to being able to understand and integrate the greater diversity of tactics and the changes in levels of operation than the regular forces with which they are working.

Diversity of tactics and the change in level of operations are of particular relevant to the following capabilities of special operations:

- Special reconnaissance (SR)

- Direct action (DA)

- Unconventional warfare (UW)

- Foreign internal defense (FID)

- Counterterrorism.[146]

Special forces also have particular capabilities, of which the following offer an opportunity to learn from terrorist or insurgent thinking. Those are:

- Capacity to work closely with local authorities and populations

- Capacity to assess local situations.[147]

Finally, there are some realities about special operations, which are so well known as to have become truisms, but that bear mention here since they provide an opportunity to

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145. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), I-3, 4.

146. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), I-2.

147. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), I-3, 4.

learn about greater diversity of tactics and changes in levels of operations. As a variation of the SOF Truths, the author's research suggests that:

- Quality is better than quantity

- Special forces cannot be mass-produced

- Special force intelligence is often more detailed than most military intelligence

- Special force intelligence is more perishable than most military intelligence

- Special forces intelligence is more broadly gauged than most military intelligence

- Special forces' intelligence is more encompassing than most military intelligence.[148]

These characteristics are particularly true in the case of missions to combat terrorism, to insert special forces, or to extract special forces.

There are other points at which it is important for planners of joint special operations to take into account the thinking of terrorists or insurgents. To be specific, these are in discussing the:

- Nature of the target

- Adversary and friendly situations

- Environmental characteristics of the operational area.[149]

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148. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), II-9.

149. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-11.

At the analysis, planning, and execution phases of a joint special operation, if the diversity of tactics and the change in levels of operation are taken into account, then we may expect the following impacts upon any assessment of the operational environment:

The proportion of unplanned and/or unanticipated targets compared to planned/anticipated is likely to be much greater [150] because the tactics used by insurgents are more diverse than those used by SOF and because the ease of changing the level of operations means that insurgents or terrorists may increase the potential for surprise.

In the contingency planning and targeting process, centers of gravity and decision points will be diffuse, rather than concentrated; similarly, as stated above, because the tactics used by insurgents are more diverse than those used by SOF, so that their decision points will be less concentrated than would otherwise be the case; and because the ease of changing the level of operations means that insurgents or terrorists are less likely to concentrate their assets. It is not certain that centers of gravity would even exist, as discussed above, or if they do that they would be greater in number and smaller in size. Time-sensitivity will be both generalized and extreme, i.e. the period when the target's accessibility is shorter than unusual and the targeting process is compressed. The intelligence requirements will be unique. [151]

In contingency planning, the significant of change in level of operations and diversity of tactics is magnified for four reasons. First, the change in level of operations and the diversity of tactics can only increase uncertainty. Second, the change in level of operations and the diversity have a role in the feasibility assessment as well as the initial assessment. Third, they should figure in the target assessment as well as the prioritization

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150. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-11.

151. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-15.

of the information acquisition.[152] Fourth and finally, they also have a role in the target information package. [153]

The various consequences of changes in level of operation and a greater diversity of tactic combine to increase risk in joint special operations; however, special operators have an advantage over most of the conventional military force. For example, in crisis action, the change in level of operations and the diversity of tactics reduce the speed with which planning and targeting can occur. As a result, the chances of missing the target increase, or the operation may miss altogether.[154] The change in level of operations and the diversity of tactics have a role in the provision by special operations of input into the joint force commander's orders. When considering other facts or under the development of assumptions, in particular status-of-forces and available time, the commander may consider whether they are influenced by the change in level of operations and the diversity of tactics, or in the course of action analysis or war gaming.[155]

As a result, the analysis of the change in level of operations and the diversity of tactics needs to occur at every step of the intelligence gathering and analysis which underpins the planning of operations, and possibly emphasized at every step. They are more important for:

- Psychological operations, i.e. hostile sympathizers, hostile military forces for irregular warfare

- Foreign international defense, i.e. combating insurgents

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152. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-20.

153. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-21.

154. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-22ss.

155. Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), IV-28, section e.

- Counterterrorism.[156]

The CARVER Process

We can now consider the CARVER method of target analysis, described in Appendix F of *JP 3-05.1, Joint Special Operations Task Force Operations.* The steps of this method are: criticality, accessibility, recuperability, vulnerability, effect, and recognizability. The CARVER method focuses on the tactical level, which is where the change in level of operations and the diversity of tactics can be observed and dealt with the most effectively. The CARVER method also focuses on the critical point— the point at which the components of a target should be disabled—again where the change in level and the diversity of tactics matter. [157] In CARVER, the analyst must tailor the criteria and rating scheme to suit the particular strategic, operational, or tactical situation, which means there is an opportunity to take into account the change in level of operations and the diversity of tactics.

In all, this occurs at three of the six stages of CARVER, that is to say:

- Assessment of effect

- Vulnerability

- Recognizability.

This is of greater significance where targets are human or associated with humans.

In order to decide whether a target should be attacked, the effects of such an attack need to be assessed. These effects may be military, political, economic, informational, or psychological, and collateral effects need to be taken into account. The change in level of operations and the diversity of tactics have a role in this particular assessment, since a change in levels can result in very different effects. The same is true of more

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156.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), Appendix F.

157.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), F-2.

diverse tactics being employed. Where humans are involved, the collateral effects are always significant, but when it comes to terrorism and/or insurgency, a small impact on human beings has, proportionately, a much greater importance. Terrorism, as we know, aims to kill a few but frighten many.

Change of level of operations and diversity of tactics can also affect the recognizability of targets. Targets must be identifiable under various weather, light, and seasonal conditions, without being confused with other targets or target components. Similarly, there must be a distinction between critical damage points and stress points in the targets from similar components in the surroundings. Quick changes in level of operations and greater diversity of tactics will make this more difficult unless they are expected by the special operator.

With appropriate training or augmentation, operators can recognize appropriate computer programs, communications circuits, or similar targets of information operations and missions. It is also important to take into account the change in level of operations and the diversity of tactics in considering threats – again, more difficult unless the special operator is expecting them.[158]

The change in level of operations and the broader range of tactics are also important at several other points:

- At the feasibility assessment[159]

- At the development of assumptions for the initial assessment of the Threat/Target Situation[160]

- At the intelligence regarding limiting factors.[161]

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158.   Annexes A (section III) and B (Section IV) to appendix G. and Appendix G's Annex A, the third section Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007).

159.   Appendix K, Special Operations Feasibility Assessment Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007)

160.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), K-1, para 2.b.b; and para d, section II.

The significance of terrorist or insurgent thinking in the development of assumptions has already been discussed in a previous section. In the case of CARVER, there are at least "limiting factors" like intelligence; where various uncertainties could at least be listed. [162] Just as in an operations order, there is a place for assumptions, and therefore for uncertainty in the description of enemy forces – CARVER even uses the word "likely" to describe these forces.[163]

Uncertainty is always a part of the process, and a diversity of tactics and changes in levels of operations make a significant contribution to it. All this can be countered if the special operators are expecting these two characteristics. Having examined the support and opportunities to learning from terrorists and insurgents in the previous three sections, we can now turn to the obstacles to this learning, present in joint special operations planning doctrine and procedures.

161.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), L-2, section V.

162.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), Appendices N and O; O-4.

163.   Department of Defense, JP 3-05.1 *Joint Special Operations Task Force Operations* (26 April 2007), P.s-a-2.

8. CONCLUSION

A. Obstacles to Change

This book began with a discussion of the characteristics of terrorist or insurgent thinking. The next section discussed in more detail the two characteristics that are the most important to operational planning and procedures. Then the implications for planning doctrine and for planning procedures were discussed. This section will discuss the obstacles to the changes necessary to take full advantage of the opportunity to learn terrorist and/or insurgent thinking.

This investigation has identified a number of obstacles to learning from terrorist or insurgent thinking in operations planning doctrine and procedures. These are: priorities; static planning, including the temptation of intellectual tidiness; the difficulty in measuring outcomes; and finally, habitus, established ways of thinking.

Priorities. The first obstacle to learning from terrorist or insurgent thinking as it has been presented here is that of priorities. Although the doctrine outlined in *JP 1, Doctrine for the Armed Forces of the United States* applies to all the armed forces, in practice, special operators may have to assist the regular forces with whom they are cooperating in order to progress towards a more outside-the-box way of thinking, which is SOF's bread and butter. This is an additional burden to special forces who already have to be at peak operational capacity, a burden which commanders would do well to consider carefully – is it possible for special operators to know other services so well that they can operate smoothly and seamlessly with them? In addition, special forces may already be struggling to integrate some of the consequences of terrorist or insurgent thinking, characteristics which may be antithetical to the values which animate the entire organization, within a force structure that is not as quick to change at its enemies. The only reply, of course, is that understanding these characteristics may save lives.

Static Planning. The second obstacle could be called static planning. Despite frequent affirmations of the fluidity of the security environment, the fact is that the planning remains in practice static and not dynamic. The change in level of operations and the broader range of tactics have trouble being integrated because they present themselves as always changing and are therefore not convenient in the planning

phase. To the protestation that planners realize they are working in a dynamic environment, it is possible to reply that the changes in level of operations and the broader range of tactics represent the most rapid and least expected of all the changes they are used to seeing. There is little to be done about the speed with which terrorists and/or insurgents change their level of operations or their methods, but it is possible to train special operators to at least expect them. On the other hand, it is a well-known truism that the plan does not survive first contact with the enemy. It is possible that changes to plans in ongoing operations provide the necessary flexibility, but there will always be limits imposed by essential coordination of action of a sophisticated armed force dedicated to limiting casualties of all kinds.

JP 1, Doctrine for the Armed Forces of the United States, reflects an important barrier to the flexibility of scope and range of tactics in the very nature of the armed force, large, specialized, with routine, regular decision-making; and with its governance by a liberal democracy with a free media. Liberal democracies, although acknowledged as being the best political system available, also brings with it a slow and unwieldy decision-making process, which results not in the optimal outcome, but with the outcome agreeable to the greatest number. While this political scientist is not proposing abandoning liberal democracy as a political system, or to argue that 'Mussolini made the trains run on time,' it is important to recognize some of its inherent limitations.

How then does a planner do his or her job? The greatest temptation in planning is undeniable the desire for intellectual tidiness, for being able to slot neatly means and ends. "Joint operational planning uses measurable desired effect to relate higher-level objectives and effects to component mission and tasks." [164] The biggest trap, however, is in thinking that everyone else in the theater of operations thinks like the planners do. Legitimacy of government is a good example. The reading of *JP 3-0, Doctrine for Joint Operations* points to one of the mistakes commonly made with respect to legitimacy: it is tempting and easy to assume that the government of a foreign country usually enjoys legitimacy in the eyes of the population. In post-colonial or post-authoritarian states, or in states with ethnic dissent, that is not always the case. And there is always the

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164.   Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), xv.

possibility that the population is suspicious of its government on a particular issue, such as the handling of the economy, although overall the population trusts the government. **Measuring Outcomes.** The third obstacle could be called the impossibility of measured outcomes. The problem here is that the desired effects are not necessarily measurable, especially not in a fast-moving situation. The commander, in his process of continuous assessment, can take special note of the possibility of the change in levels and range of tactics. The question, then, becomes how nimble that continuous assessment can be. [165] In addition, the change in level of operations and the broader range of tactics have a place in operation art and operation design, [166] especially since operational design is intrinsic to Joint Operation Planning Process (JOPP). [167] That also means that the two points of interest here, of broader tactics and greater level of action, are intrinsic to JOPP. **Habitus**. The fourth obstacle is habitus. Habitus is the system of durable, transferable dispositions produced by the conditioning associated with a particular class of conditions of existence.[168] Military personnel of all levels are likely to have a strong habitus. Indeed, the entire system of military training is designed to instil the ability to function under conditions of stress unknown to the civilian – reflex action under the threat or actuality of death or grievous harm to oneself or people one has worked with on a ongoing basis. But habitus could, like the tacit dimension postulated by psychologists, be one of the forces that strategy can tap. Habitus can be founded in intuition, and intuition is important to underdog strategic thinking.[169] But if habitus is neither conscious nor explicit, it is not possible to implement what is useful and set aside what is restrictive. The way out is through the use of thin-slicing, or the ability of the unconscious to find patterns in situations and behaviour based on very narrow slices of experience.[170] Habitus is distinct from intuition, which is essential to the art of strategy, a positive capacity to structure personal knowledge in such manner that it is possible to

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165. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), xvi.

166. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), xvii.

167. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), xvii.

168. Pierre Bourdieu, *Le sens pratique* (Paris : Minuit, 1980), p. 88.

169. Henri Lefebvre, *La production de l'espace* (Paris: Anthropos, 1974).

170. Gary Klein, *Sources of Power* (Boston: MIT Press, 1998).

master and apply developed knowledge but remains open to generating new knowledge.[171]

Until this obstacle is resolved, there can be no question that the integration of the change in level of operation and the greater diversity of tactics poses a serious challenge to the usual thinking of military commanders. If they have managed to retain their creativity and nimbleness of mind to a greater extent than their peers, they are confronted with a system that is complex and not easy to shift. To incorporate the possibility of rapid change of level of operations and use of a broader range of tactics into planning and verification during execution is critical, but it is not enough.[172] Operational art needs to apply and should apply to rank and trade levels other than those who develop strategies or plan campaigns and major operations. It could take the form of a small change to the day-to-day thinking which incorporates the change in level of operations and the broader range of tactics. [173]

Could such a small change make a difference? One example is provided by the introduction of the idea of centers of gravity. [174] "Center of gravity is the set of characteristics, capabilities and sources of power from which a system derives its moral or physical strength, freedom of action, and will to act." [175] Except for a terrorist or an insurgent, it will be diffuse and not concentrated, so you need to learn to identify the nodes differently. But all center of gravity nodes are by definition areas that are decisive.

The concept of depth in operations is not useful in planning insurgent or terrorist counter-operations, since their forces are diffuse rather than concentrated. [176] Counter-operations lack leverage since there are few, if any, decisive points, and they can be difficult to identify. The doctrine of the US forces hints at difficulties in coping with the

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171. Hilary Austen Johnson, "Artistry for the Strategist," *Journal of Business Strategy* (2007), 28:4 (13-21.

172. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), III-55.

173. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), IV-1.

174. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), IV-1.

175. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), IV-8.

176. Department of Defense, JP 5-0 *Joint Operation Planning* (26 December 2006), IV-24.

differences between a conventional enemy and a terrorist or insurgent enemy. For example, "in actual circumstances there may be no precise distinctions where a particulars state ends and another begins."[177] Be it a state of war or a state of military operations other than war, the lack of discrete circumstances is a difficulty for a planning process which is discrete between war and military operations other than war.

B. Implications for Training

This book began with a discussion of the characteristics of terrorist or insurgent thinking. The following section discussed in more detail the characteristics that are the most important to operational planning and procedures. The previous sections discussed the implications for planning doctrine and procedures. Then obstacles to the change were discussed. This section covers the implications for training.

As stated in the introduction, the aim of this paper is to investigate whether the doctrine governing joint special operations allows for two particular new ideas, and if so, where. The conclusion is very clear: while the support given to the introduction of these new ideas is limited, the obstacles are comparatively easily overcome, and both the doctrine and procedures of operations planning are rich in opportunities, although most of the opportunities are at the operational level.

Russ Howard has advocated graduate studies for junior officers in SOF, given the complex security environment.[178] Prof. Gen. Howard's advice is excellent, but it may not be enough. This graduate training should, among other things, include *analogous reasoning*, which is described below, to its curriculum so students may have a fighting chance of being able to cope with the change in level of operations and the diversity of tactics.

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177.   Department of Defense, JP 3.05 *Doctrine of Joint Special Operations* (17 December 2003), I-3.

178.   Russell D. Howard, "Educating Special Forces Junior Leaders for a Complex Security Environment," *JSOU Report*, 6 July 2009.

How do we transfer some of the characteristics of insurgent thinking to the Special Forces? All the differences in the way terrorists and insurgents think are summed up by the core idea, which was introduced in section 1. The core idea forces the use of more than the rational way most of us are taught in school. If It calls on experience, judgment, intuition and everything else that has been learned in the past. We can also start by encouraging analogous thinking. There has been an increase in the use of analogous thinking in recent years, among scientists with some surprising collaborators. "In one of the more unlikely collaborations of modern medicine, Britain's largest children's hospital has revamped its patient hand-off techniques by copying the choreographed pit stops of Italy's Formula One Ferrari racing team. The hospital project has been in place for two years and has already helped reduce the number of mishaps."[179] Physicians in the US have also sought out unusual collaborators: "A growing number of health care providers are trying to learn from aviation accidents and, more specifically, from what the airlines have done to prevent them. In the last five years, several major hospitals have hired professional pilots to train their critical-care staff members on how to apply aviation safety principles to their work…it is well established that, like airplane crashes, the majority of adverse events in health care are the result of human error, particularly failures in communication, leadership and decision-making."[180] There is also structurally analogous thinking in other areas of science. For example, "In a trial for a company with a high speed robotic assembly line, it took the algorithm for the waggle dance of bees identifying nectar location (developed by Cardiff University's Manufacturing Engineering Centre) just a few days to identify the most efficient way to run the machines, much faster than a more conventional program.[181] But there have been structurally analogous thinking in the military sphere, going back to the Duke of Wellington's 'A mosquito attack, not a cannon attack," Churchill's "We shall attack the underbelly of Europe," and Patton's flashes of insight.[182]

179.   Gautam Naik "Hospital Races to Learn Lessons of Ferrari Pit Stop," *Wall Street Journal*, November 14, 2006, p.1

180.   Kate Murphy, "What Pilots Can Teach Hospitals About Patient Safety," *New York Times,* October 31, 2006, 1.

181.   "The Waggle Dance" *New Scientist*, 25 November 2006, 56.

182.   John Keegan, *The Mask of Command* (New York: Viking, 1987).

The study of emergency responders using intuitive methods of decision-making, including military people, is also established.[183]

It is possible to prepare operators by the use of thin-slicing, or the ability of the unconscious to find patterns in situations and behaviour based on very narrow slices of experience.[184] Indeed, this author has developed extensive training methods in this area.[185] As a first step, however, it would be enough for planners, commanders or operators to ask themselves, at each of the points identified in sections 4 and 5 two simple questions. First, what difference would it make if the enemy subdivided the levels of operation into several sub-levels, and then in the course of action suddenly expanded or contracted the level of their operations? Second, what difference would it make to the course of action if the enemy suddenly used different tactics than expected, tactics which our side would not use for humanitarian, legal, or ethical reasons?

It is obvious from considering the syllabus of major planning courses that it would be a small matter to add material on the characteristics of terrorist or insurgent thinking to the curriculum. The problem would be of time- and content- management: those courses are already very compressed. The alternative could simply be to distribute this paper widely, so that special operators may at least be alerted to the possibilities of being blind-sided by known and common ways of thinking of terrorists and/or insurgents.

Future Research

The results of the present investigation support looking further into the other characteristics of terrorist or insurgent thinking. These characteristics include the following:

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183.   Gary Klein, Sources of Power (Boston: MIT Press 1998).

184.   Gary Klein, Sources of Power (Boston: MIT Press, 1998).

185.   Laure Paquette, "Beyond the Cookie Cutter: Can SOF Learn to Think Like Terrorists," University of Manitoba Center for Defense and Security Studies: *Bison Papers* (2010).

- The terrorist or insurgent is always thinking about what the strong are about to do.

- The terrorist or insurgent is holistic.

- The terrorist or insurgent plays a waiting game.

- The terrorist or insurgent is creative.

- The terrorist or insurgent sees the big picture.

- The terrorist or insurgent is constantly scanning his environment for possible threats and for possible opportunities.

- The terrorist or insurgent specifically designs each action to suit his strategy.

- The terrorist or insurgent is constantly forecasting for all events and all other actors, and invests in the development of even unlikely scenarios.

- The terrorist or insurgent assumes s/he will lose any direct confrontation.

- The terrorist or insurgent's passions or passionate feelings are engaged.

- Thinking like a terrorist or insurgent is not just when there is a problem.

It is the hope of this author that asking questions about terrorist-insurgent thinking might actually prevent death, injury, or some other cost of war which might otherwise have occurred.

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