

Space Policy Issues

- Top 40 Rules for Space War -

25 April, 2016

Three Most Important Principles of Space Warfare

- ① **Dominating & Survivable Pre-Conflict Satellite Positioning & Extensive Satellite On-Board Maneuvering Fuel**
- ② **Perceptive Space Situational Awareness (SSA) & Predictive Battlespace Awareness (PBA)**
- ③ **Effective Doctrine and Decisive Political Will**

Space War Rule # 1

- Maneuver -

- **A satellite's ability to frequently conduct large, small or continuous maneuvers, especially just before and during a space conflict, might be the best capability to keep your adversaries guessing as to your space control intentions and planning, besides complicating his targeting solutions, especially when they may lack world-wide space surveillance sensor coverage.**

Space War Rule # 2

- Unusual Orbits -

- **Unusual orbits increase the difficulty of your adversaries to determine your intentions, or target you quickly.**

Space War Rule # 3

- Pre-Conflict Positioning -

- **Since it is very difficult to change orbits at the last minute (especially changing orbital inclination), immediate space combat can only be fought with the current resources on hand in the local area. There will be no trans-conflict redistribution of space forces to help those forces under immediate attack. Thus, pre-conflict positioning of space assets is possibly the most important aspect of space strategies. This principle is related to the other fundamental principle of maximizing high maneuvering abilities of space assets.**

Space War Rule # 4

- Value of Space -

- **Due to the newness of space warfare, our adversary probably does not fully understand the value of space both to himself, and to his adversaries. This complicates his ability to prioritize his targeting plans, and may contribute to him wasting precious maneuvering fuel and limited "shots" from space weapons, along with ceding time and tempo advantages to the other side.**

Space War Rule # 5

- Political Consequences -

- **Due to the newness of space warfare, our adversary and probably ourselves do not fully understand the political, diplomatic, economic and international ramifications of employing space weapon systems.**

Space War Rule # 6

- Effective Doctrine -

- **Due to the newness of space warfare, our adversary and probably ourselves do not fully understand the best theory, doctrine, strategies, tactics and techniques for conducting optimized space warfare. Big mistakes will be made by both sides.**

Space War Rule # 7

- Mistakes Will be Made -

- **Due to the newness of space warfare, most carefully laid plans, doctrines, strategies, tactics, techniques, political, technological and correlation of forces assumptions will prove false and be immediately thrown out (or worse, be so dearly held, they lead to immediate defeat). This rule equally applies to both sides of the conflict, unless one side is lucky enough to have gotten space doctrine slightly more right than the opposing side.**

Space War Rule # 8

- Vary Space Weapon Types -

- **Due to the newness of space warfare, it might be best to possess different phenomenology space weapon systems with varied basing options to increase the chance you got your pre-planning and space doctrine right for a type of conflict that has never occurred before. Remember, in all previous wars the first casualties are most, if not all, of the pre-conflict plans.**

Space War Rule # 9

- Define Winning -

- **The concept of "winning" in space warfare is not clearly defined. Its definition may be made by political leadership with limited technological, or military knowledge, and may be based on purely political, propagandistic or failed doctrinal principles. Your adversary will certainly have a very different definition of winning, which means both sides may perceive they have "won" the space conflict, and derive quite different conclusions that will dominate their military, political, diplomatic and economic (commercial and procurement strategies) thinking for decades to come. One's space strategies employed during the conflict should take this into consideration to place your nation into a favorable position, post-conflict.**

Space War Rule # 10

- Space Debris -

- **Creation of too much space debris during space conflicts may make losers out of all sides after the conflict, in the long term.**

Space War Rule # 11

- Future Political Impacts -

- **You may be assured that after the conduct of a major space war, national and international protocols, treaties and rules of conduct will be radically changed for space. One's space strategies employed during the conflict should take these into consideration to place your nation into a favorable position, post-conflict.**

Space War Rule # 12

- Adversary Post-Conflict Reactions -

- **You may be assured that after the conduct of a major space war, your adversaries, and other nations, will learn from this war, and probably buildup their own space weapon capabilities, even if necessarily covertly. One's space strategies employed during the conflict should take these into consideration to place your nation into a favorable position, post-conflict.**

Space War Rule # 13

- Space Escalation Ladder -

- **Due to the remote nature of space systems, the world's populace may be kept in the dark (especially for low-level space conflicts) of what is truly happening, which provides addition, more subtle rungs, on the conflict escalation ladder, allowing nations to privately exhibit resolve and to send determined political messages.**

Space War Rule # 14

- Space Warfare Inherently Conflict Destabilizing -

- **Because a small, relatively inexpensive space mine can take out a large billion dollar satellite critical to the conduct of your military operations, and actual satellite point defense is problematic due to probable ASAT hypervelocity closing speeds, then offense is better than defense in space warfare, making it inherently unstable for conflict escalation.**

Space War Rule # 15

- Quick Space Attacks Possible -

- **Due to the remote nature of satellites in space, small-scale space attacks may be initiated, executed and completed before the recipient even knows he is under attack, who is attacking, what are their attack strategies and goals (end states), and when can an uncomprehending senior political leadership validate the attack and respond in a military, political, diplomatic or economic manner. Large-scale space attacks may be initiated, executed and completed within 24-48 hours. Without adequate and timely Space Situational Awareness (SSA) and determined political will, an adversary can easily get within Blue Observe, Orient, Decide, Act (OODA) command and control loops for space, and shock and confuse them.**

Space War Rule # 16

- Space Exhibits Escalation Imbalances -

- **Due to the remote nature of satellites in space, and the difficulty for space surveillance assets to determine the true nature of space attacks, and because space attacks may be initiated, executed and completed within 24-48 hours, there is a good chance that the side who initiates space attacks first will be the side that wins the space war.**

Space War Rule # 17

- Coverttness & Surprise of Prime Importance -

- **Due to the remote nature of satellites in space, and the difficulty for space surveillance assets to determine the true nature of space attacks, and because space attacks may be initiated, executed and completed within 24-48 hours, coverttness and surprise will significantly contribute to winning the space war.**

Space War Rule # 18

- Joint Military & Commercial Space Use -

- **Mixing military and commercial systems on the same satellites increases the chances of space conflict escalation due to the general populace immediately becoming aware of the effects of satellite loss, and placing pressure on political leadership to take precipitous actions. Thus the nuances of steady and reasoned escalation control are lost.**

Space War Rule # 19

- Space Only Benefits Terrestrial Systems-

- **Space conflict is all about denying satellite support to military forces or civilian populations on Earth; not simply the elimination of satellite systems for destruction sake or as a space "score" keeper.**

Space War Rule # 20

- Small Space Forces Can Beat Larger -

- **As in many other conflicts past and present, having space forces that appear superior in numbers and technological quality on paper does not guarantee a "win" under all circumstances. There are many examples throughout thousands of years of military history of numerically inferior forces beating their "betters." Many times it is the forces with better doctrine, planning, morale (political will) or positioning that win. This can only be all the more true for a new area of conflict in space that has little, if any, past military examples and experiences.**

Space War Rule # 21

- Decisive Political Will -

- **Having space forces that are superior in numbers and technological quality are useless if there is not the political will to fully and quickly use them.**

Space War Rule # 22

- Space Situational Awareness & Weapons Range-

- **It does not matter how plentiful or how brilliant your adversary space weapon systems are if they cannot find or reach your critical space systems. If you are constantly maneuvering so that he cannot find you, or your satellites are in hard to reach orbits, or have low observables, or you possess many believable satellite decoys, then he can never dominate you.**

Space War Rule # 23

- Public Opinion Will Limit Military Options -

- **Even though space wars entail very few, if any, human casualties, international public opinion values space wars as more politically unacceptable compared to terrestrial destruction and loss of human life from traditional warfare on Earth. In addition, space wars will fire the imaginations, good or bad, of your citizens, along with much of the rest of the World that is not actively participating in the conflict.**

Space War Rule # 24

- Allies Count Little Militarily for Space Wars -

- **Due to the limited number of countries with future space weapons systems and their attendant need for covertness along with international political sensitivities, each adversary will probably have to go it alone, and his allies cannot or will not significantly help him openly in the coming space conflict.**

Space War Rule # 25

- Space Treaties Will be Violated -

- **Most space treaties will be violated in the first few hours of the coming space war. International treaties have usually been violated in most previous major terrestrial conflicts, and due to the remoteness of space, treaties concerning the use of space are easier to ignore, especially when the World populace may not even be aware of this ongoing space conflict.**

Space War Rule # 26

- Data Relay Satellites Are Prime -

- **Possibly the most important space targets are those satellites that relay data and commands directly to other satellites in remote orbits, making them choke points for critical space systems. This is particularly true for those countries without extensive world-wide satellite ground stations.**

Space War Rule # 27

- Defense vs. Offense -

- **Those Nations that have more space systems being used by their military also have more space systems to defend, and probably must emphasize defense over offense in their technology developments and in their military planning. If your adversary has few space systems, then there are fewer targets for your offensive space weapons, and you must emphasize defense, unless you believe that you have perfect Space Situational Awareness, and you know all of your adversaries' and their allies' offensive space weapons, and believe you can target and neutralize these early in the space conflict before he can fully implement his offensive space warfare plans.**

Space War Rule # 28

- Space Situational Awareness Is Prime -

- **Because of the inherent instability of offense vs. defense in space warfare, the most important tool for senior military and political space leaders is space surveillance and identification sensors with corresponding automated assessment algorithms.**

Space War Rule # 29

- Space Warfare Systems Are Untested -

- **If your adversaries' space warfare systems are untested in real, sustained combat, then their true abilities against you are uncertain, and probably possess "cracks in their armor." Unfortunately, the same is probably true of your space warfare systems (whether you believe this or not), but the true vulnerabilities and failure points of both sides may not be obvious or believable. However, be assured, due to the new nature of space warfare, they do exist in plentitude.**

Space War Rule # 30

- Differing Cultures and Military Traditions -

- **Because your adversaries probably come from different cultures and military traditions than your own, then they have a higher probability of detecting your space warfare systems non-obvious "cracks in their armor" than you do, and vice versa.**

Space War Rule # 31

- You Are Always Vulnerable -

- **As in all military matters since time immemorial, due to the cleverness of human beings, especially under combat conditions, your adversaries will ultimately find your vulnerabilities and get through any defenses you may fool yourself into thinking are "invulnerable."**

Space War Rule # 32

- Decisive Commander -

- **For those countries at war with roughly equal space warfare forces, the main decisive factor would be which country may be lucky enough to discover and believe in the one decisive commander who is a genius in space warfare organization, doctrine, strategies and tactics. This is especially true for the non-traditional nature of space warfare. In addition, those countries with the least meddling in military matters by their politicians might be the decisive factor in winning the war (though possibly "loosing" the peace after words).**

Space War Rule # 33

- Little to No Human Casualties -

- **Because space warfare involves little to no human casualties, commanders can be particularly decisive and cold hearted in their planning and execution compared to terrestrial warfare. As Maj Gen Roger G. DeKok (deceased) has previously stated : "Satellites have no mothers." In addition, morale and courage on the battlefield is of less importance, though command decisiveness remains a critical factor.**

Space War Rule # 34

- Low-Cost Offensive Weapons -

- **Due to the hyper velocities of space orbits, one cannot adequately armor your spacecraft, and a small, relatively inexpensive space mine can take out a large billion dollar satellite critical to the conduct of your military operations.**

Space War Rule # 35

- Space "Fog of War"-

- **The potential for confusion known as the "Fog of War" is well documented for terrestrial battlefields - it will be even worse for space warfare due to the newness of this theater for conflict, the tremendous distances involved and the global nature of space.**

Space War Rule # 36

- Commercial Satellites Are On Their Own -

- **Commercial satellite operators whose expectations are that the military will protect their space systems during conflicts will have a rude awakening.**

Space War Rule # 37

- Checklist Vulnerability -

- **Operators who are trained to respond to unusual situations by "checklist" responses can be easily spoofed and manipulated by a clever adversary, especially in a contested environment with denied or degraded communications to higher headquarters. (rule offered by Paul Day)**

Space War Rule # 38

- Title 38 -

- **[New Rule to be Inserted by Audience/User]**

Space War Rule # 39

- Title 39 -

- **[New Rule to be Inserted by Audience/User]**

Space War Rule # 40

- Title 40 -

- **[New Rule to be Inserted by Audience/User]**