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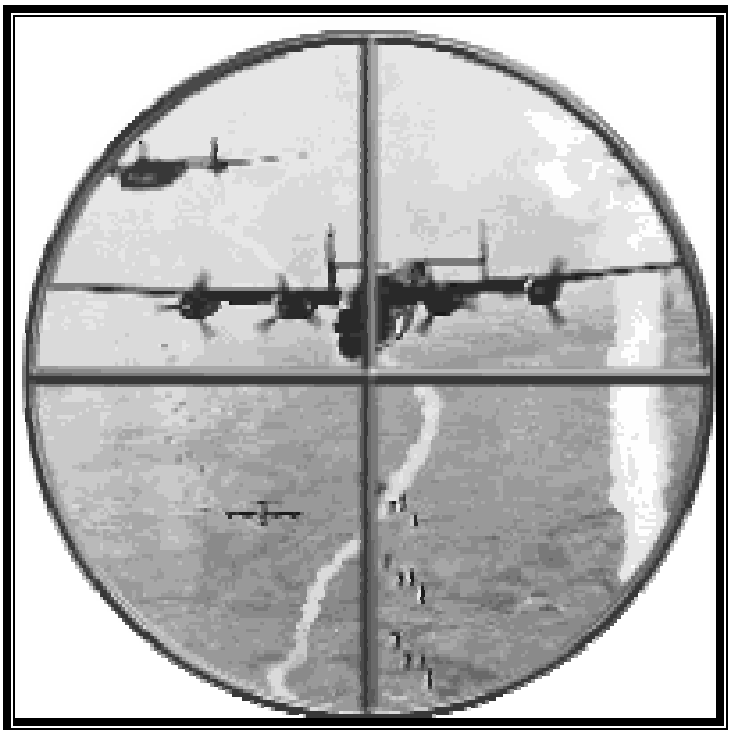
NEW HORIZONS

Corollary Targeting: A New Strategy for the 21st Century

By /par Maj Doug Baird



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Abstract

Throughout modern history targeting has generated many debates both at the political and military levels. This paper will examine the development of targeting and apply past lessons towards an advanced approach to targeting to meet the challenges of the future battlespace environment. Central to this will be the targeting of an enemy's societal weaknesses as they relate to the human's "hierarchy of needs" while inflicting sufficient interference to change its national will. This will be accomplished through the examination and further development of past targeting theories. As such, corollary targeting will integrate the valuable elements of these theories with the realities of future regional conflict as they pertain to limited, asymmetric, and general warfare. This paper recommends:

1. *Targeting theory must evolve to include the disruption of the enemy's hierarchy of needs with the intent of effecting its will to fight.*
2. *A study of historical practices and modern theory is essential to formulate new targeting strategies.*
3. *Targeting must place equal emphasis on the disruption of both military and non-military courses of action.*

Corollary Targeting: A New strategy for the 21st Century

"Corollary targeting" – Consequential targeting; targeting that focuses on the adversary's hierarchy of needs and values with the intent of inflicting sufficient interference to change its national will**.** Involves psychological, information, and cyber warfare to achieve this end.

Introduction

As we move into the 21st century, it is imperative that targeting techniques evolve to adapt to the changing nature of warfare. This essay will examine the development of targeting and apply the lessons of past wars and conflicts towards an advanced approach to targeting in the next millennium. Given the emerging political realities, and the Revolution in Military Affairs (RMA) that will continue to influence the conduct of warfare, it is inevitable that corollary targeting becomes the focal point of the future battlespace environment.

Both historical lessons and twenty-first century technology serve to wield a major impact on the landscape of modern warfare. History has proven that the methodology of mass destruction of utility infrastructure or human resources - civilian or military - does not always deter the enemy's will to fight. In fact, in certain cases, it may even produce the opposite effect and fuel the conflict further. Therefore, an increasing emphasis is being placed on conflict resolution that effectively halts or even prevents the fighting process that creates such heavy damage to both sides. Understanding the enemy's need and value infrastructure through the use of a robust intelligence system is, thereby, essential to neutralizing their position in a conflict. To this end, the development of

stealth and improved information management systems has and will continue to play a significant role. Consequently, targeting will no longer be connected with purely military objectives. The process will increasingly become associated with those realms traditionally related to espionage, intelligence, information warfare (IW), and domestic and international affairs.

The integration of information management and intelligence within modern targeting theory as proposed by Warden, Pape, and Maslow, for example, will provide future targetteers with a solid basis on which to formulate targeting strategies.[1] To succeed in this environment, 21st century commanders must recognize and react to the ever-changing characteristics of the targeting arena. They must operate on the premise that conflict and threat will manifest themselves in limited, asymmetric, and conventional ways. Knowing their enemy will now involve more than being aware of his war fighting utility; they will also seek to know the opposition's value system so they can best determine how to disrupt it, and thereby paralyze that society's will to fight. [2]

In discussing targeting, some constants remain as important today as they have in the past. Firstly, to be successful in targeting, commanders must think long-term; the timeline is based upon decisive points, objectives, centers of gravity, and end-states. Secondly, the nature of conflict is not likely to change. Because people feel fear and react differently to physiological and psychological threats, the social structure of any nation

[1] John Warden and Robert Pape are modern air power theorists. Abraham Maslow was a psychologist noted for his theories concerning the human's "hierarchy of needs". Although his theories are not directly related to targeting, they can be adapted and applied to the development of targeting theory.

[2] Szafranski, Richard and Peter W.W. Wijninga. "Beyond Utility Targeting Toward Axiological Targeting". Airpower, Vol XIV,No 4, (Winter 2000): 45-59.

can be easily altered. And thirdly, targeting requires, above all else, a unity of effort between government, non-government, and military agencies.[3]

Even with the demise of the Soviet Union and the emergence of the United States as the world's pre-eminent power, the nature of conflict has not changed. DESERT STORM and ALLIED FORCE have demonstrated that conventional warfare remains a potent solution to regional conflict.[4] However, the de-stabilizing effect of a non-polar, post Cold War world, combined with the spread of democracy, has re-ignited religious, ethnic and cross border hatreds. Regional disputes in Africa, the Balkans, the Middle East, and Asia have threatened western economic interests and world regional security. As warfare evolves and regional tension remains, Canada and its Allies must be prepared to adapt to any contingency.

The Historical Evolution of Targeting

"The choice of enemy targets is the most delicate operation of aerial warfare."

Giulio Douhet, 1921

The ability to identify and destroy those targets critical to the enemy's effort is essential to battlefield success. As airpower theory evolved, the importance of targeting became more widely appreciated and accepted as a necessary part of aerial warfare. During WW I the German usage of Zeppelins proved to be the first true use of airpower

[3] Maslow, Abraham H. Motivation and Personality. New York: Harper & Row, 1954. Ch 5

[4] DESERT STORM and ALLIED FORCE were operational code names for the Gulf War of 1991 and the NATO operation during the Balkan Crisis of 1999.

beyond the battlefield. Although the material effects of these raids were minor, the effect on the concept of airpower was extraordinary.[5] It was during this time that the US developed its concept for strategic bombardment of commercial centers and lines of communications (LOCs). To achieve these objectives planners required a specified list of targets. The determining factor would become the critical analysis of enemy industrial centers and LOCs to designate specific target sets. This was later highlighted in the US Strategic Bombing Survey (USSB) of WW I in which it was recommended that the Air Service needed to identify critical targets to support a schematic plan for air operations.[6] It also recommended that a study of industry and associated factories be completed prior to any operation to determine which demolitions would cause the greatest amount of damage to the enemy's war fighting capabilities. Following the war, General William (Billy) Mitchell identified the need for designated Air Intelligence Officers to " compile and maintain information of value in the preparation of bombing missions, an indexed file of photographs, and a stock of maps and charts showing bombing targets and intelligence concerning them."[7]

The interwar years were marked by the development of doctrines and strategies built on the lessons of WW I. Given the effects on civilian morale by relatively light attacks by Zeppelins on London, theorists like Douhet and J.F.C. Fuller believed that continuous heavy bombing with incendiaries and gas would break the enemy's will to fight.[8] Influenced by the need to reduce the horrendous casualties caused by attritionist

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[5]Glock, John R. "The Evolution of Airforce Targeting". Airpower, Vol VIII, No3, (Fall 1994): 14-28.

[6] Ibid

[7] Ibid

[8] Fracker, Martin L. "The Psychological Effects of Aerial Bombardment." Airpower, Vol XIV, No 2, (Summer 2000): 37-41.

trench warfare in WW I, the RAF readily adopted the theories proposed by Douhet. The British believed that the bombing of civilians would promise swift victory without the commitment of ground forces to the Continent.[9] Operations in Iraq and Afghanistan during the 1920s would give credibility to this theory. RAF bombing of rebellious tribesmen eventually led to their capitulation. Armed with successes in Iraq and Afghanistan and influenced by the effects of German bombing during WW I, the British, led by Sir Hugh Trenchard, sought to develop doctrine aimed at the bombardment of industry so as to destroy civilian morale and thereby destroy national will.[10]

In contrast to the British aim of destroying civilian morale, American doctrine focused on the industrial web of an enemy's war-fighting capacity. The industrial web theory was first developed during the 1930s at the US Air Corps Tactical School. This school would later publish the first US air strategy plan for WW II, the AWPD-1.[11] The Industrial Web Theory was based on the belief that modern warfare would stretch an adversary's economy so thin that carefully placed attacks on critical targets would cripple that nation's economic system and cause it to fold unto itself. Critical targets were identified as basic industry, raw materials, plant machinery, power supplies, and the work force.[12] Planners believed that when the population witnessed the paralysis of their economy the will to fight would disappear.

The development of doctrine in the interwar years greatly influenced the thinking of the two most prominent bombardment leaders of WW II, Harris and LeMay. Harris targeted the population centers of Axis Germany while Lemay opted to concentrate on

[9] Pape, Robert A. "Bombing to Win", Cornell University Press, 1996 , Ch 3.
[10] Ibid, Pg 62-63
[11] Ibid, pp 62
[12] Ibid, pp 63

daylight precision attacks against enemy industrial targets. Although LeMay would later target Japanese population centers his aim was twofold; firstly, to destroy production capacity and secondly, to destroy civilian morale. Japanese industrial capacity was dispersed throughout the country, and unlike that of Nazi Germany, was not concentrated in specific areas. This required the targeting of Japanese population centers to effectively disrupt and destroy enemy industrial capacity.

Although the effects of bombardment strategies during WW II have been debated for some time, we can conclude that the nature of aerial bombardment and targeting had changed radically from those theories originally proposed by Douhet, Fuller, and Trenchard. The bombing of civilians achieved only mixed results and in some cases strengthened the people's resolve to continue the fight. As a result, air interdiction and a movement away from the targeting of civilians have characterized post WW II conflicts.

The end of WW II brought with it a transition away from the traditionalist theories of Douhet, Fuller, and Harris and opened the doors to contemporaries like Robert Pape and John Warden. With them came a new emphasis on intelligence as an integral part of the targeting solution. The USSBS of WW II highlighted the importance of strategic intelligence and criticized the lack of such at the onset of war. It went on to state that, " If a comparable lack of intelligence should exist at the start of a future national emergency it might prove disastrous." [13] In fact, the lack of sufficient intelligence resources assigned to the Korean Theatre of Operations nearly resulted in a disaster for UN forces. A significant lesson taken from the Korean conflict was the importance of maintaining a viable targeting framework and a sufficient database of potentially hostile

[13] Glock J.R. "The Evolution of Airforce Targeting." Airpower, Vol VIII,No 3, (Fall 1994) pg 17

target sets. Vietnam further emphasized the need for a robust targeting framework and emphasized that with precision weaponry there was an increased need to exploit all sources of target intelligence. As the need for greater precision increased, conflicts such as the Gulf War and ALLIED FORCE (Kosovo) demonstrated the need for a greater reliance on target data. Militaries rely heavily on Satellites, E-8 JSTARs, UAVs and AWACS for time critical target imagery. As western society moves into the 21st century, targeting will evolve to include not only the physical destruction of objects but also the psychological aspects of our enemies. Targetteers will increasingly rely on all aspects of information warfare to achieve their goals and objectives.

New Priorities and Strategies

"One might say that the physical seem little more than the wooden hilt, while the moral factors are the precious metals, the real weapon, the finely honed blade."

-Carl von Clausewitz.

The key to targeting in the 21st century will be the capacity to understand a potential adversary's societal, systemic, and military weaknesses.[14] Historically, the process of targeting has received only limited attention during times of global stability. This has led to near disaster on a number of occasions and has required commanders to regenerate the targeting process time after time. Success during future conflict will remain inextricably linked to a robust targeting process; however, in times of peace we must focus targeting efforts on traditionally non-military targets with the objective of reducing if not eliminating the requirement to engage a potential enemy with armed

[14] Hill, Raymond, Greg McIntyre, and Thomas Tighe. "A Decision for Strategic Effects: A Conceptual Approach to Effects Based Targeting". www.airpower.maxwell.af.mill/airchronicles/cc/hill.html.

force. In an era of non-attritionist warfare, when the need to reduce casualties becomes essential, this approach will become key.

To achieve this, the targeting process must be approached from a purely analytical and maneouverist perspective. Given that the nature of warfare has changed since the end of the Cold War and that ancient ethnic, religious, and cross border hatreds have resurfaced, targeting by necessity will become psychological in nature and shift away from traditional military target sets. This is in contrast to utility based theorists such as John A. Warden and Robert A. Pape who propose that it is only through the process of coercion and the targeting of systems that an enemy be defeated. [15] Although most theorists accept that the object of war is to convince the enemy to do what you want it to do, it is the means by which to accomplish this objective that provokes debate. Coercion, intimidation, and destruction were the means to accomplish this objective through both world wars and on through the Gulf War and Kosovo. Pape's coercion theory and Warden's systemic theories were highly successful during times of deterrence and military conflict and must not be discounted in the future. [16] However, they fail to anticipate and adapt to the "New World Order" and the effects of a destabilized world with obscured physical borders and renewed ethnocentrism. To address this change, western militaries must re-examine the theories of Abraham Maslow and apply them to modern targeting theory.

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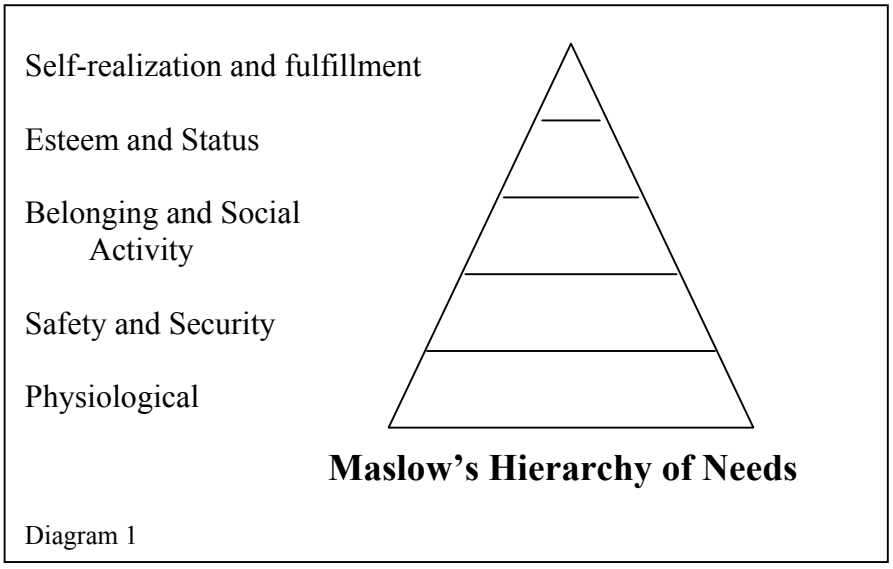
[15] Pape,Robert A. "Bombing to Win" Cornell Univ Press, 1996. Ch 3. Utility based targeting is based on the targeting of an enemy's infrastructure in order to deny him his war-fighting capability.

[16] Warden John A., "The Air Campaign", TO Excel New York, 1998. Warden's theory of targeting is based on the presumption that the enemy is a system and as a system it must be made to be ineffective or paralyzed. He accomplishes this by targeting leadership, system essentials, infrastructure, population, and fielded enemy forces. He arranges these factors in concentric rings with leadership at the center and fielded forces on the outside. Warden was a key contributor to the planning and execution of the Air Campaign during the Gulf War.

Similar to Warden's description of the enemy as a system, Abraham Maslow has proposed that societies and humans react according to a "Hierarchy of Needs".[17] (Diagram 1) These needs build on each other in a building block process. At the foundation are the most basic physiological needs, which include hunger, thirst and sex. Once a society has achieved the capacity to provide the immediate basics, it is motivated to address safety and security. This is accomplished by creating an environment free from external harm and threat. The establishment of police forces, armies and the grouping of citizens in villages and cities occur. Only upon resolving these basic survival issues will a society have energy and desire to seek situations that address their slightly higher-level "value" needs such as the need for social interaction and a sense of belonging. A desire for esteem and status causes a society to strive for a level of respect from both neighbors and people within that society.



Source: Szafranski R. and Wijninga PWW. "Beyond UtilityTargeting Toward Axiological Air Operations."

[17] Maslow, Abraham H. "Motivation and Personality", New York: Harper and Row, 1954 Ch 5

Since the hierarchy of needs is an ascending pyramid, society follows a natural upwardly progression towards the next level once the current level of needs is resolved satisfactorily.

If a group is able to accomplish the lower level needs, then it will eventually seek to attain the highest level: that of self-actualization, self-realization and fulfillment as the ultimate end-state.[18] The key to targeting the "Needs" of a potential adversary will be the level of knowledge one has to effectively determine at what level that society rests. Once this is determined we can then decide and formulate a strategy designed to affect the will of the people.

Deprivation vs. Destruction

Corollary targeting –Consequential targeting; targeting that focuses on the adversary's hierarchy of needs and values with the intent of inflicting sufficient interference to change its national will. Involves psychological, information, and cyber warfare to achieve this end.

Corollary targeting focuses on the manifest weaknesses that are systemic to modern day societies. In some regions of the world in which western nations are involved, we have witnessed a fundamental breakdown of the nation-state. Where there had once been stability, there is now anarchy and a preponderance of authoritarian rule. Since the end of the Cold War, nations within these regions have regressed on Maslow's hierarchy of needs. We need not look any farther than the Balkans as an example. The disintegration of Yugoslavia has effectively removed much of the security framework that existed when the region was firmly under communist rule. As a result, Muslims,

[18] Szafranski R. Wijninga P.W.W, "Beyond Utility Targeting Toward Axiological Air Operations" Airpower, Vol XIV, No 4, (Winter 2000): 45-59

Croats, and Serbs have struggled to achieve an independent identity and establish their own security structures. Because of these insecurities, the region has been embroiled in civil war and internal strife for much of the nineties and into the early years of the 21st century with no apparent end in sight.

As a developed nation, Yugoslavia had attained most levels in Maslow's hierarchy. However, with the demise of central control, the federation started to erode. First to go was the level associated with belonging and social activity. The immediate effects of this were the ethnic cleansing campaigns conducted by all sides in the conflict. This had a two-fold effect: firstly, it destroyed the safety and security network within the region and, secondly, it destroyed the ordinary person's sense of esteem and self respect. This in turn, deteriorated the level linked to self-realization and fulfillment. Personal wealth, bank accounts, finances and privacy were all targets. All that remained was anarchy and chaos. Although there were elements of coercion and utility targeting during the war, the most striking and effective strategies were those aimed at the population's hierarchy of needs.

Obviously, the West would not resort to the gruesome tactics employed by members of the Serbian and Croatian communities during a future crisis situation. It would, in fact, have a number of options available including coercion, utility, and *corollary targeting*. Given our modern day reluctance to both inflict and receive casualties, based on painful lessons from the past, it is logical that psychological targeting will receive an increasing amount of attention and focus. Once it is decided to target an adversary's hierarchy of needs, the concern will be one of accomplishment and method.

Targeting an enemy's hierarchy of needs can be accomplished through the use and exploitation of an enemy's decision process.[19] This process, whether related to C2, military/combat, business, political or social decisions is subject to an OODA (observation, orientation, decision, and action) cycle.[20] (Diagram 2) Exploiting this cycle as it relates to the social fabric of a society or nation is central to the notion that one can affect the people's will to fight through *corollary targeting*. The enemy's population can be targeted with an aim to destroying its vertical links with government and authority as well as its lateral links with cultural, religious and local institutions. Degradation of vertical links, by portraying the leadership or political system as ineffective or corrupt, serves to contaminate the general public's trust in higher authorities. Simultaneously, an attack on the lateral support system with an aggressive information campaign aimed at destroying public confidence in the nation's cultural, economic, and religious institutions, could divert attention away from aggression and popular support of government policy to

DECISION CYCLE

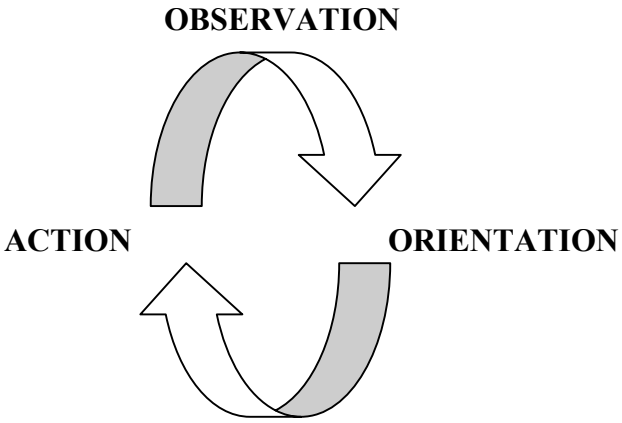


Diagram - 2 Source: JP3-13.1

[19] US DoD Publication JP3-13.1, "The Decision Cycle".
[20] Hill T. McIntyre G. Tighe T., "A Decision for Strategic Effects", Aerospace Power Chronicles, apj@maxwell.af.mill/airchronicles/cc/hill.html: 3-5

one of repairing the social web. In targeting the social infrastructure of a hostile nation, we must recognize that there are many processes at work, each joined to the other through intricate linkages and concurrent interactions: in essence, mini OODAs[21]. Interception or destruction of critical information flow between elements of the OODA will adversely affect the enemy's decision-making process. By attacking the social web, we can effect the decision making process with the intention of degrading or neutralizing the decision cycles of the society in question. To undertake this it may be necessary to overload or sever the linkage between OODA nodes to achieve the desired effect. Methods to accomplish these tasks could involve espionage, information warfare, cyber attack, and propaganda. This targeting strategy if successful could cause the general deterioration of all levels of the hierarchy. Hill, McIntyre, and Tighe in their paper: "A Decision for Strategic Effects", describe governments as; "political systems that are typically centralized in command and execution and tend to be structured concentrically with strong vertical linkages." The authors also contend that a government system is vulnerable to espionage, information warfare, and traitors.[22]

By targeting governments with non-lethal weapons such as these we can influence the trickle-down effects of the national decision making process. As governments typically represent authority and rest at the top of the hierarchy, the results of degraded communication linkages with the population could be disastrous. Equally important is the government's ability to command its military forces and retain the loyalty of its becomes commanders. Once this important line of communication is degraded, the military rapidly

[21] Ibid, pg 6 The concept of an OODA loop as an integrated web of mini OODAs is applicable to corollary targeting in that it addresses the inter-linking of all levels of society and leadership.
[22] Ibid, pg 14

directionless and without meaningful goals or objectives. By exposing these viable vulnerabilities to the public, confidence is lost in both the military and government as institutions and the moral /social fabric begins to unravel. The primary goal of attacking an adversary's social, governmental, and military OODA system is to ultimately render the individual citizen less effective in the political, military, and social decision process so as to break the behavior that results in national will.

The Crucial Role of Intelligence

Integral to the targeting of a society's 'hierarchy of needs' through exploitation of the OODA process will be the gathering and use of intelligence data (Observation). It will prove critical to the formulation of any plan directed at disrupting or degrading the interaction between a government, its military, and its population. Intelligence in this domain must contribute to the true understanding of the enemy's strategy and our ability to exploit its weaknesses. As such, targeting will only be successful if it disrupts the enemy's course of action (COA).

Methods of obtaining the information required to target the hierarchy of needs will include the exploitation of a target nation's information network including; media, internet, government propaganda, economic infrastructures, banking institutions, industry, and international trade. A combination of assets, both civil and military could be useful in this context.

A reality of the New World Order is the worldwide availability of cellular telephones, powerful personal computers, fax machines and internet access. These technologies will offer opportunities for exploitation. Sophisticated technology such as fiber optics, satellites, and complex microchips will enable intelligence gathering

platforms to obtain greater amounts of information. Those who control the flow of information will have a tremendous advantage in the future. Information dominance will provide perfect information for one-self while enabling the distortion of data to the enemy through denial or corruption.[23] The ability to affect the decision process by exploiting information will allow us to indirectly affect those institutions that closely bind the moral fabric of a nation. As previously mentioned, targets such as fiber optics, communications satellites, and cyber space technologies play an important role in all aspects of personal and professional life. Their manipulation and exploitation will play prominent roles in the disruption of the social web and embedded decision cycles of a potential enemy.

One of the key elements of *Corollary Targeting* is a complete understanding of an enemy's social, political, and ideological make up. Rapid improvements in warfare technology have seduced us into a state of over-reliance on electronic intelligence collection. While machines are brilliant at gathering and organizing data, they are incapable of reaching the understanding required for the conduct of successful information warfare. Therefore, the human operative continues to be an integral part of the information loop. The collection of human intelligence (humint) will enable one to obtain a true analysis of an enemy's social web. By strategically placing human operatives in select positions through all levels of an enemy's society, we can gather the necessary information needed to make informed decisions concerning vulnerabilities and exploitable weaknesses. As the number of belligerents continue to rise, an increasing effort will have to be made concerning the recruitment, training and deployment of intelligence officers. People will continue to be our most valuable intelligence assets.

[23]Meilenger, Phillip S. "Air Strategy: Targeting For Effect." Airpower, No 4,(Winter 1999): 48-61

The Role of the Military

As targeting evolves so too does the role of the military. One of the premises of *corollary targeting* is the maintenance of robust military forces. The presence of a strong deterrent in any area of operations is crucial to the success of any efforts directed against a potential enemy. At its most basic, war is psychological in nature and as such, the threat of annihilation is a strong dissuader. The military will continue to be the one national institution capable of providing the resources necessary to conduct large-scale intelligence gathering campaigns. As targeting revolutionizes, the military will necessarily have to reassign resources to the intelligence mission. This will include the procurement of additional intelligence, surveillance and reconnaissance (ISR) equipment. Maneuverable satellites, unmanned aerial vehicles (UAVs), and platforms such as AWACS and J-STARS will be crucial to any effort. If national will is identified as a strategic center of gravity, then the military by virtue of its ability to coerce and deter will remain central to any targeting strategy of the future. It must be recognized that a society is a living organism that reacts to a myriad of internal and external forces.[24] The combination of corollary targeting and military deterrence will prove a formidable combination against the perceived threats of the 21st century.

Conclusion

The evolution of targeting has closely paralleled that of the development of airpower. As technologies advanced and weapon systems became more accurate, the

[24] Ibid. pp6

need for a robust targeting effort became evident. The original theories proposed by Douhet, Trenchard, and Fuller have remained fundamental to the development of modern targeting strategies; the ability to neutralize or destroy an enemy's will to fight will remain central to any targeting theme of the future. However, the method by which we accomplish this will become the evolving factor in future conflicts.

As Douhet proposed, the direct bombardment of civilians was aimed at destroying morale and national will. The concept of *corollary targeting* shares this objective. The latter, however, proposes to accomplish this by focusing on the distinct levels of a society's hierarchy of needs, as defined by Maslow. The ultimate objective is to prevent conflict through the manipulation of an adversary's social web and decision-making process. Corollary targeting integrates valuable elements of targeting theories developed over time with the realities of future regional, religious, and ethical conflicts as they pertain to limited, asymmetric, and general warfare.

Recommendations

To develop a strategy for targeting that is effective in the 21st century dynamics, targetteers must take into consideration the complexity and nature of the ever-changing battlespace. The successful evolution of targeting will rely on the following recommendations:

1. World realignment will invariably change the nature of warfare and, as such, a new focus must be placed on multi-dimensional threats. To achieve success in future conflict, targeting theory must evolve to affect a nation's will to fight.

2. A study of historical practices and modern theory is essential to formulate effective new targeting strategies.
3. Given the changing geo-political realities, targeting must place equal emphasis on the disruption of both military and non-military courses of action.

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