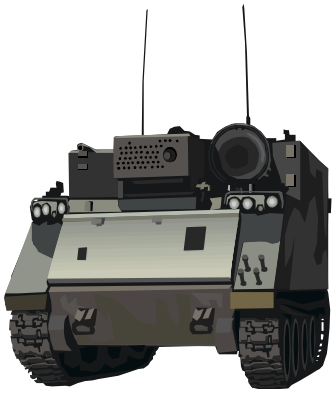
Unmanned Vehicle



Robotic Warfare

"Hide and Seek Strategies"

by

Lance Winslow
May 18, 2007

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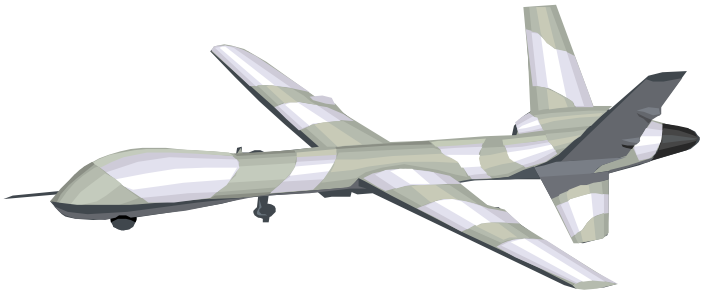
Abstract

New unmanned vehicle robotic technologies, both UGVs and UAVs currently under development will change the future of warfare. Discussed are the implications of this changing paradigm along with the new strategies, surveillance tactics and future innovation that will be implemented. Considered also are the political and media related issues. The game of hide and seek, electronic attack and robots VS humans and/or robots VS robots are projected into the future in this dialogue. The future cometh in the modern battlespace - Adapt or Die.



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Acknowledgements

This project would not have been possible were it not for my upbringing as the son of a US ***Naval Aviator***, Captain, Commanding Officer of a Squadron. Thus I should thank my father for his many stories about his 250 combat missions in an A-4 in Vietnam, while I was growing up. My father also taught me how to fly in our family private aircraft propelling my fascination in aeronautics and thus my interest in all aircraft, including Unmanned Aerial Vehicles or UAVs.

I would also like to thank my Grandfather (**DK Winslow**) a Nuclear Physicist (SLAC), pure Naval Research for his contributions in research working with and on the cutting edge technologies of his day: Radar, Ultrasound, Infrared, Microwave, Acoustic Transducers, etc. with more than 70 research papers in all. Today my brother is a *Pilot in Command of a C-130 in the USMC* and thus my thoughts on his safety and our Nations Security are constant.

It makes sense to also thank my Mother who would have been an Olympic Swimmer, had she not been pregnant with me, those are some good genes and I am glad for her choice to have me. Thanks should also go to my coaches in Track and Field, who helped propel my career as a Track Star and showed me how to win consistently year after year - studying the competition, working on my weaknesses and capitalizing on my strengths.

As an entrepreneur and founder of a Franchise Company that grew into a 23-state, 450 city, 110 markets and 4-country endeavor, I must thank the competition in honing my skills in strategic thinking, territorial marketing pursuits and slamming the marketplace. I would like to thank Lou Gurnick my Franchising Mentor for his wisdom and philosophy.

As the Founder of the ***Online Think Tank*** in my retirement now at 40, I think a good bit of thanks shall be warranted for the many members and their intellectual input in solving the challenges of mankind. Constant problem solving of the most pressing crisis of our day allows my mind to go to military power and full-tilt for as long as it takes to win. This training in thinking goes back to my college days while taking 33 credits in one-semester and I thank the Dean for allowing me to do this, risking his job, as it was completely against the rules.

Information seems to be power and therefore, I must thank those who provide information to me to allow the intake needed to prepare this paper in 2-days off the top of my head. The Internet has been a wonderful tool and the many online newsletters in Robotics, Unmanned Vehicles, Artificial Intelligence, Defense Topics, Space, Automotive, Trucking, Communication, Materials and Bleeding Edge Research are immensely valuable.

I wish to also thank all the digital online libraries at the major Universities for sharing their knowledge. Thanks to Aviation Week and Space Technologies, Space Daily Express and the top Defense Magazines. I wish to thank the US Army for their Future Fighting Force Roadmaps that are put out each year along with those from the US Air Force Research Lab and the US Navy.

I would also like to thank DARPA for their Robotic Unmanned Vehicles Competitions that

propel this area of science, as I see a tremendous future potential with the transfer technologies for Trucking, Transportation, Policing, Border Patrol and preventing auto accidents. The DARPA Team and their public relations efforts, contests and hospitality has been nothing short of a class act. These efforts help to bring forth a new generation of engineers focused on the unmanned ground vehicle mission.

Introduction

This short work is one in a series of dialogues, discussions and eBooks on Future Technology and this particular work belongs to a sub-series on the Future of Technology in the Modern Battlespace. These works are being done thru the Online Think Tank in the hopes of propelling the future of mankind and the Military Technology research is being done to protect the peace and Human Civilizations.

As **Carl von Clausewitz** has in so many words proclaimed; *The Leader who fails to protect his civilization from his enemy, does so at the expense of his people*. Advanced defense technologies therefore are paramount to the on-going nature of human societies. It is not good or evil to promote military technologies, for it is a given, it just is and those who ignore the warnings or history of past periods are sure to repeat them. This author does not promote the needless slaughtering of one's own species or attempt to glorify war.

"War is Hell and thus you must bring Hell to your enemy before he delivers it to you" - Lance Winslow 2000

Indeed in all practical terms it makes the most sense to avoid military conflict to the fullest extent and insure open communications lines and human politics to render win/win situations for all those involved to come to an understanding which is best for all concerned.

"The best advice for War is not to have one, but if you do have one the best advice is to win - Decisively!" - Lance Winslow 2001

We must continually work on shoring up threats and develop technology to insure our National Defense and the defense of our allied nations. In Future Periods human wars may disappear, but we do not live in future periods, we live in the present. It is important that we get that philosophy straight first and so let's begin this dialogue.

Section I
State of the Technology

Currently there are many different robotic options available to modern militaries. Robots can be run by wire from a distance, run by remote control, steered thru tele-robotics or semi or fully autonomously. There are plenty of ***"fire and forget"*** weapons, dumb weapons and smart munitions as well. The line between categories is often blurred with steerable big-gun rounds, aircraft swarm UAV control and Tele-robotic machines which can fire thru human command or by way of software rules that include target identification and firing.

How fast is this technology moving? Very fast as we noted the first fully autonomous vehicles made it thru a grueling course set up by **DARPA**. Contestants in the **Grand Challenge** borrowed technologies from any industry they could find them and thanks to all the various sponsors of all the teams, they too learned a thing or two.

These companies and industry sponsors will enjoy the findings of their research and the transfer technologies that come forth in the future. Such new technologies into the marketplace will increase efficiency and productivity. But that is just the start as these technologies will save tens or thousands of lives on our Nation's Highways thru SmartCar Systems and Net-Centric Automobiles of the future.

There have been many *Military Contracts awarded for robotic systems* in the United States, some have already been introduced to the modern battlespace and there will be many more to follow. Including fully autonomous logistic convoys, submarines, ground combat vehicles and more UAV models and all these future promises have already been outlined in the Army's Future Force and Air Force Road Maps. Many are fully funded in the Nation's budget.

Quite a few other allied nations have also added robotic unmanned vehicles monies to their budgets and rightfully so. Allied nations must protect against rogue nation technologies, International Terrorists sponsored by rogue nation-states and technologies sold to rogue nations by quasi-friendly super powers. As the technology of robotic warfare progresses so to will the technologies of our declared and undeclared enemies, our future potential enemies and their aligned rogue-alities.

Robots in the Modern Battlespace

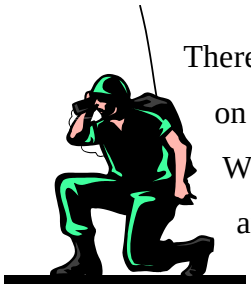
Today the United States has many robotic fighting tools in theatre that are used every day, from the predator drones to the ***anti-IED robotic bomb squad units***. There are hand-held UAVs as well. Currently being tested along our borders and in **Iraq and Afghanistan** are technologies I am not at liberty to discuss at this time, perhaps it will be all public knowledge in the near future. Indeed it does not take a rocket-scientist to figure it out, one only needs to read the defense industry rags from around the Globe and apply just a little imagination. This of course is only the beginning,

As smart as these Future Fighting Force tools are they are only going to become smaller, more robust in capability and more prolific in numbers as they help determine the outcome of conflicts. Even the enemy is working frantically to copy our use of robotics and although their *remote detonation of road side bombs*, car bombs and other incendiary devices are rudimentary, it often unfortunately serves its purpose. Using cell phones, ***Sony Play Station*** parts and other available electronics this is indeed a mild form of robotic usage also.

Hezbollah, Hamas and Iran have all used UAV surveillance. *Hezbollah shocked Israel* when they used a radar-guided missile to attack a war ship during the **Lebanon Conflict**. Some believed the technology to be Chinese, perhaps some Israeli technology, which was sold to the Chinese, re-packaged to Iran and given to Hezbollah. Either way the International Terrorists, insurgency in Iraq and even **Al Qaeda** is not without some modern robotic technology.

Proper use of robotic technology solves many problems in our military. It is estimated that for every soldier or airmen on the frontline or participating at the tip of the sword there are 20-25 military personal through-out the command & control and logistical supply chain. Military robotics clearly increases efficiency and productivity - delivering more for less and with pin-point accuracy. The Future Fighting Force roadmaps are dead on target with regards to the use of robotics on the battlefield and none of this is not by accident. They are designing the future of war and changing the paradigm of political impasse, warfare tactics and military engagement protocol.

Now then, it should be noted that less than 1% of all the humans who have ever lived have died in war. Although we hear more about the deaths in war today due to the far-reaching and often biased media the truth is that major fighting is concluded quite quickly with much less collateral damage thanks to smart munitions. This does not make armed conflict less devastating for those involved, yet it must be considered when discussing the reality of war technology. Indeed, just because allied forces can fight with unheard of precision does not mean the enemy will not attack pure civilian soft targets to promote their will or radical notions.



There is and has always been a good bit of the national budget of any nation, spent on its military, as it is important to protect all they are and all they have built. Wouldn't you? Indeed and so we all do, both friend and foe. Due to the huge amount of expenditures there are always many companies and entrepreneurs willing and ready to work on research and development of war toys. Yet, the business of war is not a game and the stakes are very high - *self preservation* of a nation being amongst the top rationals.

Robotic Technology on, above and below the battle field has come a long way in the last couple of decades and yet this is only the beginning. Coming soon will be many new applications such as robotic units to pick up the wounded and take them to military medical facilities. There will also be **MAVs or Micro-Air Vehicles** perhaps capable of swarming like insects. Bird sized MAVs are already nearly ready for service. Fully autonomous perimeter security mobile robots with weapons attached are already being deployed. **Underwater Unmanned Vehicles** are also in production with some units already in the water.

Unmanned Vehicles

"Future Rules of Engagement"

The idea of robots sent to *annihilate the enemy* is troubling for many to contemplate, especially after watching some of the **Hollywood Movies** of the last couple decades. Some ask what if they mal-function, yet could it really be any worse than human soldiers who in the past have raped and pillaged? It is a fact of war, in past periods it was accepted, the spoils of war, today it is not acceptable, but it happens. Will robots left to their own recognizance be any less problematic with their rules of engagement?

Indeed one has to ask if one side uses robots who is to say the other side will have as sophisticated of robots which will have better **artificial intelligent software** able to discern friendly, non-combatant, enemy or foe? Who makes this decision and who is designing these systems and programming their software? Once all nations have such things should they agree on open source code as a way to level the battle field and protect innocent civilians? Open source code, ouch? What about hackers, can you imagine terrorist hackers in the future taking over entire robotic armies? And what if and when these systems are damaged who is to say if that mal-function may cause unnecessary death of civilians or initiate friendly fire? The question with robotic war fighters has been pondered; Who decides who lives or dies? Whether this question is answered soon or whether it takes time to render such a decision, the predicament and perplexing problem is here and it is here now.

Few would argue that terrorists should be eliminated by any and all means possible including robots or ***UAVs with Hell-Fire Missile Systems***. There have already been high-ranking military men and futurist philosophers contemplate this problem and the consensus appears to be that Robots should ***Not*** be allowed to kill humans unless a human being is in the loop, which seems to point towards the future of "Video Game Warfare" thru a tele-robotic motif. Then the robotic unmanned ground vehicle, system or UAV is nothing more than a tool at the hand of a human?

Should this be a rule that humans must be involved be added to the Geneva Convention? It appears that war treaties are rarely followed and the Geneva Conventions may be followed at the on-set, yet as a nation-state builds on its Nationalism thru religion and has labeled the enemy unfit to lead or live then they rationalize the breaking of the rules. Some say this is merely a survival mechanism since in "**True War**" are there any rules at all? *Kill or be killed* is often the only thought process that is working as the battles thicken and the stakes become higher.

If one side breaks the **Geneva Convention** in one area then is the other side justified in casting aside all the rules or should it be more like a sporting event with penalities? As the reciprocal responses escalate can we really expect any such rules over robotic warfare and robots engaging humans on their own accord to be meaningful? After all one can easily argue that a *human programmed the machine* in the first place and therefore it is still a hand tool of war.

Does a Bomber Pilot really know where the dumb bombs will land? Does Hezbollah as it sends 2,000 rockets into Israel knowing they will be hitting innocent civilians really care? Will such rules whether sponsored by the **UN, NATO** or agreed upon in advance by all nations amount to anything worthy? And to that point in the heat of battle when one side is over powered, will they not pull out all the stops? Currently there are all sorts of rules on Chemical, Biological and Nuclear weapons, yet it seems these are often in the arsenals of all Nation's Militaries today.

We have all heard the saying; ***All is Fair in Love and War.*** Indeed it is amazing how many people believe just that and in the heat of battle ones strict adherence to rules will be challenged more often than not. What about ***Isaac Asimov's*** famous Robot Rules? (source: WikiPedia).

The Three Laws of Robotics:

1. A Robot may not injure a human being or, through inaction, allow a human being to come to harm
2. A Robot must obey orders given to it by human beings except where such orders would conflict with the First Law.
3. A Robot must protect its own existence as long as such protection does not conflict with the First or Second Law

Later a Fourth Law was added (The Zeroth Law):

4. A Robot may not harm humanity, or, by inaction, allow humanity to come to harm.

Apparently current military philosophers and thinkers are not the only ones contemplating the future reality and the use of robots in warfare. It appears that Isaac Asimov's rules for robots is totally out the window or perhaps we might say that the future force robots will soon be coming thru an international terrorist window near you?

International Terrorist Proxies and Rules

We already know that International Terrorist Organizations are using robotic technologies to wage war against the "*infidel*" or those who have a different belief system in the name of their god or so they proclaim. So far we know that UAVs mostly small aircraft model size are being used, but in the future they will certainly have unmanned ground vehicles and suicide bomber cars without the person. One advantage the International Terrorist enemy has is that there are plenty of folks that they are able to recruit to carry out such murders. Their *devaluation of human life* is already evident not only with the civilians they murder but with those who have joined them.

If rules are made in the future and it is agreed upon by all nations that robots can only kill other robots if autonomous or can kill human combatants only if there is a human pulling the trigger or in the loop, even if tele-robotically; we still cannot expect International Terrorists to play by such rules. After all, they purposely *cut-off the heads of their hostages* - clearly this is against the Geneva Conventions.

If International Terrorists have no nation-state of their own to be held accountable by the *International Community*, then we should not expect any of them playing by the rules. When rogue nation-states hire out International Terrorists to do their bidding we should not expect the rules to be followed either. If you are fighting an enemy on an uneven playing field, well this simply does not make any sense at all.

Can we therefore expect that their will be different rules of engagement for murderous International Terrorists who pride them selves in blowing up innocent civilians in schools, buses, trains, malls, office buildings or planes? And how do we deal with the nations who hire these criminals out, fund them and give them **WMD or robotic high-tech weapons**? Who is responsible in this case?

Enemies with US Unmanned Technologies

Each time the US or one of our allies develops advances in robotic weapons of war there is a chance that these weapons will make it into the hands of our enemies. If a company sells weapons to another nation, which in-turn sells them to Iran and we know Iran to be sponsoring International Terrorist Organizations then these weapons will be used against *US Troops in Iraq* or against the Jewish State of Israel or innocent civilians at soft targets such as Ferries, Public Gatherings, Train Stations, Critical Infrastructure or Commercial Aircraft.

Robotic Electronic Space Technologies will end up being used for weapons of war and to help guide weapons systems. If an Indian defense contractor sells robotic systems to Iran, they could very well end up killing US Troops. If India trades weapons technologies with Russia then Russia could easily incorporate them into the anti-aircraft systems it sells to Iran who in turn might give them to **Hamas or Hezbollah**. The International Weapons Industry will find ways to get technologies into the hands of those who are willing to pay for them.

The more difficult the transaction the higher the price and the more money involved for all the participants. Even if all these types of sales stopped, which they never will, still the amount of information flow and the number of spies in Nations producing such weapons technologies are huge. The **International Weapons Dealers Networks** reach around the globe and deals are made and rogue nations who desire such weapons and have the money, will succeed in acquisition.

Thus whatever weaponry in the robotic warfare realm that is produced will be available to friend and foe alike. Even if most nations agree to rules of engagement that are fair to humanity, war is still hell and in the end will anyone follow such rules, as there are **no points for second place**. If the US Defense Contractors sell to allied nations and some *quasi-friendly nations*, it still only takes a few side transactions and a little bit of reverse engineering before your top secret technology is in the hands of your most brutal enemies.

Some robotic defense technologies should be shared for peaceful endeavors and used for the common good, but we know all to well, that evil men and the innate characteristics of mankind will indeed intervene and they will be used against his fellow man. ***Self Driving Transportation*** *could be used for many things increasing the flows of human civilization*. Eventually these technologies will be available to free-enterprise for commercial uses. The sooner the better in order to save lives, but just like nuclear power, we know all to well what mankind's first use for this technology was and it was not pretty. War never is.

Section II
Hide and Seek Strategies

In the age of robotic mobile missile launchers and autonomous or tele-robotic border patrol sentry units any defending nation, which anticipates a surprise attack will strategically place their weaponry to protect it from the incoming attack. Tactics such as camouflage and turning off electronic signatures will be employed. We know from Gulf War I and Gulf War II that the opposing military often attempted to hide their military equipment inside of structures, behind buildings or dug into the local terrain. Indeed none of this is too surprising - it is just using caution to better the odds.

As weapons become more sophisticated and satellites are able to pre-map the terrain, the slightest change will trigger an anomaly and alert the opposing force of a potential target, a dead give away for sure. Still in this day and age of mobile robotic defense a cat and mouse game can be employed to prevent destruction of defense assets. It is hard to hide from the latest sophisticated spy-satellites, as much of the technology can even find oil far below the Earth's surface, thus finding an iron army tank or mobile track missile launcher is not too tough.

The mobility of the unit does provide at least a small level of advantage against the sophisticated systems that nations like the United States now employ, but is it enough? Case in point might be Iran's Russian bought mobile missile launching systems VS a 22,000 sortie US Strike.

They say that in major tank battles in the current paradigm of the Net-Centric Battlespace; once the battle begins the life expectancy of a tank and its crew is just around 2 minutes. Of course with robotic weaponry there will be no humans in the tank, mobile missile launcher or border perimeter robotic sentry. Still any nation investing is such high-tech war toys knows that they are very expensive and must have systems aboard to prevent their earlier destruction in the very first round of battle or the initial attack.

For such a piece of military hardware to survive it must remain undetected for as long as possible. This means no heat, no electronic signature, no movement, no changes in terrain, which is easier said than done. Indeed, we are asking these units to be invisible to all modern day sensors and also to the human eye. Is this even possible?

Fooling the Sensors

"Decoy and Deception"

There is no doubt that the stakes are very high for the defending nation and any mistake or failure to understand the opposing force and their ability to be "all knowing" in the modern battlespace bubble will result in severe losses and perhaps their most important defense barriers. One new technology which will change and tilt the scale of favor slightly towards the defending nation are the new materials such as carbon composites and vehicles made out of predominantly nano-tube structure. Some current sensors on strike aircraft might have trouble finding them, however generally the targets, their locations and type are already pre-known prior to the striking aircraft's mission. However being mobile insures fluidity of motion and a slight advantage.

The goal in the first series of strikes is to eliminate Surface-to-Air threats and the US Navy and US Air Force are extremely proficient at this. Older hardware such as tanks, mobile missile launchers and vehicles made of steel and iron really will not be able to maintain their concealment in today's battlefield; ***They are Toast***, as ready room participants often say.

Other strategies will also be considered by the defending nation; "If" the military mobile defense systems are made of hard to see materials, well hidden from view, will turn off all electronic and allow the engines to cool completely they will render little if any heat signature. Is it therefore possible for them to *remain somewhat hidden*? Somewhat is not good enough in the modern battlespace or the new paradigm of warfare.

If something sits too long it will show up as an anomaly on the Spy Satellite and if it moves too often it will have a heat signature and perhaps a CO2 plume which also shows up under various spectrums of light. What if the vehicles were electric? Indeed, this makes sense too, but electric motors also get hot and take a little while to cool as well and they will need to power up a motor of some type at sometime to re-charge. Even if they were solar powered, they would still require large solar panels thus giving away their position.

This does somewhat remind us of the saying; ***"No where to run, no where to hide!"*** Of course this is the goal of the opposing strike force. When a defending nation is in such a position, it makes their political will and demands somewhat fruitless, as if push comes to shove and political impasse rears its head then there is always hell to pay.

Of course the striking force has the element of surprise and this is a huge advantage and as long as the intelligence is tight, this is a feather in their cap. The striking force will also employ various tactics such as running decoys to get the mobile missile launchers to **"turn on"** and as soon as they do, they become instant targets or are painted for the real strike force which cometh. Although we have not seen small UAVs illuminating as larger targets in swarms, we will.

One problem is that 10,000 men scattered across a thousand square miles might sit and wait with shoulder launch surface-to-air missiles, although generally these are only good for a few miles. A man portable unit does create risk for the striking force, although many of the smart munitions will be dropped from much higher altitudes and therefore these weapons are not viable to prevent the striking force from taking out mobile missile launchers or fixed SAM sites or defense systems.

A nation defending itself may attempt to use shoulder launched surface-to-air missiles to prevent first strike although this will most likely lead to more robust anti-personal weapons being dropped strategically from the air. So that might not be such a smart move. Indeed, a defending army might be better off to hold onto those weapons until after the first strike, because the first strike will probably be very successful and thus they will need these weapons for later.

In Vietnam often the striking force would encounter hundreds of people lying on the ground and firing straight up as the aircraft flew over on their bombing runs shooting nothing more than small arms (guns). Did this work? Not often, but it goes to show you to what lengths armies will go to defend their infrastructure, equipment or nation.

The defending army will often set up decoys and employ deception tactics also, much like the striking force. In fact they might set up a used pick-up truck with junk in the back under a not so perfect camouflage cover, knowing the striking force will consider it a target and as the striking force comes in, they are picked up in a trap. As great as these types of decoy strategies might have worked in past periods, one must understand that the sophisticated military hardware of today allows an eagle eye view of the situation and such a tactic could back fire completely.

Of course all too often an army will underestimate their competitor and thus pay the ultimate price. The mission of the striking force is to eliminate the enemy's defense systems, crush their communication infrastructure and then hit the main objective targets. In a full-scale war there will be many targets and thus it might take 72 hours to hit them all, most likely not, but it is possible that the major fighting in a modern war could last that long.

Total War or complete annihilation of all life and complete surrender can take much longer as the human slaughter rages on. It is a gruesome spectacle, but is a fact of human history. Robotic rapid warfare might indeed speed things up and actually produce far fewer human civilian casualties.

One more recent tactic being implemented by some rogue combatants and rogue nation-states is to use **human shields**, knowing the striking force will have to deal with the media backlash in the event they attempt to hit the target anyway. Luckily with very accurate smart munitions, this will not always work, but sometimes the tactic does work, for instance an enemy command and control which is located in the basement underneath a civilian school, hospital, religious location or apartment complex.

The civilians normally do not have a choice, if they protest they will be killed and so either way they are needless victims. Of course if a defending army no longer values the lives of its citizens more the reason for continuation of the strike to institute regime change for the sake of human rights and humanitarian causes.

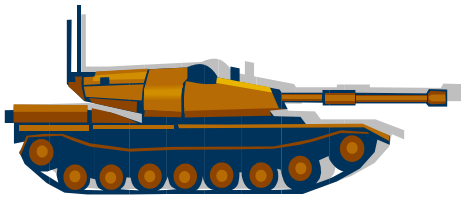
Indeed the media is being used as a tactic of deception in modern wars and human conflict. Although often enough the media becomes extremely limited after an electronic attack and after communication of the enemy is completely defunct. This brings up another point of contention, if the media is aiding the enemy and prolonging the conflict then more needless human life will occur, thus is the *media to be amongst the first targets*? Some say yes, others deplore the concept. I stand neutral for I am not a General, but, I do value human life and thus would tend to consider ALL options.

The other issues with regards to media is that their communication systems also show up as electronic signatures and must be isolated by the striking force, if possible and if not possible perhaps more of a reason to eliminate all possible treats to insure a quick, decisive and complete victory. (NFP).

Other interesting new tactics are Infrared Heat Signature decoys which will mimic the heat of a soldier, combustion engine, ship or just engine aircraft. Scattering such decoy systems to fool the enemy does make sense especially as both the striking offensive force and the sitting duck defense army plots its battle strategies.

New uniforms are already being developed to keep body heat signatures to a minimum, vehicles are being specially coated and the heat from exhaust being rerouted and reused to make energy. Stealth aircraft also spread out the heat from the exhaust, these simple strategies and more will continue to be used and these technologies will continue to evolve.

Fiber Optic Ground Vehicle Strategies



In previous wars the radar systems to locate enemy aircraft were located away from the anti-aircraft SAM sites. The enemy would leave the radar system off until the aircraft were very close and then flip the switch to turn it on, paint the target and then launch, as soon as possible. This made it hard for the striking force to find the target without using itself as bait, quite a deadly game of cat and mouse. With mobile missile launchers the defending nation believes it has the advantage and whereas it does have **"an" advantage** it does not have **"the" advantage** and there is a huge difference.

Currently some nations are developing **robotic mobile anti-aircraft missile launchers** which have a very long fiber optic cable. The robotic missile launcher will be displaced to predetermined locations and rotate its position every three or four days. The robot will stick a antenna stake in the ground which will allow communication with its tele-robotic operator and then unwind a 1/2 to 1 mile long cable as it goes. Any communication electronic signature will show up at the stake and not at the mobile missile launcher. Provided the unit has excellent camouflage and cover, it *might* greatly increase its survival rate.

One of the systems being designed now uses 3G + wireless phone technologies, but the defending nation must realize that those wireless phone towers will be first on the list as targets, because the potential disruptions of the cell-tower plume and cellular signals by stealth fighter might be enough to help track them or might help track terrain following stealth unmanned combat aerial vehicles (UCAVs).

Tele-robotics left without communication just leaves one more sitting duck target for the striking forces. These technologies need to be re-thought completely. Tele-robotic systems in the battlespace make sense if you are in control of the communications system, but when you are the defender under attack from a modern strike force, that is the first thing that goes - all your communication and thus collapse of command and control, chaos and loss of the battle.

Additionally, as defense contractors work to perfect these tele-robotic systems and the fiber optic line separation to prevent electronic signatures, UAVs are being developed with optical flow sensors to locate straight line anomalies which can see the line strewn out. A small low level UAV might seek and destroy or fly over to the robotic mobile missile launcher and drop off a hand grenade or become a single mission UAVs with an aboard destruct on impact device.

Since multiple sensors such a lidar, radar, infrared, optical and sonar will be used by both the invading strike team and the defending army, even if the electronic signature is removed, the heat signature and satellite anomaly are still active.

You can fool some of the sensors some of the time,
but you cannot fool all the sensors all of the time.

Although I have not heard any discussion on this topic it might make sense for the defending army to string multiple fiber optic lines from multiple directions and coat the fiber optic lines with the local color for camouflage, then use frequency hopping or skipping with the tele-robotic communication system.

If one antenna is hit, it will simply stop being used by the system and the remaining antennas will be used. With multiple targets all around the area will appear to be a hot bed of activity and attract the invading forces closer - **"Trap Door Spider" technique**.

Indeed, of course the more computer advanced striking force would design artificial intelligence to estimate the location of the units based on how the antennas were laid out and send in seek and destroy loitering smart munitions. Once the target launches to hit *"the seek and destroy"* drone, it will be identified as a target and thus immediately eliminated. *Next!*

If the defending army attempted to do this then the system might be viable to for a small nation-state against an unsophisticated attacker. Yet, even Iran, which has added the "*old junk*" used Russian Missile Launchers to its defense systems, which have *active matrix RFID satellite tags* hidden and embedded inside so they can be tracked and identified by US Satellites as practice targets; well it simply will not work against a sophisticated striking force. Indeed with spy satellites which find anomalies in Earth's surface height of over 2 feet, even a new retaining wall shows up on the images and the artificially intelligent computers finds these within hours.

Even if you can fool most of the sensors most of the time,
good luck fooling the satellite by day or by night!

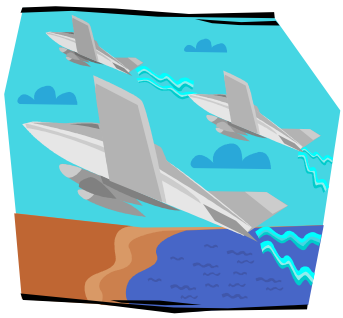
What if the Solar Flares knock out the spy satellites? Well this is not likely, but even if they did the **Stealth UAVs** can see the ground and their imaging is even truer than those of the satellites. There is really no way to hide old iron and steel mobile Russian missile launchers, indeed this is why the Russians sold them to Iran you see? Whether they are robotic or driven by men hell-bent in dying in battle for their god is irrelevant, they will not escape elimination from the battlefield.

What about a new low to the ground mobile missile launcher made out of carbon composite and electrically powered from a fuel cell? Well, unfortunately there is the heat signature issue again, as *during the conversion process fuel cells generate quite a bit of heat*. If the heat is kept at bay, then perhaps this might be possible if the unit is low to the ground in a flat shape, although if it is too flat it will not be able to get over rough terrain and if it stays on the roads it will get picked up either way. If the unit gets stuck or it runs out of juice, like a sitting duck until destroyed.

What about a self-burrowing robotic mobile missile launcher made out of composite that runs on an electric motor? Well, ha ha ha, yes, yes , indeed, there is always another way. Of course it takes a lot of power to bury such a unit and while it would be safe underground from electronic attack for the most part, it may not be able to unbury itself in time to help in the defense of the nation-state. If something like this is ever developed it will most likely be done in the United States where they have the research and development budget to do so. Good point.

Now if 1000s of these could be buried and hooked to fiber optic lines with antennas away from their position they most likely could survive the onslaught of the aggressor, but it is difficult to undertake such a project without someone noticing and thus the striking force would avoid this area until after the war and then go collect all this buried electronic treasure. If the aggressor knows of this thru intelligence gathering of other geo-spatial analysis, they might adopt a much more robust set of first strike weaponry such as nuclear or an MOAB type scenario.

Electronic Attack (EA)



Electronic Attack is an option of modern first strike military action, but it is not always the best option. This is because if you go too heavy handed and take out ALL the electronics, then it will be difficult to intercept transmission for Intelligence Gathering or use the electronic transmissions as homing beacons to pick secondary targets. One error that is often made as nations reach a political impasse and stop talking is that the rhetoric heats up and some nations over boast their military defense systems.

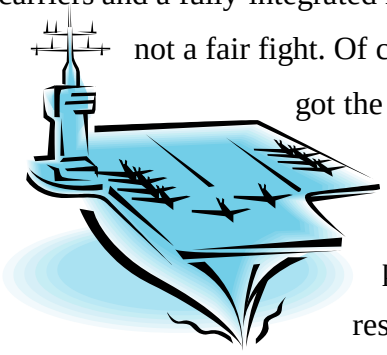
Often this leads to an over kill approach for not only over powering the defending nations electronic defense systems but literally taking out all the electronic systems in the entire country. One of the major flows of any civilization is the flow of communication and when it disappears the nation-state will be on the verge of collapse even without the war going on. Chaos and Controversy does assist in warfare, but it also leads to additional problems later on. A Generals goal is to win and indeed his major concerns are with his team not the opposing force.

Quelling the communication of Command and Control of the enemy and basic public communication that they might use makes sense. Taking out reciprocal defense systems is a must to win the battle and if the enemy generals are listening to local media to follow the battle, perhaps shutting that down might also be wise. Of course if it is shut down no one can use it for propaganda and thus the striking force will need to bring their own news broadcasting systems.

One last ditch tactic of a nation-state defending itself might be to take out "all" communication on both sides, for instance attempt to "flash" the satellites and send a large rocket up very high with a huge electromagnetic pulse or many such rockets simultaneously. The goal here would be to remove all communication and render the smart munitions useless, wipe out Aircraft Carrier Communication, remove local AWACS and net-centric battlespace communication systems and hope to fight a more old style war with what ever the defending nation has left in the way of military equipment and hardware.

Would such a strategy work? Well, for a while, but remember that Aircraft Carriers have all sorts of back up systems and are protected and submarines could surface and be used in their place by way of relay. AWACS could be fully operational with new units in 4-6 hours. Aircraft below the deck of the air craft carrier would be still in tact and could be launched in a very short time period. As our Think Tank ran all these scenarios, the amount of redundancy and capabilities of the present US systems would be up to 90% within such a short proximity that it would be a very bad move for the defending army. Of course desperate folks do desperate things and you just never know. Perhaps this is why the US Military is ready for these sorts of things?

The reality is that the defending nation-state does not have a chance against a couple of aircraft carriers and a fully-integrated net-centric battlespace using all the modern day technology. It is not a fair fight. Of course war is not really fair anyway. Even if the defending nation got the upper hand even for a brief moment, if the US military ever did pull out all the stops, there truly would not be anything left to discuss after all the dust settled. Each time we ran all the potential eventualities in our war game scenarios, we found similar results in the end, as the US Military captured the opposing forces King in an extremely short number of moves. Actually all in all it is pretty impressive and our scenarios were completely unbiased.



Even a Super Power like Russia or China with modern day advanced weapons and nuclear submarines, would have a tough go of it and in the end all scenarios show the Americans as prevailing and even with all the luck factored in the number of battles were extended only slightly and the war prolonged anywhere from a few additional hours to 1-2 days maximum.

The use of 15 to 20,000 robotic unmanned ground vehicles of the defending nation state only slightly added to the total number of sorties and number of smart munitions used, thus only adding 5-8 hours total to the air war. The cost to procure this many vehicles for a defensive system did not pan out and was a very poor use of military expenditures for the defending nation-state. However, for limited wars, border patrols or offense, the expenditures are more than justified, as our studies show. Striking forces on the other hand should procure such units.

If the unmanned ground vehicles were underground and hidden until after the first 72 hours of the initial attack (if possible), then the unmanned robotic ground vehicles of the defending nation state would serve well in defending against the ground war. However, it should be noted that after the major SAM sites are removed and the mobile missile launchers destroyed the helicopter gun ships and their highly mobile arsenal would render the robotic unmanned vehicles that were left rather useless.

Now then when a smaller nation-state was defending itself against another small nation-state without the fire-power of the United States or NATO combined, then 15,000 robotic unmanned vehicles are a very viable war toy. Thus any allied nation would be wise to own tens of thousands of them, but any rogue nation-state, challenging the Free-World would simply add fodder and targets to their own demise. Any nation attacking a small rogue nation which did not have NATO support could use robotic unmanned vehicles extremely affectively without maximum air-support and have an excellent chance for a full and quick victory, as long as they had a decent striking force air-campaign and the number of sorties needed the prior.

This author in no way is an advocate of robotic unmanned vehicles as the be all, end all of military hardware and yet with the rapid advances in this technology it is quite obvious that any serious military would be foolish not to leverage these assets in order to serve their political will, if such a challenge or crisis occurred.

Can Unmanned Robotic Ground Vehicles Be Shielded from Electronic Attack?

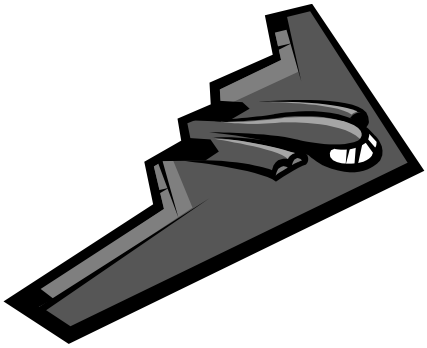
It appears that the answer is yes to a large degree with the proper use of materials. Carbon Nano-Tube Construction and perhaps lead atoms inside the carbon nano-tubes could encase the electronic brains of the UGV and thus protect it from EA. All of this is forth coming and there are rumors some of these protection cages with similar make ups in structure already exist. Any truly viable unmanned ground vehicle that was expected to survive must have a strategy to protect itself in such an environment and against such electronic weapons.

Swarming Robotic Strategies

For unmanned ground vehicles to be affective in the modern battlespace, they must be able to work autonomously and together in teams. They will need to share data and be able to run semi-autonomously if the tele-robotic connection is broken. These unmanned vehicles like the modern UAVs will need to go into a safety mode and protect themselves and use artificially intelligent software and collaborative connections with other robots on the battle field to continue the mission.

Of course as these UGVs work together they will be up against UAVs from the enemy also working in swarms and networks. Currently there are many UGV - UAV team concepts where the two work together and share information for accurate target identification, acquisition and hunting. Theoretically speaking if command and control were eliminated by the enemy, the unmanned vehicles would carry out their previous orders until they could no longer do so. Of course military ethicists have all sorts of things to say about that concept, but it is intriguing to know that robots can fight the entire war once they are set lose on the battle field?

Section III
After Round One



Today's major conflicts consist of a hard fought a quick paced battle for the higher ground, indeed currently the highest ground is already owned by NATO forces and the United States and that would include Space. Yes, space, that is to say the satellites that help coordinate communication and the flow of information to the entire net-centric system. Indeed, eyes in the sky and AWACS are also in control of the high ground. Yet air-superiority and dominance allows attack aircraft and helicopter to control the battle.

Thus the first and foremost goal once the war starts is to control the air and eliminate the enemy's ability to advance or defend by constantly bombarding their positions. Before any of this happens of course the air must be secured for the aircraft to operate at low altitudes. Easier said than done as a defending army will have lots of military hardware on the ground that is a threat to the strike aircraft.

Strike aircraft operating in such scenarios early on try not to take too many risks, but war is war and they are there to do a job, a job that they are well-trained for. If the defending army has proper air-defense systems set up then they can attempt to stave off an attack, well as long as they can see the incoming attackers.

Yes, stealth and therefore you can see the challenge of defending ones nation against such technology. A successful offensive air-campaign these days is fought in hours not weeks or months. After round one, the air war, the battle field is much different.

In the air-war many tactics are used to eliminate SAM sites and major defensive equipment; then it is time to send in the ground teams. If the air-war has been fully executed and most all the major targets eliminated the ground war units can have ample close air-support for the rest of the battles. Since EA is used often sometimes the enemy is caught in a disarray and they are not functioning in any cohesive manner, this chaos adds opportunity to the attacking armies and their close air support assets.

This of is an excellent time for the advancing aggressive offensive army to employ robotic unmanned vehicles of its own to help in surveillance and securing area thru the use of high-tech sensors. Fast moving UGVs working with UAVs and tele-robotic human operators in mobile command centers or perhaps at a far-away location via satellite can cover a lot of ground and mop up without a huge amount of loss of life for the advancing offensive ground troops.

Electronic Attack

"What is Left to Fight"

Since part of fighting a successful initial air-war consists of disrupting the enemies supply lines, communication, command and control and its anti-aircraft defense systems electronic attacks are an important tactic. But once the defending army is rendered without such tools or military hardware after the first wave of sorties and any electronic attack, what is left for them to fight with? Often not much and as chaos ensues each sub-unit of the defending army is on it's own and without its prize military hardware that has been eliminated they are left to fight with little more than garden hand tools.

Most shoulder launched man-portable missiles are full of electronics and thus a strong electronic attack often renders the tiny missiles in the hand held tubes as duds. Shooting a dud at an attack plane or attack helicopter will most likely be the last thing that soldier does as the attack aircraft comes back around or the attack helicopter launches its own rockets in retaliation, by then it is too late to hide and too late to run.

At this point surrender might be a wise choice for the defending infantry that has survived up until this point, for some enemies with stronger nationalistic pride this maybe out of the question entirely. Thus the offensive armies will have to finish what has been started as the defending army is out of quarters. Still, in urban areas we notice that insurgencies and hold outs will use small arms, IEDs and rocket propelled grenades. Some cultures resort to suicide missions using whatever is available that they can find.

For all these reasons it makes sense to incorporate robotic unmanned systems to locate, detonate or de-activate roadside bombs using sensors, tele-robotics and sniffers. The advancing offensive army should do the responsible thing to cut down on losses using high-tech systems. Robotic Systems are already being used on unmanned ground vehicles to locate the direction of incoming fire from snipers and then return accurate fire to eliminate the threat (s).

Since the communication systems and perhaps power is out, operating in an urban setting can be challenging. Thus the offensive, policing or occupying force must re-establish communications without setting up vulnerable base camps that become an easy target for underground left over combatants.

Cell Phone Tower Dirigibles

Once the communication is knocked out the defending nation will lose much of its ability to execute its defense strategy against the attacking army. It will most likely lose all its capability to operate its tele-robotic unmanned vehicles as well, which considering the cost of acquisition, maintenance and replacement this is not pretty.

Worse think of the potential eventuality of the aggressor army capturing all these robotic fighting machines, swapping out chips and adding them as mobile robotic infantry to fight for their side against their owners? Without communication the defense army would be helpless to stop the robots and would be forced to fire upon them, eliminating those assets or be killed by them.

"The Robot of My Enemy is My Friend?"

Indeed the power to over ride, eliminate or infiltrate the enemy's communication system can work both ways. Perhaps the future of Military Hacking will be its own special command in the future. He who controls the robots and the electronics in the Net Centric Battlespace controls the battles and eventually wins the war. Once one competitor has the upper hand over the other it becomes paramount to regain communications. How can this be done?

Well there are many ways to regain communication and one way is to send up 3G Wireless Cell Towers inside dirigibles. Yes, they will become immediate targets and yet if the defending army had many of these small relay systems they could constantly send another one up. These units might be buried underground in advance just in case with trap doors which could be opened causing the system to inflate and float skyward.

Sounds crazy enough, but such systems have many advantages during chaos and one only has to imagine there current uses in dealing that aftermath of large Hurricanes or Typhoons. When all communication is wiped out the entire system could be run with instant up communication towers that could relay information to all the robotic search and rescue units.

If the systems were many and small and cheap to build they could be expendable and therefore usable in the battlespace too. If the aggressor assumed that the communication was knocked out they might attempt to try for hard to achieve targets and then be caught by surprise.

Of course if the aggressor army needed to bring in its own communication it might consider floating in its own communication systems on blimps, balloons or dirigibles. This could easily be done by using a UAV which had balloon bags with canisters that inflate when they reach the desired or designated area to provide communication to run all the unmanned ground vehicles. Of course this might be a back-up for satellites, ships, AWACS, UAV relays, mobile command centers, ground communication systems and/or base camps. It is that important because if you lose communication with your UGVs you might be in for a world of hurt.

Conclusions and Concepts

All nations should consider the use of military Unmanned Ground Vehicles and their various uses. Yet at the same time those in charge of such initiatives for future military assets must also be completely realistic of their capabilities, vulnerabilities and liabilities. It must be determined how they can best serve and when they should be deployed.

Fully autonomous fighting vehicle technologies are now available, yet problematic if they are to be counted on for defense or relied upon for offensive objectives when the stakes are high. It might well be possible that in the future these units are considered to be safer bet than the use of humans on-board the fighting vehicles and although that day is not here yet, it most certainly will be some day and some day soon. Unmanned Vehicles will change the future of warfare.

For tele-robotic unmanned ground vehicles the weak link is indeed the communication systems. Still more discussion, dialogue and strategizing will be needed to adapt to the new paradigm of robotic warfare. Electronic Attack and protecting against electronic attack must be considered. The future is now upon us, do you have a plan?

References and Works Cited

Background Reading Research Papers

1. Winslow, Lance. ***Truck Technologies of the Future***. Online Think Tank Virtual Press. Palm Desert, CA. 2007
2. Winslow, Lance. ***Hoverboards of the Future***. Online Think Tank Virtual Press. Palm Desert, CA. 2007
3. Winslow, Lance. ***Holographic Technologies of the Future*****.** Online Think Tank Virtual Press. Palm Desert, CA. 2007

Research Papers

Section I

1. Autonomous Vehicles in the Net-Centric Battlespace: http://spawar.navy.mil/robots/pubs/iuuvs2000.pdf
2. Battlefield Information Integration: http://www.cs.unc.edu/~geom/WIHAVE/POSTERS/FINAL/hrl.pdf
3. Unmanned Tele-operated Robots as Medical Support: http://www.defence.gov.au/dpe/dhs/infocentre/publications/journals/NoIDs/adfhealth_apr05/ADFHealth_6_1_34-38.pdf
4. Post Modern Terrorism - Foreign Affairs Magazine: http://www.foreignaffairs.org/19960901faessay4222-faarticles/walter-laqueur/postmodern-terrorism-new-rules-for-an-old-game.html
5. Terrorism Trends and Prospects - Rand Corp: https://www.rand.org/pubs/monograph_reports/MR989/MR989.chap2.pdf
6. Fourth Wave - History of Terrorism: http://www.currenthistory.com/org_pdf_files/100/650/100_650_419.pdf

Section II

1. Where am I - Sensors and Methods for Mobile Robotic Positioning: http://www.eng.yale.edu/ee-labs/morse/other/pos96ch1.pdf
2. Application of Radio Controlled Cars as Intelligent UGVs: http://phoenix.nmt.edu/~wedeward/papers/2004SPIEUGV.pdf
3. Summary or Articles of Visual Sensors in UGVs: http://csdl2.computer.org/comp/mags/co/2006/12/rz004.pdf
4. How UGVs Fail in the Field: http://crasar.csee.usf.edu/research/Publications/CRASAR-TR2004-16.pdf
5. Helping Maintain the Future Fighting Force - Sandia Labs: http://www.sandia.gov/news-center/publications/annual-report/FightingForce.pdf
6. UAVs Future Fighting Force: http://www.me.wustl.edu/~aiaa/AIAA_2005_Nov.pdf
7. Future Expeditionary Fighting Force Needs: http://proceedings.ndia.org/4620/Chris_Yunker.pdf
8. Robotics Research at the DOE - Telerobotic Controls: http://www.robotics.ost.doe.gov/reports/dd_tele_control_fact.pdf

Section III

1. Establishing Wireless Communication via Dirigibles: http://md1.csa.com/partners/viewrecord.php?requester=gs&collection=TRD&recid=20061050236675EA&q=&uid=1023396&setcookie=yes
2. Electronic Attack Vulnerability for Aircraft: http://stinet.dtic.mil/oai/oai?&verb=getRecord&metadataPrefix=html&identifier=ADA329367
3. An Electronic Pearl Harbor? Not Likely - Article: http://issues.org/15.1/smith.htm
4. Future of UGVs in the Battlespace: http://www.metavr.com/technology/terrain-ugv-fcs.html
5. Interactive Robotic Control System - Teleoperated: http://wwwipr.ira.uka.de/?fileid=7

Media and Internet Articles

1. Future Fighting Wars:
   http://www.scientificamericandigital.com/index.cfm?fa=Products.ViewIssuePreview&ARTICLEID_CHAR=027AE48D-34A5-4959-BF7E-58A8D4FE259
2. US Bomber Roadmap Article:
   http://www.afa.org/magazine/June1999/0699bomber.asp
3. WikiPedia Online Future Force Entry:
   http://en.wikipedia.org/wiki/Future_Force_Warrior
4.

Online Links to Unmanned Tech

1. Unmanned Systems Online:
   http://www.auvsi.org/
2. Shepard Group Online:
   http://www.shephard.co.uk/UVOnline/
3. About.com US Military Unmanned Vehicle Article:
   http://usmilitary.about.com/cs/armyweapons/a/unmanvehicle.htm
4. Futuristic Unmanned Crusher Tele-operated Vehicle:
   http://www.physorg.com/news65522328.html
5. AUVSI
   http://avdil.gtri.gatech.edu/AUVS/IARCLaunchPoint.html
6. Global Security FCS Unmanned Vehicle Overview:
   http://www.globalsecurity.org/military/systems/ground/fcs-ugv.htm
7. Unmanned Vehicles Come of Age: DARPA Grand Challenge:
   http://csdl2.computer.org/comp/mags/co/2006/12/rz026.pdf
8. CRS Report to the US Congress on Unmanned Vehicles:
   http://www.fas.org/sgp/crs/weapons/RS21294.pdf
9. War Center 2007 Unmanned Vehicle Convention:
   http://www.news.navy.mil/search/display.asp?story_id=26915

Bonus Articles by Lance Winslow

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Enemy UAV Defense is under consideration

Unmanned Aerial Vehicles should be shot down from the air rather than the ground because if they are flown tele-robotically the operator who is looking down and forward will not know where the anti-aircraft device is. If the enemy uses Unmanned Aerial Vehicles to draw fire, which is a smart move for them, then once fired upon the Unmanned Aerial Vehicle whether it is shot down or not has now located our weaponry and troops. Likewise if we have a loitering Unmanned Aerial Vehicle above the enemy once they shoot it, we see the hostile fire and either "hell fire missile it" or take coordinates of the insurgents locations and wire it to the most appropriate component of the net-centric blue force.

If an enemy Unmanned Aerial Vehicle locates our troops it is only a matter of time before they are eliminated, so it is essential to shoot down all enemy robotic or autonomous, AI or not, Unmanned Aerial Vehicles. Shooting down a Unmanned Aerial Vehicle with small arms fire is dangerous and nearly impossible. It is for that reason that they must be shot down from the air. It is easier to shoot one down from the air, but not an easy over all task. The best way to shoot them down would be aerial laser from a floating reflector above the battles space or just above line of sight. The Unmanned Aerial Vehicle will not know where it came from, it will fry the electronics immediately and do so at the speed of light. By using an aerial blimp we have additional coordinates in the 3D battlespace. Shooting down swarms of incoming Unmanned Aerial Vehicles should deploy similar tactics for best results (eliminating all Unmanned Aerial Vehicles or MAVs in the swarm).

Nearly every country in the world has Unmanned Aerial Vehicle programs in development, this means our allies and our enemies. We have even seen technology leak from friendly countries to questionable ones and then end up in the hands of International Terrorists. Just recently Hezbolla has bagged about flying a Unmanned Aerial Vehicle into Northern Israel. No one understands what the purpose in doing this is. But it stands to reason that if they are strapping bombs on down syndrome kids and sending them into Israel to get on buses and blow themselves and everyone else up, that you cannot put anything passed them? Is Hezbolla planning single mission Unmanned Aerial Vehicle model airplane kamikaze attacks? It appears so. As these International Terrorists get more sophisticated with their weaponry, we will have to find ways to defeat these Unmanned Aerial Vehicles and do so in a way, which does not give away our troops positions. Think about it

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Educating Yourself on Unmanned Vehicles and the Future Fighting Force

Many arm chair couch potato Generals sit and scream at the TV when it comes to fighting wars. Convenient indeed, sitting their calling the shots and complaining about what is going on at the unit or ground level - how on Earth would they know what is going on, as whatever is on the TV is hardly real.

Information seems to be power and therefore, I must recommend that those who wish to educate themselves on the US war efforts learn a little bit about Unmanned Vehicles and the Future Fighting Force. Where can you learn more? Well there are many sources which provide me with information and allow the intake needed to prepare a paper in 2-days off the top of my head about the subject.

The Internet has been a wonderful tool and the many online newsletters in Robotics, Unmanned Vehicles, Artificial Intelligence, Defense Topics, Space, Automotive, Trucking, Communication, Materials and Bleeding Edge Research are immensely valuable. Other good sources of reality based information include all the digital online libraries at the major Universities for sharing their knowledge.

Consider all the magazines on the subject and information in Aviation Week and Space Technologies, Space Daily Express and the top Defense Magazines. Of course first you ought to read the US Army's Future Fighting Force Roadmaps and reports to Congress. They are put out each year along with those from the US Air Force Research Lab and the US Navy.

Perhaps if you really want to learn more, check out the DARPA Robotic Unmanned Vehicles Competitions that propel this area of science. That ought to give one a start in learning all about the future of Unmanned Vehicles in the modern battlespace.

Indeed, even if war is something you do not wish to think about, I see a tremendous future potential with the transfer technologies for Trucking, Transportation, Policing, Border Patrol and preventing auto accidents. The DARPA Team and their public relations efforts, contests and hospitality has been nothing short of a class act. These efforts help to bring forth a new generation of engineers focused on the unmanned ground vehicle mission. All in all, it's all good.

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Unmanned Vehicles and Future Rules of Engagement

The idea of robots sent to annihilate the enemy is troubling for many to contemplate, especially after watching some of the Hollywood Movies of the last couple decades. Some ask what if they mal-function, yet could it really be any worse than human soldiers who in the past have raped and pillaged? It is a fact of war, in past periods it was accepted, the spoils of war, today it is not acceptable, but it happens. Will robots left to their own recognizance be any less problematic with their rules of engagement?

Indeed one has to ask if one side uses robots, as whose to say the other side will have as sophisticated of robots which will have better artificial intelligent software able to discern friendly, non-combatant, enemy or foe? Who makes this decision and who is designing these systems and programming their software? If the systems are damaged who is to say if that mal-function may cause unnecessary death of civilians or initiate friendly fire?

The question with robotic war fighters has been pondered; Who decides who lives or dies? Whether this question is answered soon or whether it takes time to render such a decision, the predicament and perplexing problem is here and it is here now.

Few would argue that international terrorists should be eliminated and by any and all means possible including robots or UAVs with Hell-Fire Missile Systems. There have already been high-ranking military men and futurist philosophers contemplate this problem and the consensus appears to be that Robots should not be allowed to kill humans unless a human being is in the loop, which seems to point towards the future of "Video Game Warfare" thru a tele-robotic motif. Then the robotic unmanned ground vehicle, system or UAV is nothing more than a tool at the hand of a human?

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2007 Trends in UAVs (Unmanned Aerial Vehicles)

Unmanned Aerial Vehicles or UAVs have proved themselves worth their weight in gold in the military. Today Unmanned Aerial Vehicles can be flown tele-robotically and controlled from a distance by a pilot on the ground. Some UAVs can fly completely autonomously once launched. Unmanned Aerial Vehicles make a perfect surveillance tools in the modern net centric battle space. With many high-tech electronic sensors they can pick up the enemy via infrared on a pitch-black night.

There have been instances where UAVs have fired upon enemy targets using hellfire missiles and destroy the target. There have been situations where the ground control link was lost on a tele-robotically flown UAV and the Unmanned Aerial Vehicle returned its self to the airport and landed safely. The technology advances in unmanned robotic vehicles has come a long way in the last decade and this trend will continue.

What will the future of UAVs bring? Well, we are witnessing the miniaturization of UAVs as the sensors and electronics get smaller and more robust. Currently the United States military is using Micro Air Vehicles or MAVs that are the size of a small bird. Current technology trends predict that the top universities in the United States will perfect insect size MAVs. Meanwhile The Air Force Research Laboratory has put out a roadmap calling for unmanned fighter aircraft and attack aircraft in the near future. We can also expect cargo aircraft UAVs.

With the rapid advancement of artificial intelligence it appears that the fighter pilot's days are numbered and soon human pilots will no longer rule the skies. You can also expect transfer technologies to be handed down into many commercial applications. I hope you will enjoy this book and discussion of all these topics and more, as we look at the future of UAVs for both the military and private sector.

I appreciate your mind's bandwidth on this topic, as UAVs are not only here to stay, but will be a big part of future aviation history. And you need to be thinking here. Perhaps this article is of interest to propel thought in 2007?

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2007 Trends in Artificial Intelligent UAV Fighter Aircraft

The Future of the Top Gun Fighter Pilot is almost over and indeed their days are numbered. This will be the last generation of human fighter pilots due to the rapidly advancing artificial intelligence and unmanned aerial vehicle technologies. Soon airliners will fly themselves just like light-rail systems only without the tracks. The cost savings to build aircraft without cockpits and human systems for control will save hundreds of thousands of dollars or even millions in some cases. But this is not the only reason.

Consider if you will the cost of the military to recruit, train, house, feed a human fighter pilot. Think about the loss if you lose them in battle, not only have you lost a 50 million dollar or more aircraft, you have lost all your return on investment in training too. Indeed human pilots also have limits that future artificial intelligent unmanned aerial vehicles will not have. Humans cannot withstand much more than 8'Gs and we have missiles that can handle over 18'Gs now. In the future Fighter Aircraft without humans will be able to do the same and therefore complete nearly impossible maneuvers by today's standards.

The current predictions and UAV Unmanned Aerial Vehicle Roadmaps of the United States Air Force and United States Navy are calling for increased use of robotic aircraft and huge decreases in human piloted aircraft. Both cost and technology are driving this progression, but also driving this solution is the competition or potential adversaries. For our fighter aircraft to be more competitive and continue to dominate the skies removing the weakest link, the human pilot makes a lot of sense much to the chagrin of pilots like my Dad who did 250 combat missions in Vietnam in an US Navy A-4.

I hope you will enjoy this intellectual thought and concept. Maybe you will find it mindful and thought provoking, as this is its intended purpose. Perhaps this article is of interest to propel thought?

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The Inventor Entrepreneur Must Risk Crash and Burn Scenarios to Push the Envelope on Science

If you really want to be an inventor sometimes you have to mortgage your house, beg, borrow or steal in order to set your project in motion. Still even the best garage inventors often crash and burn. How would I know? Well I often talk with such inventors, innovators and forward thinkers on a daily basis. In fact as a retired entrepreneur I have even used some of my own cash on some rather interesting projects, which yes, you guessed; Crashed and Burned.

Indeed, I built a little UAV Unmanned Aerial Vehicle or MAV rather, a Micro-Air vehicle. Spent about $200 bucks in parts to make a flying beer can? Hey, don't laugh, I could have made a fortune if I was hired for a Super Bowl Commercial, maybe even made 1000% return on investment. Unfortunately that is not how the story ends? It crashed and burned, actually worse.

The little unit has a polymer type muscle for the wings. Once it gets going it goes for a while without any help. I had designed a little MAV bird figuring the right Reynolds number it would flap a polymer wing. I built a Soda Can model and flew it out of an industrial park and I lost it, as it flew over a building and a wall and crashed on the Fwy, was run over into pieces, ah heck anyway.

Darn thing was too much work, but it flew actually had a lot of power, but very little stability and would have made an interesting decoy tool for the USMC or something? I certainly hope this article is of interest and that is has propelled thought. The goal is simple; to help you in your quest to be the best in 2007. I thank you for reading my many articles on diverse subjects, which interest you.

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High Tech: NovTel GPS

The NovTel GPS system is definitely something to talk about and indeed becoming quite famous as it just happened to be the GPS system riding on board of Stanford University's Volkswagon which just happen to win the DARPA Grand Challenge and the 2-million dollar cash prize. If you will recall the DARPA Grand Challenge had over 50 challengers driving vehicles through desert course almost 200-miles long, without any driver.

The UGV Unmanned Ground Vehicle nicknamed "Stanley" averaged 19.1 miles per hour that day. Stanley completed the race with the NovAtel's Propak(R)LBplus with Omnistar HP Service for precise positioning data aboard. It worked better than all the others including super star Grad students from such notable Universities as Cal-Tech, Berkeley, Virigina Tech, Georgia Tech, MIT and Carnegie Mellon all known for their robust robotic prowess.

The NovTel Propak GPS receiver coupled with the OmniSTAR L-band signals was able to correct its movements while it drove through the tough course. The accuracy is said to be within such tight tolerances that their was no competition at that point. The system even was able to make quick transitions while coming from GPS blackouts in tunnels, without error. The winning combination is something to talk about and the NovTel Propak is indeed the system of choice and the race for robotic warfare continues.

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The X-50A Dragonfly Having Trouble in Development

Imagine an unmanned aerial vehicle UAV, which can take off vertically and hover and then stopped its rotor blades and then fly forward like an airplane? Indeed, the Boeing Co. has built such aircraft and this UAV is perfect for the new Net-centric Battlespace. It is capable of surveillance in real-time and can be operated off of the ship or without a runway. Its range is suitable to protect United States troops and soldiers in hostile territories and alert them of any potential threat approaching.

Unfortunately, such a revolutionary design in aerospace technology is not without its problems in and the prototype of the X-50A Dragonfly has crashed into was destroyed at the Yuma proving grounds for United States military. This is a special project with DARPA and if this aircraft ever makes it to the front lines it could prove to be a valuable asset indeed. Since all the prototypes have now been destroyed in crashes it is hard to say if the project can continue. However, all the data and research, which went into the project is invaluable. And may definitely come in quite useful for future projects.

The hardest part of such a design is the transition from hovering or vertical flight to forward flight. One thought, is to allow the transition period to include departure flight recovery during the complex maneuver. The X-50A is designed to fly at 120 miles per hour with the rotor blades spinning and then stop the rotor blades and ride out the transition into forward flight, allowing for very high speeds. The concept is good and the tests should continue however I believe we need a little redesigning and have posted my ideas at an online think tank site. Consider all this in 2006.

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Abandoned Anchor Retrieval RFID System

There will be times when an anchored ship in the US Military needs to move fast and go after a rapidly increasing situation and task which must be accomplished immediately. If the anchors are deployed then they need a capacity to drop the rest of the chain and leave the anchor there. With a backup anchor on-board.

The anchor, which is left will be fitted with an RFID homing tracking device and it can be retrieved at a later date by specially fitted UUV underwater unmanned vehicle. The UUV will pick up the chain via a cable it attaches and bring that cable up to the ship which will then hoist the cable and anchor chain up until which time the actual anchor clears the ocean bottom.

Perhaps a study should be to determine how much time could be saved if the anchor system retrieval was not an issue? Could the ship, which was already running, move fast and be gone saving ten minutes or more? If so, ten minutes in a high stress situation could be of major value indeed.

There maybe other uses for this technology for other vessels and uses and an RFID retrieval system makes sense for anyone involved in UUV or ROVs also. In fact there are many ways this technology can be used for other things that can also become a huge concern. So we need to be thinking here and consider all this in 2006.

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Organic Decoy Devices for Warfare (ODDW)

We can genetically modify a rat to be the same body temperature as a humans, then parachute in several thousand rats into enemy territory. These rats will pick up the enemies advanced warning and intrusion sensors by way of heat signature.

The enemy, thus thinks they are a division of troops with heavy armament trying to hide, perhaps interpreting these signatures as thousands of troops with all but a little of their skin showing. Think of the Predator movie where Sylvester Stallone was being hunted by the alien for sport.

When “Sly” covered his skin with thick mud only a little heat signature could be seen. Troops with heavy bulletproof vests made of Kevlar with ceramic peck plates and helmets would appear similar and thus the area of a rat would be a similar amount of heat signature of human wearing such gear. Once you fool the enemy you can capture him?

Seeing thousands of such heat signatures would mimic what the enemy expects to see when they see thousands of troops in a battalion of infantry. The enemy thus would get scared and prepare to defend against the perceived imminent invasion. As the enemy gets scared and advances on the threat of an invading force of decoy rats we monitor and wait for enemy to fire on thousands of rats, then quickly mark the location from which the incoming fire, ordinance and missiles are launched. Once the enemy gives away their defense positions we send in the first round of UAVs with lethal weapons. EA (electronic attack) devices and smart munitions.

This idea has been perpetuating itself from news events such as the problem with the thousands of rats in Mexico town, which survived their own poisoning when the poison killed all the cats which were controlling their populations. Also Sandia's all new Sarge robotic territorial guarding unmanned vehicle (ATV with heat signature and machine guns). The movie with the Arnold Swarznegger “The Governator” with the flying UAVs in the latest terminator genre also played a part in this thought. The Border Patrol, Coast Guard and Military use of the predator UAVs and use of sensors to protect infrastructure also played a part in this concept. All in all it appears that such battlefield techniques appear to be heading us in this direction.

Using the technology against itself and the rats as bait seems to be a great way to save human life during military actions of political will and helps defeat enemy. One might liken such a concept to the Chinese art of Judo using the opponents power to against him or the political definition of Diplomacy, “the art of letting someone else get your way.’

Now then since we can all agree that this idea or concept of using organic decoys makes a lot of sense in the ever-changing battlespace, how do we raise the temperature of rats to mimic that of human beings?

There are several really simple ways to change the heat signature of the rats, even ways to do this without killing them or seriously hurting them. The easiest way without using genetic manipulation and using the KISS Method would be to simply feed them something, which would temporarily increase their body temperatures.

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=2309941&dopt=Abstract ,

This might be the best way because as the rats got closer and closer the effect would of the food would wear off and then all of a sudden they would all disappear, thus putting terror and fear into the enemy as they can no longer find the invading forces. Where did they go, did they hide in a cave, go into a tent, which is hiding them from radar? Did they get in a vehicle? Where? Then they might send out a searching recon team, which could be immediately taken out, meaning the must send another to see what happen to them as once they are gone communication will no longer be available.

Meanwhile why they are looking they will be communicating with those in charge whose position is now given away. Such a trick would be aggravating to the enemy because then the signatures would appear and then disappear, meaning, where did they go, meaning enemy must go on high alert and that means more motion and activity from enemy, including communication, movement, fear and action thus giving away information and locations. As this occurs the enemy has one more unknown to deal with prior to the electronic attack as we gather information from the enemy. Our enemy is hesitant, in fear and giving away all of its locations and communication sources.

If we sent the rats in several large boxes which opened with a timer or were the doors of the boxes were made of food themselves, then they would eat themselves out of the box and and then proceed to look for more food. We would time the thickness of the door made of food to when you wanted to launch the attack. As studying the time to eat the door with 1000 rats could be easily studied in advance. By using this thought process therefore the delivery aircraft could fly in under cover of weather or other temporary diversion and return and will be no where near when the rats finally got out of the box. Thus even more baffling to the enemy since there are no support vehicles, aircraft or other devices in the area. Just what appears to be lots of troops without support heading their way.

How do we keep the rats traveling in the direction we wish? Well a couple of ideas here. First lets not forget the story of the dogs used to deliver hand grenades to the enemy. The masters would say go fetch and attack and the dogs would run towards the enemy, but all the gun fire and chaos would scare the dogs and then they would return to their owners? Whoops?

First there are a couple of ways to do this. One is to put a bad smell upwind by way of single mission UAVs, delivering a smell bomb, warning the rats to go the other way. Or put positive smells, generally food up wind so they travel in the direction of food. One way to do this is to use several box drops of food a few days in advance upwind towards the enemy by way of UAV. Or have CIA operatives in country dropping positive smell bombs. Then another box several miles away towards the target again and they would smell it and go to it. And in that box the food would have in it:

http://mdma.net/baclofen/

Then another box even further away with the ingredients, which cause increased body temps once again. The rats will move, disappear, reappear closer, then disappear and then move and reappear, thus looks like troop movements, which do not exist, perfect decoy?

If we drop off 20,000 rats some with electronic pulse devices strapped on them in 20 different locations we can over whelm the enemy, wake up the communication and start movement and then attack after just prior to the coordinated attack we send our an electronic attack to kill the communication and electronics of the enemy. All targets are found and locked, game over. RATS'D. Recon Animal Territorial Sensor Decoys.

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Robots to Fight Future Wars

Abstractly speaking the new unmanned vehicle robotic technologies, both UGVs and UAVs currently under development will change the future of warfare. Today there are discussions on the ethical implications of this changing paradigm along with the new strategies, surveillance tactics and future innovation that will be implemented. Being considered also are the political and media related issues.

The game of hide and seek, electronic attack and robots VS humans and/or robots VS robots are projected into the future in these dialogues as military men, philosophers and diplomats alike contemplate the realities on the road. The future cometh in the modern battlespace - those participating must: Adapt or Die.

What Types of robotic systems are we talking about? Well when we discuss robots in warfare, we are talking about Unmanned Vehicles, that is to say unmanned ground and aerial vehicles. Perhaps you have heard about these, they go by names such as: UAV, UCAV, UGV, UUV and they are controlled either by telerobotics, or autonomously. These robots are the future of warfare.

The United States Military is not alone in such tools of war. Robots in human conflict are at home in many nations military. Countries like India, Russia, China, Iran, UK, Germany, France, Italy, Israel and Australia all have UAV programs.

Of course so does Al Qaeda, Hezbollah, Syria and many of the other International Terrorist groups. Luckily those who plot against us and free peoples of the world do not have the sophistication that our systems do, but nevertheless, they do have access to these tools of war.

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Directing Lightning to Enemy Combatants

Is it possible to use Lightning Storms to hit our enemies in the battlespace during wartime? Owning the weather, which is a military directive and absolute goal by 2025, maybe the key to getting our enemies to serve our political will. Imagine creating a lightning Thunder Storm over your enemy' area, one which disrupt their radar guided weapons? Then directing any built up energy in the clouds from the friction of the storms into lightning bolts onto communication towers, command and control centers or even to strike convoys, tanks, aircraft or Unmanned Aerial or Ground Vehicles. (UAV or UGV)

There are many ways to send a charge to via microwave, laser or directed sound waves to build up a static charge on an object making it inviting for a potential lightning strike. Sounds good right, well as long as you are not on the receiving end of 100,000 to 1-million volts of energy traveling at the speed of light into your base camp, command center or military vehicle, in that case no, it is not so great really.

If we can use lightning to take out our enemies, combatants or those who wish us ill then in fact we will have less of those sorts of people trying to attack us. Plus we can reduce collateral damage and not have the environment problems of exploded ordinance after wards, just a lot of fried electronic equipment and enemies who have simply given up their will to fight and promise to behave now. Think on this, we are.

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Net-centric Data Storage Using Marine Robotic Equipment

Using Mechanical Fish as Repeater Stations and Data Storage for information to complete OODA Loop and eliminate the issues of bandwidth problems in net-centric warfare. Mechanical fish are easy enough to build;

- http://www.egr.msu.edu/~mcmaste7/proto1.htm
- http://www.egr.msu.edu/~mcmaste7/fish.htm
- http://web.mit.edu/towtank/www/pike/
- http://robotics.caltech.edu/~kristi/

We can use these devises to assist us in data collection and since it is mechanical it will not bite on any fishing lines and be equipped with a cutter device to go throw local fishing nets. Provided the fish is large enough no few bigger fish will try to eat it and with razor fins, god help them if they try.

The Net-centric component of the robotic fish can surface to receive data from UGV and Troops, Equipment maintenance data to be retrieved during non-peak usage times. Since we are building mobile cell sites for cellular phones in trucks, on boats and in spherical balloons, putting one inside a mechanical fish, but it would only receive the data and store it in a water proof, terabyte, underwater, fully operational swimming robotic mechanical fish.

Each robotic repeater fish will swim around in a grid pattern to the other repeaters laying down a perfect coverage pattern for marine communication. The military applications are obvious, but also consider the concept for marine environmental issues, marine communication, oil spill and dumping control and defense of our shore lines?

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DOD and DARPA Discussion

September 2005

There is so much bureaucracy in the US Government that one has to wonder if in fact they ever do anything right. Often we will here about some new government program or something good the government is doing, yet we later find out it was pure hokum and Public Relations.

Government's job is to protect the American People, yet we so often see that they are not able to protect us. Most of us are pro-military and the thought that perhaps the military might run a bad as the government is a little unnerving. Has the bureaucracy and political correctness infiltrated the military to the point that it cannot get its job done? We hope not however the DOD's own red tape is an issue in the security of our nation.

Is there a leader amongst us who could do a better job streamlining that BS and mind you I am from a military family and I am 100% in support of the US Military, but as I watch the other branches of our government botch every single endeavor, one must ask the question. Many see so many innovation blocks that they truly worry about the safety of the American people in the future.

The military leadership is fairly arrogant so I doubt they take much of anything in from outside observations and we must also realize without that level of arrogance and self confidence they would not be able to do their jobs, but still if you add in the level of bureaucracy of the rest of the United States Government it is a scary notion. Arrogance and Bureaucracy are a recipe for

disaster, similarly incompetence and inefficiency has been the US Government's major hurdle in the past three decades.

Many innovators find that delivering their concepts to military is nearly impossible, yet giving innovations and ideas to their profit motivated contractors gets quick results and they occasionally see such ideas being used. One thing we have seen recently is a new trend where the Advanced Research Division of the Military, DARPA, is actively seeking out innovators and inventors for ideas and concepts to use in the defense of our nation. Recently we see the DARPA Grand Challenge where teams are competing to complete a 200-mile course in the desert with unmanned ground vehicles (UGVs). These teams are indeed some of the brightest amongst us and this technology will assist our military in doing their job, better with less loss of life.

Imagine a UGV hitting a roadside bomb? No loss of life, therefore the International Terrorists have made no progress in propelling their terror. Of course this is only one thing in a long list of new technologies that DARPA is working on to make our Military more efficient perhaps the US Military can move beyond political correctness and bureaucracy and use their intense self-confidence to win battles and protect the American People. Think on this.

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2007 Trends in Robotics

Ever consider the Future of Robotics? What will it really be like? Did Science Fiction get it right, if not how close were they? Will robots be everywhere and involved in every aspect of life? Will robots eventually take over all the modern Factories; will robots be making robots too? Which sectors will we see robots excel in? Will we see more;

- Robots in Commerce – Retail, Services, Fields,
- Robots in the home – Maids, Washing Car, Doing Chores, Mowing the Lawn,
- Robots in Security - Guards, Guard Dogs, Bomb Sniffers, Bomb Squads,
- Robots to the Rescue – FEMA, Earthquake, Hurricanes, Wild Fires
- Robots for the Weather and Environment – Unmanned Aerial Vehicles
- Robots in Transportation – Light Rail, Cars, Aircraft
- Robots in Distribution – Trains, Warehouses
- Robotic Androids – Assistants, Mentors, Educators
- Robots and Artificial Intelligence – Thinking Machines and Systems
- Robots in the Military – Smart Munitions, Net-Centric Systems, UAVs

As you can see from this partial list, this subject; The Future of Robotics indeed warrants a bit of discussion on this subject. The Robots and Robotics of the future will shape our societies and civilizations forever. Are we ready for the runway ahead? Who will design, build, market and repair all these robots and robotic machines? Is our education system up for the challenge to fulfill the future needs in these industries?

Let us contemplate the changes in life style, standard of living and quality of life, as robots do our dirty work, do our jobs and simplify our lives. We must now consider this future, as it is rapidly approaching and has already started, soon it will be; Robots, Robots Everywhere. Please use this book as a thinking exercise and open your mind to the potential eventualities.

I thank you for considering this topic as it is an important subject as we plot a course into a Brave New World. Perhaps this article is of interest to propel thought in 2007?

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Choosing to Die or Choosing Death by Robot

In the future thru life extension we will be able to choose when we die. There will be miracle drugs, Super Vitamin C and replacement parts such as artificial limbs, hearts, lungs and the latest and greatest robotics. Will be choose to remain 100% human or extend life thru robotic parts, merging with machines? One might choose to go natural, but as we may choose to replace parts and live to see our great, great, great, great grand children if the Earth does not fill up with too many people? Or we may choose for space colonies since there is estimated to be over 30 Billion humans on the planet by 2050.

Will death by robot become a reality? When we replace parts until we are more robot than human and at what point do we cease being human and become something else? Well it is true "choosing to die" does not currently have anything to do with robotics, but it will soon. And soon enough we will cure every disease and delete many of the accidents that happen to humans and be able to "fix them" and stop aging. Many have prophesized this and Ray Kurzweil has a number of followers of his “singularity” concept. If we stop aging thru BioTech and or changing parts that we cannot grow for some reason, then well it has everything to do with the future of robotics and the BioTech revolution merger.

Many a studier of humankind agree, that biological evolution has not kept up with the computer age and it is causing issues with our civilizations and societies, no doubt. At the same time the re-invention of society is not able to take the beast out of the human either, and we keep

sweeping those innate characteristics under the carpet. Those negative aspects of the human species keep emerging over and over again. They keep popping up where we don't want them and then refuse to address them and we make new laws against them. Sweeping them under the carpet is a real problem as we move into the future period of hyper scientific discovery.

If you were given the choice of going completely 100% human, choosing to die or Choosing Death by Robot, which would you choose? What if being human was considered inferior in the future? Are you afraid of change, caught in religious dogma or are you looking forward to the future? Think on this, as it will not be long now.

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Automated Robotic Reciprocal Response Unmanned Ground Vehicles for Urban Battlespace

Currently, The Future Force of the United States Army is developing weapons for the battle space, which will allow them with pinpoint accuracy to know where mortar rounds might hit. There are also new weapons being designed which could tell exactly where a sniper has fired from. By knowing the location of your enemy who is firing upon you, the next logical step is to remove said enemy and the sooner the better.

In the future automated robotic reciprocal response unmanned ground vehicles for the urban battle space will return fire with a devastating force. Those who are dumb enough to fire upon the US Forces, human or robotic, will be eliminated instantaneously.

In the future unmanned ground vehicles and robotics will rule the battle space and remove enemy insurgents and international terrorists surgically with pinpoint accuracy and little if any ancillary damage. For those that believe they can fight our future fighting forces and the robotics that come with the team; they are in for a big surprise.

Of course these enemies will never be able to tell anybody about this because they will be hit so fast they will not know what it was which took them out. Our men and women in uniform are too important to risk in the battle space against enemy insurgents and international terrorists that most people believe are worth less than a nickel.

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2007 Trends in Underwater Robotics

The Underwater World of Robotics is progressing at a record clip. If you look at the military expenditures from the Deep Sea Underwater Coast Guard road maps or the United States Naval Research exploits it is obvious that the technology is moving at break-neck speed. Indeed, we are watching improved performance in ROVs for underwater rescues, deep sea exploration and underwater infrastructure construction and repair in the private sector also moving forward rapidly.

If you will peruse the engineering research departments of the Top Universities around the world you will see lots of prototypes of Underwater Autonomous Vessels being produced and tested, with a plethora of innovative technologies, capabilities and applications. The number of white papers on the subject has increased by ten-fold over the last decade and a half and the amount of collaboration around the world with these technologies is truly amazing, sharing information and data in real-time.

It is amazing that we are exploring other worlds and planning space colonies and yet we have a huge amount of exploration to do right here under our oceans as well. Indeed, others have considered this and are doing just that. We are learning more about underwater volcanic vents, finding new species never seen by human eyes and understanding more and more about the oceans eco-system, landscape, water flows and seismic activity.

I appreciate your brain power on this subject and do please consider the importance of this topic. The future is hear and it is up to us to decide where to take it next. Perhaps this article is of interest to propel thought in 2007?

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2007 Military Tech; Mounting (HEL) High Energy Lasers on Robotic Sentries for Border Patrol

It truly is time to stop pussy-footing around and begin to leverage our best technologies to secure our borders. One new advancement in robotics is a Sandia Lab created autonomous vehicle sentry; which looks some what like an ATV, but fully robotic.

I advise that we mount a small compact (HEL) High Energy Laser unit on these robotic sentries for Border Patrol on the US-Mexico Border. Why use a laser? Well because they are a highly-effective weapon and by completely burning the drug dealer or enemy combatant attempting to gain entry into our nation, it will provide a BBQ meal for localized animal species in desert regions where food is scarce. This also saves money in clean up or burials and less paperwork as well.

Since we have these technologies we should be deploying them immediately to protect our nation and this will save millions if not billions of dollars in training of Border Patrol Officers and billions in salary and pensions in the future. If the drug dealers engage the robotic sentries, then they are toast. Literally. And this is a good thing, but also consider those International Terrorists attempting to sneak over the border to become insurgents in our nation. Stopping them and BBQ'ing them prior to entry makes a lot of sense too.

The high-energy laser system could easily be mounted on a on the Sandia Sarge Unit and it would be fully lethal as needed. We must secure the borders of our nation and this is an excellent way to do that. Perhaps you might consider this concept, as they could come in handy in places like Iraq as well in 2007.

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Will Future Civilizations Destroy All the Robots We Build?

The robotic revolution is before us and we are having kids in school compete in robotic competitions. Indeed, we are getting an incredible number of new innovations and technologies from all this and these kids once in college and bona fide research facilities will create the next generation of robots.

These robots will help us explore other worlds, they will fly our aircraft and they will make life at home so much easier. They will care for the elderly, take our pets for walks and do the jobs we often do not wish to do. They will drive our trucks, our trains and harvest our food from the fields. Robots will also be fighting our wars, running our government and policing our citizens.

There in lies the problem, robots will soon rule our world and we have all seen the science-fiction movies which depict wars against humans and artificially intelligent robotic androids. Is that truth coming, will that be the reality of the future? Will future civilizations destroy all the robots we build in the present period?

Will future generations curse ours for building these robots? Will they label this era a time when mankind was irresponsible with technology and allowed it to run away and eventually run over society? If this is the case then we ought to be very careful as we move forward and build robots to serve us and not for us to serve them and become a slave race to our own technologies.

Personally I am very proud of our technology and look forward to the robotics of the future, but if you disagree with me I see your point and thus I wrote this article from your perspective not mine.

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2006 Predictions for Robotics

Indeed 2005 was the year of the robots, but there are many more years to come. It cannot be debated that in 2005 the greatest strides in robotics yet was observed. We watched NASA use a robotic arm to assemble things in space. We watched a car named "Stanley" move through the desert averaging nearly 30 miles per hour without a driver, fully autonomously without remote control.

Wall Street applauded iRobot as it made its public offering debut. We even observed robotic automotive factories and their efficiencies to force 60,000 Union Autoworkers out of their jobs as both GM and Ford announced massive layoffs. But that's not all as scientists realized a dream when a monkey and his brain was hooked up to a computer screen and the monkey moved an object on the screen simply by thought for a free banana, ushering in a new age of the blending of man-computer and robotic machines.

Scientists made robotic fish and the United States Military enlisted UAVs or Unmanned Aerial Vehicles to help fight the war on terror in 2005. Artificial limbs and prosthetics advanced sharply in 2005 as soldiers maimed in battle from roadside IEDs came back and needed body parts.

In 2006 we will see robotics get very small and the introduction of nanobots in the real world not just in scientific journals and white papers but being produced for all sorts of applications from environmental membrane filtration to medical uses in the body. We will see UAVs, which fly together and work together in teams and swarms. We will see disaster assistance robots, which actually go in and save lives. We will see urban infrastructure surveillance bots and home security robots that look like the family pet.

Along with this we will see the first sex android robots produced and sold in Japan. We will see elderly care robots, multi-use home cleaning robots and robotic transportation such as buses and trucks. All this and more is coming and will be here soon, some now others by the middle of June. So think on this in 2006.

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2007 Trends in Artificial Intelligence

Very soon Artificial Intelligence will indeed surpass human intelligence. Very soon the human mind's ability to reason will be left in the dust by artificial intelligence computers and unless the human mind is interfaced with the artificial intelligence brain, humans will never catch up. Artificial Intelligence will be much different than the days of the Old Blue beating the human chess champion, as that was not true Artificial Intelligence; smart enough to beat a human, yes, but Artificial Intelligence, no, not really.

Indeed, artificial intelligent computers will write their own programs as they encounter situations and try different things to achieve a goal. If they fail they will record those mistakes and never make them again, meanwhile they will send this information to all the other artificially intelligent computers linked up so they too will learn net-centrically or thru a common collective of computer shared data. This will mean that every lesson learned gets learned once and passed onto the whole.

Human Brains which are hooked into these systems will find additional abilities and unlimited data available, digital online real time libraries of all the information every collected by machine, as well as humans in the collective. Artificial Intelligent machines will be commonplace; net-centric cars, aircraft, home appliances, entertainment devices, military defense and health care to fix broken humans. Of course the high tech world with the use of these machines in everything from robotics to space applications will move at light speed due to the incredible efficiency of real-time collaboration.

Discoveries in Artificial Intelligence may become the single greatest achievement to the ongoing human saga and forward progression of the human species. In fact the road ahead is beginning to look more like a runway. I appreciate your reading of this article and hope you will enjoy the discussion and thoughts it evokes. Perhaps this article is of interest to propel thought?

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Artificial Intelligence and Decision Making Computer Software

Currently many industries are developing artificial intelligence software and decision matrix protocols to evaluate and determine the best choice of action for a given scenario. In the future probability and complexity will be no match for such tools. One will be able to ask a question and get a relevant and best possible answer within extremely short amount of times. Even NASA scientists are now developing such software, which will be able to evaluate options for mining materials for life support, colony building materials and refueling in lunar factories.

The most advanced of these artificial intelligent decision-making computer software systems can now rate and compare more than five different types of lunar or Martian Base station manufacturing systems and compare components of each for the best possible choices. In the future more and more criteria will be added to insure the best possible decision for the situation. For instance using the Moon as our platform to manufacture in Space to service needs of Manned Mars Exploration.

Indeed, such systems will be good templates for future decision matrix artificial intelligent systems, which NASA can use to determine how to best use the materials, elements and compounds on other planets too, as mankind expands their horizons. With NASA using such AI decision programs to determine the best systems, which by the way they are now designing these things to make Business Decisions too; NASA should be able to evaluate the choices without the human politics of choosing systems.

Often when you mix politics, science and business you are asking for problematic situations in the bidding and design contracts, which are inherently corrupt; IE people, humans involved. Those who design such AI decision systems will need to consider the manipulation of criteria and how even those who exhibit the greatest level of integrity might justify it as the human mind of an individual is looking for financial gain or scientific status among peers.

These decision making matrix systems can take the "human element" out of such decisions and thus allow the negative innate characteristics of the species to screw up lesser important decisions, yet still feel in control for piece of mind. Undoubtedly those who program such systems will need to consider in advance the human animosity as they question the decision process and the AI systems decision?

Can humans design a system to make decisions that they will trust and that they will believe? Will these decision matrix systems stand the test of human being scrutiny? Human psychology predicts that if a human does not have a way out and has something to prove to save face or needs to be duly respected to fulfill personal desire that there will be issues with AI decision-making? Perhaps the biggest question maybe the interaction aspects as humans learn to trust such systems, without attempting to manipulate them to serve their will at the expense of the mission. Think on this.

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AI Decision Computers to Construct and Deconstruct Solution Answers by Data Sets for Humans

In the future artificial intelligent computers will make decisions in business, government and even in the military. But how will the humans come to trust these artificial intelligence supercomputers and the solutions that they provide or the decisions that they make?

Mankind is a rather egocentric species and for a human to commit an action based on what a computer tells them to do might be a little tough and take a little bit of getting used to. Nevertheless artificial intelligent decision computers will construct and deconstruct solutions in order to put the humans at ease.

Humans will ask these artificially intelligent supercomputers how they came to a decision. The answer alone may not be enough. Some might say that people trust calculators and therefore they will trust the decisions of artificial intelligent computers and yet that may not be the case all the time.

For an artificial intelligent computer to really do a good job in decision-making it will have to put its human counterpart at ease and show them how IT came to the decision and break it down into pieces. Eventually the humans will come to trust the artificial intelligent computers, but until then humans will be demanding more answers in the form of more questions.

Humans will want to see the data sets and a deconstructed decision-making process in a format they can understand and this too will be a challenge for artificial intelligent computer software designers.

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AI Programming for Decision Matrix Evaluation Theory; Case Study

When programming artificial intelligent systems to make decisions and or evaluate there are a number of theories that should be explored before choosing a specific path. Writing code is tedious and time consuming indeed and it is appropriate to do as much up front work as possible. First and foremost you need to decide on which model your AI system will take in its decision making process. If you intend to build a decision matrix system then you may wish to do a little philosophical discussion with yourself or your team. For instance think of ways in which mankind normally chooses things?

For instance in a beauty contest each woman would be given a numerical value on each event. Then after three to five events the woman with the highest score wins? In the Winter Olympics in 2006 each judge might have their own method of figuring things out and perhaps give consideration either objectively or subjectively to things such as technical work, creativity, uniqueness, performance and difficulty and come up with a score and thus use that to judge. All we see is a little card which says 9.8, 9.9 or a perfect “10” you see?

Now then on these two evaluation processes you can see how you might design your program to do these things. In the event of Winter Olympics Ice Skating with many judges you might mimic this in your artificial intelligence program by simply running several slightly different programs of numerical evaluations (each one similar to a judge) and then average the scores for a total score. This might work good for choosing one product, person or concept over another. On the beauty contest you might have many judges with similar ways of grading and slightly different subjectivity over various things within each event. This too can be duplication with programming for an artificial system quite easily.

Another humanly way we do things is to have contests where we pit two different teams against each other and the winner advances and the loser does not. Kind of like basketball playoffs or soccer champion ships. Or the NFL to determine at the end of the year who is the best. This form of evaluation can easily be programmed and such code is readily available. Using techniques of double or triple elimination you can better evaluate and remove much of the randomness of chance or luck and improve probability for coming up with not necessarily the absolute answer, but statistically speaking the best probable answer down to a point in which you can feel good that your AI computer system is fair, honest and in the end has chosen the best possible answer.

Now then when evaluating evaluation decision matrix artificial intelligent systems one must also realize that you are only limited by your creativity to pick the best system to evaluate. You might even write separate systems which uses all three of these systems or more and then average them together, thus getting closer to the unattainable best possible perfect choice. Why is this important? Well, if you expect humans to follow the orders of artificial intelligence systems then you should make sure than their answers that they come up with are truly 99.999999999% the best possible answer. Think on this in 2006.

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Trucking Convoys of the Future and Artificial Intelligence

In the future vehicles including trucks, actually especially trucks will line up by size and run down the highway at higher rates of speed only feet from the bumpers of those in front of them. This will save lots of fuel due to the aerodynamic synergy gained and allow for more vehicles to travel with far less traffic congestion. Sounds like a plan!

But this is just a start because cashing in on the efficiencies in Coefficients of Drag in Convoys has lots of applications and may even change the current shape of our cars too. Indeed as these vehicles drive this close together there will be no room for driver error and thus the vehicles will talk to each other in a net-centric way.

The United States Military will have such convoys by 2012 and we will see the first Military Convoys within a few years and we are already seeing the first Self-Driving Trucks thanks to the DARPA Challenge Contests. Other strategies might include Truck Trains and Multiple Trailers being power by one vehicle or one driver controlling an entire line of trucks which will mimic his control input sequences.

What about using the air to move cargo such as Blimps or Dirigible Cargo Movers? What about the Flying Trucks of the Future? We were promised flying cars, what about flying trucks too? Don't laugh, because the same people who are considering this are also currently designing Net-Centric Systems to Guide Trucks.

Even NASA is thinking here as they consider ways to mine the moon, yes you guessed it: Lunar and Mars Mining Trucks All this technology is on its way and it will not be long now. Of course one question remains with all this high-tech trucking hardware? Who will work on it, as currently there is a shortage of truck mechanics that is getting worse?

Well in the future there will be Robotic Diagnostics Systems and Artificial Intelligent AI Manuals to assist new technicians with all this complex and complicated computerized systems. The future cometh, so be ready.

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UAVs to Plant Cactus Along the Mexican Border The Thick Pointy Kind!

The amount of money budgeted to put up a border fence between the United States and Mexico is a staggering multi-billion-dollar project. Recently, our Online Think Tank considered some possible alternatives. And in doing so we left nothing off-limits, all ideas were discussed no matter how crazy; complete unlimited thought to solve this grave problem.

One idea was to put landmines along the border, which were nonlethal and they would pop up and put sleeping gas in the area putting all the border crossing people to sleep and then the discharged device would contact the satellite or radio in the location and alert authorities to go pick them up.

Another idea was to use UAVs to Plant Cactus along the Mexican Border; The Thick Pointy Kind! How would this work you ask? Well, the UAV would fly along in a grid pattern and drop seeds for cactus plants a few days before a storm was about to hit then we simply let nature take its course and the cactuses would grow tall and thick and make a permanent barrier to entry.

Over 500 people die each year crossing the deserts from Mexico into the United States and if the cactuses would prevent them from crossing they would have to turn back and they would not die of over heat exhaustion and lack of water. By planting cactuses we can save many lives.

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UAV; Hunter II and RQ-1A Predator UAVs Additional Mods

Since the Predator has inverted “V” shaped stabilizers these stabilizers should contain wheel pants and wheels underneath to lessen weight and save costs in manufacturing, we need to bring down the costs of these units. Less mechanism will save weight and we can use that savings in weight for increased payload or more fuel to extend loitering time. I propose the rear Landing gear incorporated into this V-Tail assembly. Let’s move Murphy out of these aircraft and keep it simple, cheap to build and efficient.

http://www.danshistory.com/uav.shtml

This is being proposed to reduce costs of future UAV squadrons in manufacturing and to save weight and fuel efficiency for longer missions and greater range to provide eyes in the sky and security to the battlespace and our nations and allied borders. Redesigning UAV choices in your battlespace UAV siumulations and computer games will be necessary to keeping pace with the real world war planners as the technology hyperspaces the world of virtual reality.

Many of the current UAV models are being looked at for improvement in efficiency for added range, additional payload and stealth. Are you designs viable, are they better than actaul? Are you learning from aerospace engineers or are you still teaching them lessons in what works?

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UAV Materials and Thoughts on New Technologies and Keeping Up With Our Opponents

Possible UAV materials are infinite: Foam, Composite, Balsa Wood, Plastic, Synthetic Balloon Material, Aluminum, Titanium, Spider Web Organic Material, etc. I propose some late breaking technology and newer materials, ceramic coatings and or UAVs built from photorefractive composites? Materials such as this:

http://www.tech-db.ru/istc/db/pra.nsf/pran/1273

Why? Weight, stealth, parasite drag, induced drag, boundary layers, and performance, NASA is looking into this as well for other uses;

http://www.aist-nara.ac.jp/~rieken/

Then there are some really awesome practitioners, which have it all figured out, UAV manufacturing companies have come alive in the last decade; even Plastics are used in UAVs especially the smaller ones. The larger UAV are made out of just about anything you can imagine. We are not the only ones learning about what to make these out of and we are not the only country capable of making them, many other countries are trying new things also. So it is important to be the best at it and have ways to shoot down enemy UAVs.

Recently there was a major news story in the media about the FBI working on finding espionage theft of secret research. One spokesmen, head of the group in Mountain View, CA, said next to International Terrorism it is the FBI's number 2 priority as the loss of important research is leaving the country way too fast; citing that our trading partners and allies were also spying on us; Chinese, Israel, Japan, Pakistan, Iran. And you only have to read the news occasionally to know this is a real issue. Top Secret means about 6 months until it is all over the Internet.

Classified means 3 months before some reporter gets a hold of it and it is for this reason that UAV technologies are so dangerous and why we must keep up the innovations in this area to stay ahead of our competition.

As technology progresses, your enemy will have the same tools and technologies you do, by buying it from an ally, spy or secretly stealing it from a University Research Team. So when you invent something as weapon for offense or defense of your people, you have to know how to defeat it too. As it will be used against you in a court of law (war).

Most all foreign countries have UAV programs and have established research and development teams and put forth spies on the subject as well as pretend collaborators. We need to pay attention for the betterment of NATO Countries and UN participants. But what about hostile or potentially hostile nations, they have scientists too.

Unmanned Flight is now capable in nearly any current aircraft with the exception of the skill necessary to fly and take-off in a Ryan Monoplane or those requiring the balance of a pilot such as a hang glider or ultra light like the crash and burn motorcycle team brave enough to give it a test at the DARPA Grand Challenge, hats go off to that team for a noble and worthy attempt.

If you think for one second that North Korea does not have UAVs of some type to augment their arsenal of Ballistic capable nuclear missiles think again. They trade with China and Japan and both have established programs, The Trade with South Korea and we have UAVs in Country and North Korea has spies there too.

Even Saddam had a UAV prototype flying bomb program, some would say was in it's infancy, I say bull all they needed was a motor attached, you can buy that at an ultra-light store or online catalog, no one can deny that, google for your self if you find folly with my observation. A device such as that prototype UAV with a chemical compound or pathogen, virus or disease in it is not very funny if dispersed into a large city. These technologies are available and are or have been in all the arsenals of the Axis of Evil Countries.

http://cns.miis.edu/pubs/week/030408.htm

I am not the only person worried of this. UAVs that we build need to be light-weight, good payload, stealthy and agile. But the enemy due to cost may decide to build a huge number of cheap units and bet on the numbers rather than survivability, so can we defeat a swarm of these?

Very similar scenario, which scared all American's during the cold war, shooting down multiple ICBM warheads which scatter and attack pre-assigned cities. Some UAV enemy strategies include a different approach to the notion of single mission non-recovery theory as many academics have eluded to in the reports online.

I would have to agree that money to buy the units is a big factor as our Congress appropriated much monies to the predator program for DHS and Military, smart move. Coast Guard, Boarder Patrol, etc., but if a UAV does not do very much in the way of surveillance or ordinance delivery due to payloads in smaller non-predator type UAVs then a smart bomb maybe a better way to go once air defenses have been taken out of the equation, which is why we are well served to have both technologies available to us.

Of course it also depends how many targets, time frame and economies of scale when it comes to the logistical costs of movements of people, fuel, food, weapons and power.

Every mission should have a cost benefit and a goal oriented solution, that of course being the name of the game, to win it. UAVs provide options, lower costs over all and smart planning and curtail loss of life on both sides. Single mission UAVs, small versions are appropriate in many regards. Predators are good in that they can be used forever unless we start crashing them.

These smaller UAVs, like SmartBombs are especially important during regime changes when you goal is to provoke change in leadership not in destroying vast amounts of individual human life, no matter what amount of value is placed on it by the culture opposing your political will, but taking out those who oppose the will of the free World and stability of the Human Race.

Nevertheless, war is hell, so you must win at all costs, which goes without saying, losing sucks and defeat or retreat cannot be an option for our team. Retreat should only be used as a tactic to serve your future will. Let the enemy re-group and congregate and attack again getting most bang for your buck.

UAVs are here to stay and will require proper funding, such R and D will come back ten fold to mankind in potential commercial uses for moving freight within and out side our own atmosphere, for doing jobs in agriculture, short and small delivery and of course the future of air travel pilot less commercial aircraft much the same as the NYC subways and people movers across the country and throughout the world.

The costs of UAVs are important and the materials provide the efficiencies necessary to make them light, fast, maneuverable and strong. By watching the costs and picking the right materials, we can always maintain the lead in UAV research and Development, Deployment and acquiring of target to stay in front of the pack in the never ending Human Saga, of Good VS Evil.

You know the Sound and Fury stuff, which has been going on since all of the recorded history we know about. We sure are funny, us humans? Wonder if we will ever figure it out?

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Battery Signature Sensors to Detect Enemy UAVs

We must develop a new type of radar sensor one which can see an unmanned aerial vehicle even if it is made of lightweight material with little if any radar signature or it is of a superior shape, which is hard to see. In the future UAVs both ours and our enemies will indeed run on the latest high-tech futuristic batteries being charged by fuel cells.

If the new morphing techniques eliminate much of the drag and the wake turbulence signature and if the aircraft are silent and if the aircraft give off little or no heat; then how can you see them? Well, how about the frequency difference between batteries and electromagnetic energy in static air and ambient air. I propose we start now ahead of this game and design and build such a detection device to pick up battery energy and record those anomalies as disruptions for detection of enemy UAVs.

Further since this strategy will be used in the future we must figure out new materials to hide this energy and ways re-direct the electric signature of batteries back into a close loop system which indeed prevent any detectable anomaly. How much money should be allotted to this? Well if you consider the amount of unmanned aerial vehicle expenditures and the cost to replace them if an enemy shoots them all down and how that would render much of our flying robotic war strategy in the modern net-centric battlespace; then I would say a bundle. Think on this in 2006.

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Override Evasion Software for Telematic UAVs

Our Unmanned Aerial Vehicles have proven themselves in the battlespace to be some of our most important assets. These UAVs have also been used fighting fires, guarding our borders and helping in disasters. Many of these UAVs are controlled by line of sight communication command and control systems, while others can be controlled remotely via satellites. When these UAVs are controlled via satellite there is a one second delay in commands from the desktop pilot, who is basically operating from a PC with a joystick and some instruments, not a whole lot different than Microsoft Simulator Program you buy in the store. This system works well when you are merely flying around looking at stuff and sending back the video feed to command and control.

There comes a problem when you need instantaneous maneuvering and are also dealing with the reality of situational awareness from a UAV and also with the time delay in directions from the virtual pilot in augmented reality at command and control. However many things such as evasion could be preprogrammed for dodging SAMs (surface to air missiles) shot from an enemy.

If you have to wait for the communication delays it could be too late for your drone UAV. Once the UAV takes the drastic measures to evade the SAM, it would then seek normal flight on the former heading or a heading of exactly 180 degrees from where it started. Thus it has evaded, recorded the location from where the missile was fired and retreated. Now you can assign the launch location of the SAM as a legitimate target.

A UAV has an advantage over a fighter aircraft with a pilot, as it can turn with more G's as long as stay with in its envelope. Indeed there would be the same control limits for flight departure issues as in the newest of fighters when you travel outside the envelope, which would be massively expanded with new materials, lack of biological needs of a pilot and directional thrust tricks of the trade and intake air opening changes in-flight all computerized.

As a pilot myself "single engine land," I do not want to ditch the pilots just yet for the silicon chip versions. Especially as I look at the cost of some of these high tech advanced UAVs, after all that is an expensive piece of hardware, but we are seeing more and more evidence of Big Blue beating the best chess players of the air. In the end our decision must be for the mission, not our debate over organic VS autonomous or robotic, I guess I would say, I just want to WIN, that is all; using the whole track is that was the first thing they told us in racing school, it helped keep me alive. We need to do whatever it takes, for however long it takes to accomplish the mission, whatever that might be. It is only about winning. But we cannot send a UAV into an area laden with the enemy that has shoulder fired or batteries of surface to air missiles unless these robotic counterparts have master evasion software programs, which immediately over ride the command and control and autonomously address the threat. Think on this.

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Launching 400 UAVs from a Transport Plane

How to launch hundreds of UAVs for an autonomous mission from a transport plane. As we watched the MOAB parachute bomb drop out of a C-130 onto the desert and above the tunnels below into Afghanistan, it left the world in awe. Now then this parachute concept has another idea. Launching UAVs, hundreds of them in swarms of 25 to 50, to overwhelm the opponent.

Here is how it is done, the little cute UAVs are put into a bread rack type configuration but like a box made of plastic or composite. It is thrown out the back of the aircraft, okay see ya. Then the parachute opens. The UAVs are launched by relative wind as they dive down after release.

Large propellers to start the motors since the motors would have high compression. Or the propellers would spin and break the small cellophane wall separating the chemicals in a little bag allowing them to combine and become a battery.

As the box slows down and the parachute deploys air pressure from under the box would cause the bottom to fall out since it would be on a spring and simply pop off and fall to Earth or it could hang there in an open vertical position until the launching device hit the ground and the door hitting first would trigger and explosion destroying any un-launched aircraft and the box it self, if made of composite it would of course burn cyanide gas so no one would attempt to go near it until it was finally all burned up. As each floor released its aircraft then the next floor would spring back since all the weight of the UAV were gone and the relative air pressure from the slowly dropping parachute started the next set of UAVs on that floor.

The falling UAVs would have some stability and of course dihedral and would simply start flying and the satellite would ping them to keep them flying where ever they were to go. Once in real close; each UAV would go to its exact target, usually five to six per target to be sure, low cost allows for this.

Once the aircraft were dropped out the bottom their higher rate of speed and lower drag than the parachute would easily clear them and the lift from the wing would allow them lateral separation. A small tooth pick could have the horizontal stabilizer in the up position as a temporary trim tab which would come off as the aircraft increased its speed, but stay on long enough to clear the chute. This set up could be used in a C-130, C-5, C-141, C-17 with such ease it would not even be funny.

You could even fly these UAVs in all directions and put flairs on them so they would have a big heat signature or pop out a piece of tin foil or drag a large metallic piece of crumpled aluminum to attract a radar and lock for anti-aircraft or SAM missiles and thus draw fire while AWACs watched pin-point targets and launched against all known radar sites, All because the enemy was fooled by model aircraft.

There are hundreds of types of scenarios and uses for these devices. The cool thing is they do not even have to be viable, work or be operational. It simply sends your opponent in so many misdirectional scenarios it overwhelms them and makes them hesitate to act, thus not commit and gives you the superior edge to make your opponent question themselves.

By flying UAVs with quarter mile spacing launched separately and turning them on in sequence you could mimic a flight speed of an F-18 and they would assume the incoming is a stealth which is remotely showing up occasionally or an F-18 coming in fast. Thus such a threat looks real and they have to turn on their systems to fire upon it. But it does not exist and all they will get after firing the SAM is a model airplane and have given away their position or possibly not

even get the UAV, the one in the lead. Then you kill the SAM sight and turn the UAVs in another direction and keep going, they will never figure out what you are doing. Each time they simply at maximum get the lead UAV, which is relatively cheap considering you scored a SAM sight and will soon have air superiority for free basically.

By launching UAVs in all directions with different signatures you could mimic an all out attack from the wrong location, while your enemy sends resources to fight the diversion you are attacking key targets within other territories. A few times of this and they will stop chasing ghosts and then you arm the little UAVs and use them. Or use a stealth with the similar mimicking signature and they think it is simply a dud crying wolf.

You have to value the UAV scenarios. A weapon to prevent war, by eliminating threats which kill people on your team, making it easy to go in to get your exact target to serve your political will with no worries of reciprocal responses which will cost lives on your side. This is most perfect for regime change.

No collateral damage and you do not even need a bunch of military lawyers deciding what a proper target is against an enemy who most likely would cut off the balls of one of your captured infantry and shove them in their mouth cut off the head and parade it around town. We are so polite in warfare yet our opponents so barbaric. War is hell and you must bring hell to you enemy.

If your real enemy is the regime leaders, you must eliminate defenses and go get them ASAP, that is the best for all concerned and in that sense if war can ever be humane, as we kill members of our own species and continue this notion of war, then this must be the way it is done.

Some day there will not be wars, although a man who would not be willing to fight for what they believe in is not a man, and therefore we must evolve into something else or all believe in the same thing.

That same thing could be a religion if you will, a sense of Earth pride, World Nationalism provided we are all of one nation, or admit to ourselves we are all together and we are all of planet Earth. Or we need to unite the world as one and possibly all have a common enemy such as "Evil" "mediocrity" etc. Asteroids, whatever, and something to name so we can unite.

But until then, in a sense we are still a warring species, we ought to find the best way to serve our will with the least amount of future conflict as war is an escalation of political will, which has advanced past the level of reason by one or more of the disagreeing parties.

Too philosophical? Maybe, Perhaps, but you must admit the UAV Swarm idea is part of our future.

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BMPs for Killing Hostile UAVs

We need to set up Best Management Practices for shooting down enemy unmanned aerial vehicles. There are many reasons for this directive for instance; we must make sure what we are shooting is really an enemy UAV and not one of our own; that it is not a friendly force craft; that it is not a civilian aircraft which happened into our net-centric security grid or kill box.

Additionally an enemy UAV will generally have a mission, whether it is a single mission as a flying bomb or a surveillance mission and will return to base. If it is surveillance unmanned aerial vehicles then by the time you see it, it may have already recorded your assets and their locations and killing it serves no purpose as the cat it now out of the bag. However if we track and follow it via satellite, radar or other flying vehicle, we can learn a lot. Such as where did it come from and if you kill it straight away, then you will never know where it came from. If you follow it, you now have a very valuable target of your enemy's command and control. If you shoot it down with a missile, it will sense the missile coming at it and attempt to evade while simultaneously registering the launch point of the surface to air missile and can transmit that information prior to being hit. However if you do decide to kill a territory crossing or border violating UAV it is best to kill it from the air rather than give away anti aircraft battery points on the ground which are fixed and will become a future target for your enemy.

Where as if you shoot it down from the air via Airborne High Energy Laser then the UAV is killed at the speed of light, cannot know where it came from, even if it figures it out, it cannot transmit while under that level of high energy as the signal will be broken. Additionally if it is hit from above it may not have visual acuity or situational awareness from above. These are just a few of the many things we must be thinking of to come up with strategic best management practices for killing enemy UAVs. We need to be thinking here, as soon our enemy's will be considering sending in robotic weapons to kill us.

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Drawing Hand Held Surface to Air Missile Fire at Night Using UAVs

One of the easiest ways to draw shoulder launched missiles at night is to fly UAVs very close and use the simulated sound of an Apache Attach Helicopter, Howling of a jet fighter or a few UAVs flying together the combined sound of a four engine transport. At night you could have a few UAVs with strobe lights or a tint of green glow simulating reflections off the canopy of an attack helicopter along with sound used by a whistler on the UAV, or even a whistler, which mimicked a high frequency sound which caused their equipment to whistler.

Devices such as these can be bought at Wal-mart for five dollars, the faster the UAV travels the more sound or high frequency sound is made. We also use these on cars in deer country, but certain ones screw with your radio reception you know? Every time a shoulder missile is launched they have one less. Chances are it will not even hit the target anyway, they will launch it into the sky and nothing will happen, may not even come close, they will probably launch it too far in front of the UAV assuming a rate of speed for an aircraft, which is not even there.

A UAV could also go into an area near a border crossing using electric battery power or glide in after turning off the motor and crash 300 feet from the enemy troops. Have a small glow and cigarette smell and a small set of voices talking about getting laid in English and the newest corvette model the enemy would sneak up on the crashed model plane and give away their positions and could be seen by night vision goggles.

We can even see small arm fire from satellites now, if they sent of a mortar round, we are all over it, never know what hit them or see where it came from. You certainly would have less people fighting you if you had stories like that floating around that is if anyone lived to tell anyone else what happened that night?

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How Soon Will UAVs Make Fighter Pilots Obsolete?

Unmanned Aerial Vehicles are rapidly making human fighter pilots obsolete. Might be better to use a UAV and to that have it flown by a 16-year old video game player, which will in turn be used to program the next generation of Artificial Intelligent robotic tactical UAVs. How can this be happening so fast? Well, it is not really happening very fast, as they have had drones for decades and missiles for at least six decades. Artificial Intelligence is making the difference.

Old mainframes with tape drives did not learn like in Artificial Intelligence of today, but you must remember, you can program a tic-tac-toe game into a computer and it will never lose, only draw. It will never lose. MIT proved that, but if you think on it; you will know this simply be reasoning as tic-tac-toe is a simple game with simple rules. This is basic Tinker Toy Logic, it is all one's and zero's, there is an X in cell or grid 1, "0" in cells 4 and 5 the rest are empty. There are only 6 possible answers. If the computer is the "X's" it chooses grid space 6, to block. You chose you "0" in box or grid space 3, it blocks space seven draw.

If it is playing a human and the human messes up one time in any game the computer will win that game. The computer does not get tired and will play until you unplug it. You will eventually mess up, you are human and to be human is to error. If you as a fighter pilot choose a different game, it has most likely encountered or been programmed it. If you are totally creative you may choose a maneuver, strategy or game it does not recognize or has not been programmed for and you might win? But what if it is relaying the data to other units in the battlespace and over all system, which the computer UAV now knows that; that did not work and will disengage if

encountered until it has been programmed for such as maneuver? Whereas if you lose, it wins, you are dead and it now knows it can beat you if you do that.

I believe we can design a computer better than the average human and since there are so few innovators in any walk of life, granted fighter pilots, more than other sectors; you may lose a few dogfights, but will still lose the war to the UAVs with artificial intelligence. Eventually the human cannot win, and you may wish to think bragging about being 100% human now. There ain't a whole lot that is very special about this carbon based biped. Consider these thoughts when designing UAVs with artificial intelligence.

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Piloted Aircraft or Computerized Artificial Intelligent UAVs

Currently our artificial intelligence research is not quite as good as a human organic brain however it will not be long before computers can beat a human in a dog fight. There are many limitations to an organic human to a UAV with special electronics, which can withstand 18 G's. Pilots black out at 8 to 10 G's thus giving up an advantage to the "aggressor" computerized version. However a pilot thinks and can change the game and rules to win, whereas a computer program is based on a complex set of rules.

Indeed a computer has disadvantages as it cannot think and adapt, yet as we design them to learn or program themselves and share that information with the entire whole of all the other computers running all the other units in the robotic net-centric battlespace, everything will change forever. I propose we must get to that point if we expect to send computers and robots to war to serve our political will. With such a system developed and battlebots, UAVs and computers learning and programming themselves; you will need one hell of a pilot to overcome that consistently. I would bet on the computer or I would bet on me. But I would not necessarily put my money on any old human fighter pilot, for most will die in that scenario and it is coming in the future, we should not kid ourselves. That statement is not coming from science fiction authors; in fact that is coming from deductive reasoning and observing humans doing things in all aspects of their life experiences over and over again, often making the same mistake (doomed to repeat).

Let's face it even a racket ball master tournament winner knows it takes 25,000 strokes to commit an action to muscle memory. Fighter Pilots just do not have that kind of time and you know We do not teach, train or school humans to think anymore, we train them to react a certain way to a certain problem. Only those who can think will win. I know so few, how about you? Luckily presently most war planners and robotic research scientists are currently pro-human pilot or should I say "no pilot left behind," but in the end that will only mean all humans left behind if we are not honest with the obvious future.

We will develop computers, which cannot be beaten by the current organic human brains. Either we upgrade the human brain thru DNA manipulation and computer interface assist or humans will lose to those who control the robots and thus the battle will be one before it is fought. I propose that be the side that is doing what it right and for the right reasons. I propose we spend massive amounts on robotic research to insure that is our team.

If you doubt the potential of this possible future, think for a second, as we already have UAVs, which down aircraft they are called SAMs with a "single mission" in mind to kill a human piloted aircraft. And we have missiles, which shoot down other missiles, which is kind of a dummy Computer VS. Computer war; or Robot VS Robot isn't it? No one can claim that no human has ever been shot down by a SAM able to handle 18 G's. Even when the pilot wins the enemy could simply change its strategy and what do you do when they shoot three or (2) sets of three at your human pilot, as they watch their airspeed and maneuverability bleed off? Eject? Why? Because you are out of cards, airspeed, visual overload, lack of situational awareness and still have two-more coming at you and if they fail another set of three, until you die or piss. Robots and computers are already beating human fighter pilots, if you really think about it from a more abstract point. Think on this.

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Improvements in Loitering Single Mission UAVs

We are seeing some new trends in Unmanned Aerial Vehicles or UAVs, in fact we are seeing hybrids of sorts. Smart Bombs and Missiles which fly around all day and then select a target. Sometimes wings which pop-put then fly to the target or some other models well the wings just fall off and the missile or bomb falls to shoots to the target.

Originally these technologies were secretive, but now they are in the open. And if nothing more it puts the fear of Allah into our enemy indeed. As the meeting appears to be pre-arranged if they are looking to die in battle, well the new battlespace is owned, bought and paid for compliments of the US Taxpayer and Uncle Sam's big stick. One of these technology hybrids, which I do not think the project is classified although parts of it could be is the missile which shoots into the battlespace at high speed waits around all day, then selects and confirms a target and then takes out said target; Hardly a negotiating process, game over for the enemy, out of quarters.

If you would like to learn more then go to the DARPA website and read the AFRL Air Force Research Laboratory Annual report, which indeed makes mention of this technology. You will also find reference to it in Aviation Leak and Spy Technology they had complete diagrams on the concept before anything was ever started and subsequent follow-ups recently.

Indeed also realize that with the new steerable mortar rounds and large shells using NLOS directional controls can do nearly the same thing. The biggest issues is in the future with China taking out Satellites and such in case of a non-appeasement deal with their re-unification of Taiwan. We know that their University level kids are good at math and are writing almost as many scientific papers as we are currently. Even such we must realize that as they educate and if the leadership uses us as an enemy "evil" figure to build up their team, then we will continue to have their spies stealing our stuff here and then perfecting it there. They are already working on Seismic Inducing Machines, Weather Modification, Mind Control and Biological weapons (even testing it on their own people in Eastern and South Eastern Provinces) that is to say the recent Bird Flu Vaccine. What I am saying is we must continually innovate and understand that the future is moving faster than ever before and these UAV technologies are a major component in the net-centric battlespace of the future and our nation's security and future longevity as the leader of the free world depend on them. Think on this.

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Artificial Intelligence Debate for UAVs VS Manned Aircraft in the Battlespace

Mankind is fascinating with making artificial intelligence, which can compete with 150 million years of humankind and their organic brains. Many kids growing up are being introduced to robotic systems and many Colleges and Universities are hot on the trail at advancing our knowledge in what we call artificial intelligence. But we have been designing computers to compete with mankind for decades. A few books ago, I was reading; "A Shortcut through Time; The Path to the Quantum Computer" by George Johnson, he made a note of that Tinker Toy Tic Tac Toe Machine, Geniac Electric Brain construction kit, Turing Computer, Blue Mountain, etc.. I recommend this book to anyone who is studying these concepts of Man VS Computer.

Some get carried away with the concept of Human VS. Machine and the programming and thought processes, but it strikes at the core of the Pilot VS. UAVs debate indeed. Such basic background does enter into the picture with UAV and fighter aircraft survivability in combat; Man VS. Machine. I guess if you are interested in learning more of the thinking and theory behind these ideas a good first stop might be Ray Kurzweil's AI website:

http://www.kurzweilai.net/index.html?flash=2

For now the artificial intelligence Debate for UAVs VS. Piloted Aircraft in the Battlespace rages on and indeed the argument is taken to greater heights and a whole new level, a deadly one as it is a "winner take all" game. Can the humans really beat computers, which teach themselves and can think as fast or faster than their human counterparts? Think on this, as you will hardly be alone in those thoughts. -------- -------- --------

Verbal Commands to Fly UAVs

Autonomous Artificial Intelligent Unmanned Aerial Vehicles is not a new concept, after all Sci Fi writers have been discussing it for years. We are truly getting closer to such technologies and it may become a reality sooner than we think. The next step for unmanned vehicles whether they be on the ground, air, sea or a combination of all three, will soon work on verbal commands.

A military commander will simply say to the Unmanned Aircraft to go fly over sector III and VI and alert us if there are any red force still alive; oh and watch out for SAMs (surface-to-air missiles). The UAV will then fly off, choose its best optimum speed based on the intensity of the command voice, fly to the sectors in the order commanded, turn on anti-missile avoidance system on level 5 (highest evasion program) and then send in a video feed narrated as it flies. It will then come back and land and wait for another command while it alerts other robotics on the ground to refuel it and then it will hibernate, just like your laptop does when it is on batteries? Sound too far out? Well if you think five years is too far out, then you are right. But I say it is right around the corner for DARPA and military service or Department of Homeland Security.

Imagine robots, which you simply talk to them in your own language; “go put out that fire,” or better yet “clean the pool and wash the RV while I am gone, oh and alert me if the check comes in the mail. Thanks!”

Generally such technology is first seen in military or space application and then within a few more years it can find its way into commercial purposes. Expect this to be available for you at home in 6-8 years or less through one of the leading robot makers such as iRobot, US Robotics or a Japanese manufacturer of robots. Some say much sooner? Think on this.

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UAVs to Penetrate Massive Enemy Defense Systems

In the event of an enemy with missile defense systems, border security and armed guards a UAV maybe the only choice. A UAV with real time video could be remotely controlled much like a model aircraft and fly into the target area. In the event the target was a small group of enemy leaders or the command and control center this tactic could work if you could get within 10-20 miles. No matter what modern day defenses the enemy has you can fly right past them unencumbered directly to the target.

A single mission UAV in the form of a large model aircraft could do the attack on the enemy relatively easy. Let us look at some of the inexpensive units available, which you can build in country. This might be the perfect tactic for our CIA, to take out the enemy commanders and generals. Model Airplane hobby folks have long known of the servos you can buy which allow a model aircraft to make a practice bomb run.

http://www.mh.ttu.ee/risto/rc/logo20/build/page09/page09.htm

They have contests to see who can drop a small bad of flour closest to a red "X" using a remote control command and a servo which when activated releases the bad of flour. Read some of the rules that are used in conjunction with some of the contests:

http://www.sirs-rc.com/rules.html

See this page and look at the Dehavilland Hornet, you can order it with Bomb Drop Servos already installed? Perfect for CIA use and covert actions.

http://www.carstens-publications.com/plans...=&returnpage=10

Replace flour with hand grenades and we have a very good single mission UAV killing machine. Then make the wing spar out of C-4 drop. The CIA can build the airplane without concern nearly every country has such hobbyists. Today you can by model hobby video feed for your large model, which allows you to see where you are flying too. Feel free to google this and you will see the many options readily available to the online buyer.

The operator can operate from 20 miles away from high vantage point. He can operate across borders, from the top of a bridge support or large building. Able to penetrate defense batteries, go thru areas of high security, border crossings and ground protection. The UAV model, which has been bought and built locally outfitted with such basic infantry weaponry can then fly low level to take out the bad guys. An electric UAV cannot be shot down with a small shoulder fired missile if it is made an electric motor. No air defenses can hit it and when the US Army tired to shoot one down they were unable, so as long as the unit flies fast and low, chances are nearly 100% that it can penetrates tens of millions of dollars worth of defensive measures.

If you are still concerned they will shoot it down, although I guarantee you that will never happen, you can disguise it as a big bird? The leadership of Iran or North Korea spending millions and millions to protect their top commanders would have no chance as the CIA flies right in with a model airplane and drops the grenades and then flies like a Kamikaze into the human military leaders who have declared war against us.

Hypothetical of course since they have not declared war on us yet. As a tactic to take out enemy command and control or Military leaders we should be considering model aircraft attacks. Many model airplanes could be sent simultaneously to insure the targets are eliminated. No longer will we have to worry about a rogue dictator who due to his own paranoia has spent millions in

security and put many defense barriers between himself and the human rights needs of the Free World. Just think all that can be achieved without a carrier fleet, army, trillions in logistical supply chain or the risk of hundreds of thousands of troops.

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Defense System for Protecting Oil Refinery Assets Against Enemy UAVs

During the cold war we had a some very good anti-aircraft and land based mobile missile defense systems. Could we take one of these systems and scale it down, miniaturize it and use it to defend and protect our oil refineries, infrastructure and national security interests? Could we take let's say a smaller and lighter version of the "Lance" mobile missile systems of the cold war, with a similar theory and place it on a Sandia "Sarge" type tiny mobile autonomous unit. Then employ these robotic security systems along defendable perimeter locations?

We could put them on the border when we attack Canada and take some property off their hands for aiding and abedding International Terrorists, so if they tried to fly one of those little Israeli UAVs they are buying over our border we would dust it immediately. Just kidding, but we need to be thinking defense and offence here to have a proper discussion on anti-attack defense systems. Obviously we are not going to war with Canada, but we do have our enemies in the Middle East harboring International Terrorists and some State Sponsored Insurgents attacking our troops in Iraq? Could we use such a system like this there to prevent intrusions over the borders? Perhaps we could, but how you ask?

Well lets first look at the issues with guarding oil assets as the International Terrorists wish to take down our economy using oil as a weapon knowing we need the oil to run our civilization. If we pay humans to carry weapons to patrol a perimeter of let's say an oil refinery then will they be able to take out a single mission UAV which will self destruct and explode on impact and even if they did hit it, which is highly unlikely, could they take out a swarm of them? The answer is no, you have just lost you oil refinery asset.

Now then let us re-think a man-portable stinger missile type system, when you may have to worry about a swarm of these little UAVs, each with 5-10 lbs of plastic explosives or even a smaller payload per explosion of two-hand grenades, you see the problem. The International Terrorists may not be able to take out your entire refinery, but they might get lucky and start an uncontrollable fire.

Remember those Refinery fires outside of London, early reports, which were later denied said that an aircraft flew over prior to the explosions? Well did they throw something out; if so what. Was that aircraft manned or was it a small UAV; if so could it have been shot down with an

intercepting UAV devise or a man-portable unit; perhaps? But only if the security force was alerted, actually saw it and focus, identify and fire in time.

Could a man sit and wait to fire it? Do you want to put a unit such as this into the hands of a civilian $10 per hour security guard? Not me? That type of weapon in the hands of the wrong person who knew and was trained how to use it could be used to take out a commercial airliner. Not funny.

Yet if the International Terrorists continue to attack non-military soft targets for PR and oil or natural gas assets we have serious issues as we must defend the flows of our civilization right? So how about an Aerostat or UAV which is tethered on a track with a system on it to detect such an incoming threat which would interact with a robotic perimeter defense system then you could potentially defeat anything which comes close and thus defend such an asset? Think on this.

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UAVs and The Future Enhancements of Tele-Robotics

Today we have already available UAVs, which will soon have the capacity of operating together in swarms, controlled from another nearby aircraft. We have UAVs, which can be flown by a pilot sitting at a desk more than 1000 miles away. We have trucks, which have virtual dashboards, which send back complete data to dispatchers and a similar version for aircraft, which allows one to fly the other.

If one UAV being flown by a human being sitting at a desk half way around the world can control a swarm of UAVs in a given location and those UAVs can give such information from a disassociated position of total awareness to those on the ground then we already have the capabilities of doing this from a more complex modeling standpoint.

If we can send this information directly into a human mounted optical device, with complete GPS-GIS data then we are getting closer, when we can have 360 degree sight, along with infrared, heat signature, chemical composure, frequency variation and molecular makeup and that device interfaces with the brain and human function, thrusting the efficiencies of motion and control into new realms, what can be done effortlessly would have been though of as God-Like only years the prior. We need to design a completely tele-robotic system, which works at the speed of thought and is connected to the enhanced human brain for complete 5D total situational awareness using all the current technologies available.

The future of human evolution will include enhancements of our Mother Nature Baseline organic carbon based bipod units. Think about it.

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UAV Decoy Strategies, Theories and The Modern Art of War

Well having studying the need for decreasing America's dependence on Foreign Oil and the advances of the automotive industry such as Fed Ex and UPS along with Eaton and GM. Also studying the efforts of Sunlite Bus in Palm Desert and the recent information on ceramic coatings and problems in Urban Heat, Ozone Levels, Global Warming Issues from NASA and GeoSat efforts and various weather updates and information gathering data efforts to predict thunder storms, Hurricanes, Fires and Tornados we have learned quite a bit.

Now then as we have studied the problems associated with fuel cells in the heat transfer process and the need to minimize heat escaping on 100's of thousands of vehicles on America's highways and in urban metro areas causing urban heat and the possible leakage of hydrogen tanks could cause problems in ozone and global warming as the number of vehicles across the country increase over the next four decades. But this all being true adds to the dilema of a "Hydrogen Economy" (recommended reading list). It is also the case that in most of mankinds dilemas we find the greatest opportunities. Such is the definition of Chaos as we see so often throughout or species most recent 10,000 years of recorded history.

The fact that hydrogen cells put out 1200 degree heat and certain fuel cell units using certaim compounds give off more in this process means that their heat signature is greater than other types of aircraft. Which is a problem if one is powered by hydrogen cell because it is very easy to hit with a higher footprint if a surface to air heat seeking missile is used right? Yes this is obviously true enough.

Now then If small UAVs are created and we are talking about making 500 for such an effort and they can be built with tin foil and alluminum foil krinkled in their wings and have a high heat coming from thier powerplant then they are great targets for surface to air missiles. If the enemy thinks or even knows that UAVs are taking pictures of the ground then they will shoot at them. We know from trying to shoot down UAVs with small caliber machine guns or rifles that it is nearly impossible.

So then to down one of these things they need a missile, which will be able to hit them. However if the UAVs are cheap to make and we know they are if you study model aircraft any. Then you can make these with a fuel cell motor in mass for about $500.00 each. You could literally cause your enemy to run out of SAMs trying to down 500 UAVs and our cost would be little. $250K to guarnatee that no SAMs were left. They could fly around all day and draw fire. Using Hydrogen they could stay aloft longer too.

The cost of losing a helicopter of fighter/attack aircraft is very high and the loss of life is still a larger factor in determining a wars success. We like to win after all we are Americans. So then remembering that the cost to train a single pilot in the military is $250K so then simply saving one pilot means we save 250K to retrain his replacement and save the possibly $15 million for the most inexpensive fighter. So we should be building UAVs on a huge scale, some for decoys too.

These units should have fuel cells which that technology is good for America for lawn mowers, ATVs, chain saws, pressure washers and lawn tractors. Thus we can assist in changing the oil economy slowly and fund the research through the military against those who oppose us for better means and save pilots and money to our military in the short term and long term. There are hundreds of web sites with this group of hobbyists:

http://www.uoguelph.ca/~antoon/websites/air.htm

and there are many new fuel cell devices which run small things.

http://www.japantoday.com/e/?content=news&cat=4&id=261833

You see you can drive your enemy nuts and if you have 500 UAVs there is safety in numbers and you can mimic the amount of heat signature of other aircraft by the type of fuel burned and the lack of ceramic coatings to shield the heat. You pick the temperature you want it to put out between 1200-2000 degrees and they can easily build you 500? After all, you are only taking the amount of energy need to keep aloft a small UAV with a 15 foot wingspan and some gadgetry. Also remember in WWII when we tried to figure out the German Radio frequencies they used so we could bomb them with out detection by scrambling that frequency? \

Well we can put dummy devices in the UAVs set to dummy frequencies and then they will capture the ones which run out of gas and assume those are the RF photo transferring frequencies and then they will try to scramble the frequency which we are not using thus giving away their locations and we smart bomb them. Dumb idea huh? No perfect decoy game of hide and seek.

Also there are devices you can put on vehicles, which make sound like a whistle that hurt or are unpleasing to the human ear. Fly the UAV around and the piercing sound will affect them and make them irritated and then they will really want to blast these UAVs out of the sky at all costs. You know like when you have a few flys in the house after the 4th of July BBQ, you spend a considerable amount of human energy to kill a little fly which is spending 1:500,000 the energy you are. Talk about a waste of energy.

Of course this is the same theory, the enemy uses it's valuable resources to hit the little stupid UAV, and having done so makes them less able to hit your important aircraft. Including the non-Decoy UAVs which are gathering your information.

If you fly these units at night they will have no idea what the heck it is, the radar shows high heat, large object. The opposite of Stealth. the UAV says "HELLO, I'M HERE, WHATCHA GONNA DO NOW, HELLO !!!!"

There are older radar system, which countries have such as Australia which can see Stealth and some countries which have an abundance of cell phones and they can use the interference of an aircraft to find out where it is. Looking for breaking patterns and anomalies in the patterns caused by these waves and signals.

So by using a unit like this, you can draw fire from old and new technology, drive your enemy nuts, confuse them if it is a real strike because now they will not shoot until they are sure and in a real strike that could be too late. And you also save lives, save money and play hell on the logistical nightmare of competing against the United States and her military machine and next day, real-time supply chain of everything needed to fight a war. So crippling the enemies supply chain such as we did in bombing the German Factories, embargos on Iraq and the cold war with Russia was about slowing the flow of money, troops, supplies and logistics. If you run them out of weapons, most specifically SAMs, then they have nothing to fight you with. Air superiority is a given at that point.

The reason I bring this up in the increasing costs to make stealth aircraft that also perform up with the best. Wave Rider Stealth aircraft have the speed to run away from standard missiles, but a helicopter has a chance in hell of running away from a Russian or Iranian surface to air, which is shot in close proximity. Best idea is to run them out of missiles and conveniently have the factories where they are made flattened to the ground. Take out the threat early and save the money. It is low tech and high tech and fiscally responsible warfare that will mean the Military leaders are not headed off at the pass by liberal Senators who want to close bases and cut funding which kills our boys and girls in uniform.

Let's be smart when dealing with radicals. Draw their fire and then you have even more intelligence of location of fire, number of UAVs hit or shot down, number of enemy weapons expended rounds. Think about how to kill a radical: Either

1.) make him a non-radical through a better life and education;

2.) Eliminate his ability to fight you (money or weapons);

3.) Eliminate the person from linear time. Simple really.

I hope this idea does some good to our UAV task force on Global and Universal Security of the Human Race.

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UAV Targets, Aerial Dog Fights, Interception, Future of War Intelligence

The UAV, Unmanned Aerial Vehicle is hear to stay and they are rapidly replacing the glory days of the fighter pilot and soon, there will be no humans in military aircraft flying the planes. Here is a quick overview of UAVs and all the new types. Hopefully these few links can catch you up on the subject to understand the future of these units.

http://www.popsci.com/popsci/aviation/arti...52052-2,00.html

http://www.uavforum.com/library/photo.htm

http://www.vectorsite.net/twuave.html

As you can see quite quickly there are many types of UAVs and each works on a little bit different principle of flight. Also be aware that each aircraft is a compromise, speed for stability, payload for size and power, this has always been a fact of aerospace design. Now realize that these relatively easy to build units have different functions. UAV are generally reusable but are cost effective enough that return is not as important obviously as a pilot in an F-18, Apache, A-10 etc. Even the predator costs are substantial and you do not want to lose one.

Now we know Saddam had plans for drones with cylindrical tanks for bio-toxins mounted on a aerial platform with a 14-16 foot wingspan, twin boom tail and RC devise to power it along off it's little launch pad. This is a Chemical-Biological Weapon of mass killing prototype in progress, which was a UAV project. Now then a vehicle UAV or in this case non-retrievable or it was not meant to be re-used can be made in a crude form nearly by anyone in their garage.

So how do you shoot a UAV down. Well such a large vehicle can be tracked and terminated even if the tank were plastic and the wings of wood and even little amounts of heat provides a SAM handheld or patriot a big enough foot print to intercept. But what happens when the enemy uses UAVs against us? The modern world such as the N. Koreans, Chinese, Iran all has technology that exceeds UAVs. So are we to have fighter jocks sitting in simulator type settings play aerial Mech Warrior? Perhaps, dog fighting each other.

We have done tests where a whole platoon fired at a UAV with machine guns and hand held arms and no bullets connected with the UAV at all, meaning it is hard to shoot down, hard to see and thus somewhat invisible to naked eye and footprint small enough that anything you sent after it would need rocket propellant in excess of the weight of the target and probably twice to three times the size.

Then we need newer versions of the stinger, but that means such technology will end up in the hands of Chinese who will pass it on and the arms traders will have a field day and everyone will buy weapons which can shoot down drones, UAVs and unfortunately could be used against private jets, cars, light planes and airlines, not to mention lightweight and high impact explosives to down a military jet and pilot or helicopter full of people, Humanitarian Aid or other flying machine.

Until which time it is safe to keep technology in house it might behoove people to remember that the North in the Civil war produced a muzzle spinning bullet that had better accuracy and greater range until the South got them and figured it out and produced the same, simply more blood was spilled and casualties mounted.

Same is the escalation of warfare and even though only 1% off all the people who have ever lived have died in a war that may not mean we wish to kill off the entire race by war and keep bettering the devices of war to kill more people. However we must protect ourselves from those who differ with obvious logic thus making that argument irrelevant in nature. Sorry folks that won't happen any time soon.

So then a swarm of UAVs what are they worth. 20 stinger missiles, after all the data of troop movement could get said troops killed. Now then our goal in war is to find said enemy and eliminate threat. But if they launch UAVs we are in information damage control mode, and need to get rid of the leak of information through infrared, radar, camera, heat sensors, etc, whatever the UAV is equipped with. Shooting each one down would be difficult, shooting one down is hard enough. If they send many like we are talking about doing then the problem is difficult.

http://www.aerovironment.com/area-aircraft...serv/ptrdes.pdf

Now then one option not discussed anywhere I can find it is an old idea of Tesla's and ELF and it is called a ELF "SNAP" in the scientific community it refers to snapping the connection of electromagnetic energy which religious followers might call the soul. It would instantly kill all cells in the body and all the electromagnetic energy would leave instantly.

By focusing a bean or building a barrier of ELF anything flying through it would snap and all the electrical energy running any devise including the controls on the UAV would snap and the unit would harmlessly fall as soon as the fuel ran out or crash if it did not have stabilization innate tendencies through some sort of dihedral airfoils rendering it into a glider.

Now then if someone were to do this to us we would need a way to reactivate more juice, from a lead barrier which would sense no electricity and open up and restore energy, but the entire system would be blown like a fuse burned up.

However a system encased in a liquid frozen lead base would be melted by the snap and then start operating using the liquid as the generation of new power and fly on, at least you could retrieve it. And then you would know of an electro-magnetic force field barrier and avoid it with other expensive hard ware or life form such as a person. So the UAV problem is forth coming as the technology is so readily available.

The smaller the components get and more ways they can conduct themselves and the more ways they can attain decisive military intelligence the more important it will be to terminate the enemies UAV intelligence gathering. Also of concern is the enemy feeding migratory birds food laced with RNA pathogens which do not their species making them carriers of that disease, pathogen, virus which harms our species. Such a force field kills cells and birds on contact and their would be no more spreading to populations of friendlies, or our own troops, or people.

In recap the technology has advanced enough to find a weapon against it which and where none exist, we must find a way to shoot down UAVs from our enemy. We can shoot down Drones of size, but these little things are hard to hit, the very reason we are using them besides the low cost. But the low cost makes them readily available to our enemy so then plan B must be ready now that plan A exists for all countries wishing to serve their political or radical views or will upon the freedoms and human rights owed the human race.

Scrambling frequencies is another method and taking control of their UAVs is another way with a better stronger signal once close enough. Of course we do not want them because they may contain Viruses, so we want to take control of them crash them and then put on a body suit and see what they are made of thus finding frequencies used, capabilities of frequencies, which could be used and capabilities of payload, longevity of flight, speed, and other important information. Also where the UAV was sending information too and what type of information is an important consideration.

If a UAV works on heat signatures of people or detects CO2 coming from one's body like a mosquito finds you then, set out thousands of little heat boxes at the body temperature or little boxes emitting CO2 to the same amount as humans, which would show a thousand troops in an area which does not exist, misdirection leads to bad strategic moves, bad planning and good luck on our part, such the battle field changes a bit, but the basic strategy is the same and thus Von Clauswitz if alive today might ponder the same ideas if he were to know all the facts discussed.

These on-going discussions should provide the thought for research to completely figure out the possible threats and new technologies needed to keep people in the free world safe from the threat now created which is in the hands of the enemy.

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Navy VTOL UAV Improvements

The US Navy is investing in VTOL UAVs, which can operate of small helipads on destroyer class or smaller ships. But will these Helicopter VTOL – Aircraft UAV combinations achieve Supersonic Flight? And will they have the maneuverability needed to also provide stealth. In poor weather conditions and for the absolute need for BLOS information and knowledge of the enemy such UAVs might do more harm then good if they are detected as they will alert the enemy that a ship is nearby, thus making it a target and putting the ship and crew at risk of detection and attack.

Critics believe that a helicopter will never achieve supersonic flight, they say things like: “No Way! Sorry Airwolf Fans. Not possible!” They say that this is because as the helicopter has to depend on it's main rotor for lift. The problem is that as the helicopter's speed increases the retreating rotor blade (the one moving back from the direction of flight) will stall and stop generating lift. When that hap- pens the helicopter will pitch out of control and crash.

Well the US Navy thanks to some very bright aerospace engineers had figured out how to make it work. Here is the basic concept. The Boeing Canard Rotor/Wing Dragonfly.

http://www.vtol.org/uavpaper/Image16.gif

In this picture we propose a three bladed symmetrical rotor blade configuration with an extremely thin and sharp leading and trailing edge, much like the F-104. These rotor blades will stop at 350 KTS as the fuselage will fly on it’s own at that speed. Computer controls will prevent the flipping over warned by doubters of the innovative ability of those who know ‘no-limits’.

Since there are three blades the blades will be swept forward and one will be inline with the fuselage, which can guide airflow to a single vertical stabilizer to save weight instead of the dual tail configuration here. This will allow for better maneuverability and airflow. Since the aircraft will have short rotor blades – wings, the stress issues associated with forward swept wings will not be at issue. Here is a picture of the X-29 with forward swept wings.

http://www.dfrc.nasa.gov/Gallery/Graphics/X-29/

We propose an anhedral configuration for the rotor blades and although unstable in supersonic flight the onboard computer system can readjust controls 200 times a second so the problem of stability will not be an issue. The vertical stabilizer in this case can be little more than a strake on the rear of a cone as the airflow will be forcing the ram air over it. The second possibility could be a dual set of strakes coming off the round of the rear cone which attempt converge towards each other in.

The rotor blades will flow into each other at the base with a rounded convex fashion. We also propose a simple but effective thrust vectoring system, which will allow the UAV to dodge SAMs.

With these modifications we believe we can keep the UAV with an extremely tiny radar signature and maintain it's stealth configuration, while allowing it to achieve supersonic flight and still operate at all speeds including a hover. We propose these changes be tested in a wind tunnel and models made to prove concept. Have drawings

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Stealth UAV High Energy Laser Reflector

In the new Net-Centric Battlespace the weapons of war will be robotic. Many of these weapons will be energy based rather than explosives based. We are already watching new weapons both offensive and defensive weapons which include both lethal and non-lethal wave energy weapons, as well as high-energy laser weapons.

I propose that the United States of America ramp up its research and development efforts to create defensive high-energy laser weapons to protect the American People. Weapons of war so accurate and devastating that no nation will ever attempt to attack us, further I propose we design, test and build advanced stealth UAVs with high-energy chemical laser enabled platforms.

We need both and we need them now. We must develop aggressor UAVs recipricol response weapons to attack any nation or people's who threaten our civilization. We have come too far and worked to hard to create everything we are and all we have built. From this day forward we must never choose turning a blind eye towards potential eventualities of hostile nation states, who smile for the camera and then finance International Terrorism behind our backs and the backs of our allies.

I propose that we build fast moving stealth enabled UAVs, which can fly over enemy territory or positions, flip on a beacon and allow the enemy to fire upon them. Then turn off the beacon, evade, dump chafe and then continue marking the location of the incoming SAM launch sites. Next fly to the end of the territory turn 180 degrees and fly back over those now sequenced SAM sites and targets.

The stealth UAVs will then deploy speed brakes, which will act as laser reflectors. Once the doors are open the US Net-centric Team will see them on radar and send the laser beam to them, which will be reflected downward to take out and annihilate the targets one by one in rapid

sequence. Stealth UAVs will fly in groups of three per team each three miles apart and cover a battle space grid in one pass over.

Additionally, I propose and expect to see these units available in the next major high-tech war and fully operation in the United States Military Arsenal. I believe the time for excuses is over and we must be prepared as a nation to protect the American people and not fail our duties.

Further I propose these reflector shields be made of carbon nanotube and ceramic constructs and that we use these shields and new technologies be integrated into the space program for spacecraft, space stations, satellites and colonies on the Moon and Mars. Currently the United States is falling behind and not pushing the envelope on these technologies and well, we damn well should be. Think on this in 2006.

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About the Author

Lance Winslow is the founder of Team WashGuys, and was formerly President and Founder of Car Wash Guys. He has operated three other mobile washing businesses. From 1979 until 1984, Lance operated an aircraft washing service at three different airports under the names Speedy Waxers and Aero Speed Waxing. These companies were sold to finance Aero-Auto Wash in 1985. From 1981 to 1985 he also sold aircraft under the name Speedy Aircraft Finders.

Lance's genealogy and ancestry was traced all the way back to the Mayflower Voyage. Both Edward Winslow, later a Governor and Governor Bradford of the Mayflower are ancestors to Mr. Winslow. This may explain his passion to fight for what he believes is right and never give up. http://www.carwashguys.com/founderancestry.pdf

Lance soloed five different types of aircraft on his sixteenth birthday, soloed a glider at sixteen, became a private pilot at age seventeen and started the world's first computerized aircraft multi-listing service before the fax machine was popular or widespread computer use. During this time, Lance was also the Western Regional Advertising Representative for The Pacific Flyer, a major general aviation newspaper.

Lance then operated Aero-Auto Wash until April 1990 and in June of 1989 Lance Winslow founded The Car Wash Guys. He later decided to capitalize on his concept and began to franchise. He created Car Wash Guys for this purpose. It was later determined, after 3 years of franchising, that the market potential of the washing industry and related service industries were clearly underestimated. Lance estimates the industry potential of his market sectors at several hundred billion dollars. Lance Winslow and his team, over the past decade, have washed for many large companies.

Lance was a Junior Olympic AAU track and field champion starting at age ten which culminated into a track scholarship to college, which he chose not to take advantage of. During his youth, Lance posted four consecutive years of no defeats. He continues running to this day. In addition to track and field Lance was involved in other team sports, including soccer, which he played for 7 years. Four years in AYSO- American Youth Soccer Organization, 2 years of Club Soccer and one year in HS.

Lance had early interests in architecture and the sketching of WWII aircraft. He built many plastic and balsa wood aircraft models. He also built and airbrushed 100's of army tanks and other military models. Later he got involved in HO scale railroad models.

Lance is also an accomplished motorcycle street racer and got into much trouble in his youth when he was not on the race track, most of which was blamed on his warrior genes, as his dad was a US Navy fighter pilot. In high school Lance was class president, four year varsity letterman and voted Most Likely To Succeed. He was President of his high school's Future Business Leaders of America club and Chess club. Lance was in the Civil Air Patrol and the Boy Scouts Aviation Explorers while learning to fly as kid. In the years of 1980 to 1985,

Lance personally has assisted non-profit groups in raising over $500,000 in funds for their organizations. In 1995 he rode his bicycle from Oregon to Mexico 1360 miles in six days in a pledge drive for the Special Olympics. He was Deputy Grand Marshall and Honorary Sheriff for the county's largest parade and largest non-profit fair west of the Mississippi. Lance has been active in the Optimist Club, International and Kiwanis Clubs. He understands local politics having run in two consecutive elections for a city council seat. Lance was appointed to the county's Council on Economic Vitality. He also served on the California Association of Governments. He founded the Neighborhood Mobile Watch Patrol which involves small businesses, chambers of commerce, police departments and cities. The entire program is privately funded. He also introduced a program where local businesses could sell their wares on the Internet, providing jobs, additional revenue for civic groups and increased sales volumes for many local merchants just as the Internet was getting started.

During the aftermath of the Northridge, California earthquake Lance reconstructed a water purification plant for Unilab, a medical clinical laboratory testing corporation. His innovation in marketing has propelled The Car Wash Guys to celebrity status in many cities. Known for this enthusiasm, exuberance and motivation, Lance Winslow is a speaker for MBA programs at top colleges and universities.

Lance worked with the County of Ventura to design a NPDES permit for the Regional Water Quality Control Board in California to comply with the EPA federal Clean Water Act. He wrote many of the Best Management Practices for surface cleaners, a category in which mobile washers and detailers fall into, for storm water non-point source discharges. These same BMPs are now used all over the United States to help preserve our fresh water supply. Lance was recognized by the City of Los Angeles for their storm water discharge program. Lance wrote a manual for the cities program which allowed continued car wash fundraising efforts to exist even though at the time they were in conflict with the California Water Codes 13260-13280, and the EPA. Wash Guys BMPs are also available online through many governmental informational web sites. Many government agencies have linked to their web site to WashGuys procedures as a way to help others comply with real environmental concerns.

Following exhaustive research and comprehensive comparisons of franchise case law, legislative updates and hundred's of other franchisor documents, Lance wrote his own Uniform Franchise Offering Circular (UFOC), Franchisee Agreement with all exhibits. The ninety plus page legal

document was approved by the California Department of Corporations in an unusually short timeframe. Lance became a franchisor at age thirty-two.

WashGuys now has over 20 franchise agreements for various WashGuy systems and modifications of those to make the total over 200 different documents each over 160 pages for use in various jurisdictions and countries all written by Mr. Winslow. Lance hates bureaucracy and excess governmental controls, which he knows stifle free enterprise, innovation and consumer choice. It is estimated that this work done by Mr. Winslow has saved the company over half a million dollars in legal fees over the past 3 years alone.

Lance was previously elected to The Board of Directors of the American Association of Franchises and Dealers (AAFD). He also served on the Fair Franchising Standards Committee. This committee, advised the Federal Trade Commission (FTC) and various Senate sub-committees on law changes necessary to protect franchisees.

Later Lance battled with the FTC, Federal Trade Commission over complaints and false declarations coming from competitors. After a year of legal maneuvering from both sides, he settled out of court with no fine and no penalty. Later in a letter to the FTC he pledged to keep a continual eye on their activities so they never falsely accuse another franchisor. He rifled off a 45 page letter as well as another 150 page letter citing their many unwarranted attacks on American Business. Mr. Winslow believes in the Friedman Economic Model, that government and business need to work together to provide a seamless free market system where Entrepreneurs can provide innovation, jobs and capital so consumers can have more choices, better pricing and can vote with their dollars. Mr. Winslow will never back down to those who challenge the spirit of free enterprise or any government agency which attempts to ruin all we are and all we have built..

Car Wash Guys was also a member of the International Franchise Association (IFA), but left due to a difference in beliefs regarding the Internet and modern day franchising, the IFA later changed their views and are now in line with Lance's original concerns 3 years ago. Lance also took advice from Susan Kezios, President of the (AFA) American Franchisee Association and Founder of Women In Franchising. Lance's dedication to the franchising industry has also attracted other franchise leaders, such as Lou Gurnick. Lou was Lance's mentor and sole franchise consultant, starting out. Lou helped found Midas Muffler, was a consultant to Ray Kroc and assisted Tom Monahan in taking Dominos Pizza to Europe. Lou has over 50 years experience in franchising.

Lance also belongs to the listserve of the American Bar Association's (ABA) forum on franchising. This is where Franchise Attorneys from all the world, try to work out real issues with the franchising format.

Lance has also co-authored the book "Franchising 101" published by Upstart Publications a subsidiary of Dearborn. This book is co-sponsored and distributed by the Association of Small Business Development Centers (ASBDC). Copies are sold and distributed to individuals attending government run seminars and who are interested in starting a business or buying a franchise. Lance Winslow also authored a book "How To Run A Successful Car Wash Fundraiser" which is geared towards helping non-profit groups raise money. The Car Wash Fundraiser Book has been referenced on the EPA web site, as well as the states of Montana, Tennessee, Florida, Washington, the City of Los Angeles and many academic papers on the environment and other social issues. This book is available on The Car Wash Guys web site. Lance with the help of his expert web team has developed the premier franchising web site on the Internet; www.franchising.org. They have also developed a site to celebrate our countries ethnic diversity, which is planned to be launched in 2010.

Lance led Car Wash Guys through the rigorous screening of the United States Small Business Administration (SBA) to become an approved franchisor eligible for franchisee funding. A task that fewer than eight percent (Less than 250) of all franchisors had accomplished at the time in 1997. There are approximately 1700 active franchisors in America today.

Lance is 100% owner of all concepts co-brands and WashGuy the holding company. Lance has added modules to WashGuy. These modules include:

- Detail Guys: www.DetailGuys.com
- House Wash Guys
- Aircraft Wash Guys: www.AircraftWashGuys.com
- Truck Wash Guys: www.TruckWashGuy.com
- Graffiti Control Guys
- Deck Wash Guys
- Boat Wash Guys
- Tractor Wash Guys
- Window Wash Guys: www.WindowWashGuys.com
- Concrete Wash Guys: www.ConcreteWashguys.com

Lance has established with the help of his elite franchisee team and master mind group; prototype franchise projects including; a fixed site car wash, 8-bay detailing super center, truck detailing shop, fixed site truck wash, and pontoon boat washing units. Lance and his team are conducting test markets of the following additions to the team: mobile oil change trucks, www.oilchangeguys.com, mobile bed-liners and other coatings and chemical snow removal units.

He was engineering and created the drawings, & prototype of an electric powered hydro-cushioned car wash truck, until fuel cells became feasible and sent that project back to the drawing board.

Over the last four years Lance has traveled to all 50 US states, visited every state capitol building, and gone to every city in the continental U.S. with a population of 10,000 or more. He did this to lobby for his company and the mobile washing Industry; discussing environmental concerns, non profit groups, energy issues, water shortages, crime, employment, and children's issues. He has traveled to 90 Indian Reservations, 250 museums, visited 500 Chambers of Commerce and Economic Development Associations to discuss the possible role for The Car Wash Guys in those communities.

Mr. Winslow believes it is necessary to understand the local dynamics of an area before he enters the market. Lance has also been to every state capital in the United States prior to 9/11 and had a picture of his Rig taken.

Lance has also visited over 3000 coin-op car washes, 700 full service car washes, 3800 roll-over car washes, and had his Corporate Command Center washed at over 100 different truck washes. He has visited 600 of the Nations largest corporation head quarters. He has viewed the units of over 1000 plus mobile washing units and visited every other major manufacturer of washing equipment.

WashGuy.com and its predecessor company have forced an estimated 380 competing companies to exit the marketplace through direct competition in the market place. Mr. Winslow takes nothing for granted and does not believe in luck, believing business is a three dimensional chess game whose rules change every minute and every move effects every other and that there are new undiscovered moves awaiting those who study the theory of the game, he loves it.

Mr. Winslow constantly stays abreast of information in all of WashGuy's 22 industry market sectors and reads over 160 paper periodicals per month, views 75 online newspapers, newsletters, & e-zines daily. Lance after leaving college has been self-educated taking his 3000 plus title business library with him on the road. He usually reads three books per week in his quest for knowledge & 10-12 white papers per day. Lance is the only franchisor in the history of franchising to have a corporate office on wheels. Lance has been literally living in the Blitz Mobile Command Center for the past 6 years. Mr. Winslow's recommended reading list for up and coming super stars can be found at the following link:
http://www.carwashguys.com/0021803_2.shtml

Lance is also a truck driver, driving the Mobile Command Center around the country and is testing special oil additives, and later plans to test bio fuels and alternative fuels in the truck over the next five years. The Command Center is scheduled for the installation of solar panels to run all electronics housed within and replace the two large fossil fuel generators on board. Lance offers his expertise to those companies and individuals who he believes are on the leading edge for modest fees as an outside consultant or board member.

Lance is in the process of forming his own foundation to help the World www.lancewinslow.org and hopes to have it fully formed and funded sometime in 2009. The Foundation will be an

extension of Mr. Winslow's commitment for the betterment of all mankind, a lifetime pursuit. Lance had developed over three years, a special sleep schedule, Lance skipped sleeping every third night putting in 36 hour marathon days so he could finish projects. The other days he put in 14-17 hour days taking no days off. This experiment did not work, having affected Lance's positive outlook on the world.

Mr. Winslow is a "Futurist" and member of the World Future Society. He is also a member of the Federation of American Scientists. Being an Entrepreneurial Capitalist by nature he is also a member of The Ayn Rand Institute. Mr. Winslow, as founder is organizing chapters for The OTT - Online Think Tank to help network the most brilliant minds of the Planet. He is actively recruiting members now; www.worldthinktank.net.

Lance is also a writer and has written over 12,000 online articles, which are posted at; http://www.ezinearticles.com/?expert_bio=Lance_Winslow, thus making Lance the most prolific online article writer to date. Mr. Winslow is also a guest writer for Detail Digest Magazine, an automotive aftermarket vehicle enhancement industry trade journal. Lance is currently working on the following books, to be completed within the next year, and is considering qualified co-authors for some of the titles:

Futurist Books

- Artificial Intelligence and Possible Futures
- Comets, Asteroids, Meteorites and Earth Civilizations
- Computer Brain Interfaces of the Future
- Economics of the First Decade of the 21st Century
- Franchising the World
- Future Auto Technologies
- Future Aviation Technologies
- Future Concepts and Technology
- Future Underwater Technologies
- Growing Our Own Fuel; Switch to E85 Ethanol
- Holographic Technology of the Future
- Hoverboards of the Future
- Killing Hurricanes and Weather Control
- LED Lighting of the Future
- MAV's; Micro Air Vehicle Strategies in the Future
- Killing Locust Plagues
- Pure Opinion and Politics of 2005
- Pure Opinion and Politics of 2006
- Pure Opinion and Politics of 2007
- RFID and the Future

- Robotics of the Future
- Smart Dust of the Future
- Smart Garages of the Future
- Space Colonies of the Future
- The Flow of All We Know
- The Future of High-Performance Motorcycles
- The Future of IT
- The Future Personal Tech
- The Human Animal Debate
- Truck Technologies of the Future
- UAVs of the Future
- Via Game Design Strategies for the Future
- Virtual Reality of the Future
- Wind Cars of the Future

Military Books

- Advanced Weapons Technologies Of the Future
- Human Fighter Pilots Versus UAVs with AAI Computer Systems
- Robotic Net Centric Battlefield of the Future
- The Future of Military Air Superiority
- Unmanned Vehicle Robotic Warfare
- Winslow on War; Military Strategy and Philosophy
- Winslow on War; War Strategies for the 21st Century

Other Books

- Action Plan for Nairobi Slums
- ADA - Wheel Chair Awareness Plan
- An Atheist Discussion on the Absurdity of Human Religion
- Biking across America-Lower Latitudes
- Common Sense Psychology 101
- Downtown Revitalization
- Helping Out in Honduras
- Home Schooling Tips for Parents and Educators
- Honesty in Humanities
- How to Become a Writer
- How to Run a Successful Red Ribbon Week Program
- How to Run a Successful Car Wash Fundraiser
- How to Run a Neighborhood Mobile Watch Patrol

- Human Psychology of Winning
- Hypersonic Humans and Overachievers in Society
- Internet Fraud and Freedom in the Balance
- Lessons for Internet Forum Users and Bloggers
- Motivation, Goal Setting and Success Strategies
- Online Article Writing
- RV Knowledge Primer
- Social Issues of Our Time
- The Flow of Thought
- The Flow of Transportation and Distribution
- The Flow of Water
- The Hypothetical Science of Common Sense
- The Power of Presence and Brand Marketing in the 21st Century
- Think on It
- Winning Strategies for the Long-Distance Runner
- World Social Issues; Solving the Problems through Proper Planning

Business Books

- Change Management and Averting Chaos
- Customer Service Keeps Them Coming Back
- Entrepreneurial Insights for the Overachiever
- Finite Capacity Scheduling Models for Service Businesses
- Marine Industry; Things to Think about
- Marketing Magic and Market Share Management
- Non-MBA Business Management Strategies
- Over Regulation in America
- Sales Management Strategies
- Sales Training Tips from Real World
- Strategic Planning for Entrepreneurial Startups
- The Case for Off-Shoring and Outsourcing
- Understanding the Franchise Business Model

Science Fiction Books

- Alien and Human Civilizations and the Future of Inter Species Law
- The Cubed Experience
- 5u53j Son of Wilson

Small-Business Books

- Adventures in Advertising for Advanced Entrepreneurs
- Bonsai in Blitz Marketing for Small Business
- Business Ethics for Entrepreneurs
- Direct-Mail Marketing Strategies for Entrepreneurs
- Online Internet Web Site Marketing Strategies
- Small-Business Image and Presentation
- Small-Business Networking Strategies
- Starting a Boat Cleaning Business
- Starting a Mobile Auto Detailing Business
- Starting a Mobile Carwash Business
- Starting a Mobil Oil Change Business
- Starting a Mobil Truck Wash Business
- Starting Your Own Detail Shop
- Starting an Aircraft Cleaning Service
- Strategies and Considerations for Car Washes
- The Dirt on Multilevel Marketing

History of The Car Wash Guys

http://www.carwashguys.com/history/beginning.html

Ask Lance a Question: *Lance@carwashguys.com*