

The Sword and the Network: Combining Body-Mind-Spirit-Technology

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BACKGROUND

In the 1980's, Richard Strozzi-Heckler and a team of instructors helped run the Trojan Warrior project. Trojan Warrior was a six month experiment wherein 25 Special Forces personnel were taught a wide array of new skills in an effort to make them better warriors. The students were introduced to the practice of Aikido as well as meditation and even neurofeedback training.¹ These skills were an attempt to improve the warrior craft by creating centered, integrated warriors. The project, while not renewed did show some success. The success of the program is a relevant starting point for this paper. The individuals who went through the program were in top physical performance and had access to some of the best training that the United States Army had to offer. Their mental and physical skills would be considered by most to be at the top of the ladder. However, as shown through the final testing, there was still room for improvement.

For six months, a diverse group of instructors provided additional training to the Trojan Warriors. Besides the core 3 instructors who would be with them the entire time, other guest lecturers included Dr. Jim Hardt on the topic of neurofeedback, Bira Almeida for Capoeira and Brother Davit Steindl-Rast, a Benedictine monk.

Deep meditation skills, spirituality and other various topics were covered as part of the overall curriculum aimed at creating better warriors. A primary reason for this diverse topic coverage is that it more accurately reflects the totality of the human existence. In other words, there is more to the warrior than just the warrior skills. The citizen soldier may have a regular day-job and only soldier part time. There are family, church and community pressures that create unique stressors. Whether we choose to acknowledge it or not, we are creatures of the mind, the body and the spirit. Modern Western society chooses to isolate and separate those elements from each other.

While it has been some years since I attended Basic Training and Infantry School at Fort Benning, Georgia I do not recall much training outside the skills necessary to perform my job as an enlisted infantryman. This is a necessary sacrifice in the 14 weeks of fun, but evidence of the failure to create a more balanced, and therefore more effective warrior. A by-product of this failure to address the warrior in total is that they end up performing sub-optimally. During the Trojan Warrior project there are several references to conflicts that arise in teaching. Awareness disciplines not only make you more aware of yourself, but of your opponent too. This awareness extends beyond the physical senses. The Art of Aikido is about blending with the energy of your opponent, something you cannot do while keeping within your own shell. This concept of blending with the enemy runs very contrary to the 'meet head on and defeat with overwhelming force' that is the American culture. The

¹ In Search of the Warrior Spirit, Richard Strozzi-Heckler, pg 240

tensions in the Trojan Warrior program illustrate the disconnected existence of the Western Warrior. Sun Tzu puts it succinctly:

- Therefore I say: ‘Know the enemy and know yourself; in a hundred battles you will never be in peril.
- When you are ignorant of the enemy but know yourself, your chances of winning or losing are equal.
- If ignorant both of your enemy and yourself, you are certain in every battle to be in peril.’²

There are several instances in the history of the United States’ military where failure to understand the culture in general and the warrior culture specifically of either or both sides of a conflict have resulted in failed campaigns and excessive casualties.

Computer Warfare as a Martial Art

Using computers to fight computers is analogous to sword fighting. In both cases, you are using like weapons against each other for attack and defense. At the end of the engagement, what determines the winner is skill, not necessarily the person with the best sword. The 15th Century Samurai legend Musashi killed several of his opponents in single combat with a wooden practice sword known as a bokken.³ While clearly armed with an inferior weapon, Musashi still survived and even excelled at defeating his opponents. The mention of the Samurai at this point is not accidental. The Samurai were arguably the best swordsmen of their time; and not just because of their swords. The Samurai were balanced warriors studying literature, arithmetic and calligraphy. In this context, Musashi wrote; “When you attain the Way of strategy, there will not be one thing you cannot see”⁴ and “...if you know the Way broadly you will see it in everything.”⁵ It is within this martial context that we begin to see the similarities between martial arts and CNA/CND.

Attacking

In any sort of physical attack, the aggressor must extend beyond their own boundaries in order to execute an attack. If I keep my hands by my side, it is impossible for me to punch. There is another aspect to this, which is ki or the energy of life itself. Ki can be focused and even projected; for a true master of the Arts, they can win a match simply by showing up. In either case, ki or a physical attack, one concept is paramount; in order for me to attack; I must extend my body and my ki beyond myself to do so. In the digital world, this extension of energy is analogous to packets on the wire. In order for me to attack one computer from another, I must send traffic. The traffic flows on a wire become the Ki or energy of my attack. The ebb and flow of traffic between systems are no different to the ebb and flow of two individuals locked in single combat. At any point of the engagement attacker becomes the defender and vice versa. The point at when one person’s ki stops, then the battle is over. Likewise, when the traffic stops, so to does the digital sparring.

² The Art of War, Samuel B. Griffith translation, Offensive Strategy 31-33, pg 84

³ A Book of Five Rings, Victor Harris translation, various references in the Translator’s Introduction

⁴ Ibid. Ground Book (One school – two swords), pg. 46

⁵ Ibid. Ground Book (The Benefit of the Two Characters reading “Strategy”), pg 47

Defending

Under current U.S. and several international laws, it is illegal for the owner/operator of information technology assets to attack other systems on the Internet. This maxim applies even when the owner/operator is under attack. In other words, there is no right to digital self defense. As you put servers on the Internet, you take all reasonable steps to protect them and then hope for the best. In the event that your servers are attacked, you may mitigate the attack, but under no circumstances are you allowed to counter strike. In some ways, this is very similar to some of the softer martial arts. For example, Aikido teaches you to use your opponent's energy against them.⁶ That very statement implies that a true Aikido-ist cannot take action until he is attacked. In the same fashion, to master Aikido, you must first master yourself. Likewise, the defender of a network must master their environment and take steps to redirect attacks. Technologies such as intrusion prevention and load balancing help re-direct attack energy (traffic) in the hopes of minimizing the effect of the attack and its resulting damage. Ultimately, the network defender is like the Aikido master; in complete control of their environment and adept at using his opponents' energy against them.

Philosophy and Spiritualism

Those who engage in computer network attacks are colloquially referred to as hackers. Within the realm of hackers there are three general types or hats; black, white and grey. White hat hackers hack for the right side of the law. White hats include contractors, the Department of Defense Red Teams and researchers. Black hats are those that hack for the 'other' side of the law. Black hats cover a wide array of individuals including those sponsored by organized crime and foreign militaries. As the name implies, grey hat hackers sit in both worlds; a little bit legal, a little bit illegal. Regardless of the color hat the hacker wears, there is one thing they all share in common and that is the philosophy of hacking.

Hacking is a singular pursuit. The proficiency at which a hacker operates is a direct reflection to the time and discipline they dedicate to their art. While hackers do sometimes work in teams, it is still up to the individual to perform to standard. Most hackers were probably not team sport players during school. The entire philosophy of hacking goes against collective cooperation. When hackers do work as teams, it is similar to a sniper/spotter pair. While a still a team, each member has very clear cut responsibilities and when target engagement is complete, there is no longer any need for a team. While no formal polling exists, it would be my guess that those of us who make a living in the CNA/CND world still function as individuals. We pursue individual sports such as the martial arts, golf, shooting or tennis; activities that, again, speak to your individual dedication and sacrifice rather than 'a great team or quarterback'.

This self-focus lends itself to the martial arts environment very well. Two of the basic tenants of the martial arts are self discipline coupled with the desire to perfect one's art through practice and learning. This is the same ethos found in hackers. There are few formal schools on computer network attacks (outside of those sponsored by various U.S. and foreign militaries). Furthermore, there is no ranking system within the hacker environment. Except for the script kiddies, or newbies, there is little way to distinguish the skills of one hacker from another without seeing them work. Therefore, it is up to the individual hacker to find teachers, self educate and learn by doing. Hackers are always looking to learn more. In a recent chat room, I found myself talking to a Romanian hacker who had

⁶ Aikido: The Way of Harmony, October 28, 1998, <http://goinside.com/98/10/aiki.html>

compromised one of my servers in the United Kingdom. Very early on in the conversation he asked if I could teach him. In an effort to provide a classroom he offered me limited access to one of the servers he compromised in Canada to see if I could teach him how to fully take over the system. Not only are hackers interested in learning more about systems, their native curiosity extends across many domains. At the recent Defcon hacker conference in Las Vegas, there were classes in lock picking, false ID's, safe cracking and the law as well as the traditional computer network attack/defend content. In short, hackers are self motivated to learn and do more across a wide knowledge domain. This drive is similar to martial artists who learn multiple styles or weapons. Within the current military establishment, this is similar to the psyche of the career Special Forces team member who is cross trained in at least two different disciplines.

Conclusion 1:

Computer network attack and defense is like any other arts martial and should be taught as such. In basic training I was taught to use my weapon with reasonable efficacy. There was no philosophy, no higher learning other than sight picture, breathing and trigger squeeze. That learning model works for a basic rifleman, but not for a Special Forces soldier or sniper. The mechanics and even the philosophy of the skill must be taught to operate at a higher degree of proficiency. Computer network attack and defense bears many similarities to traditional martial arts. These similarities provide a framework for formalizing attack and defend within a martial setting and give the overall skill set a greater framework. The Samurai became proficient in many diverse things due to an overall mindset; self discipline and self-education through practice. That mindset allowed them to master many weapons and art forms. While the sword holds a special place within the Samurai culture, it is ultimately a tool that is only as good as the person wielding it. United States military culture, especially at the special operations level already cultivates a similar self-discipline and self education through practice. The conclusion and ultimate recommendation is to add computer network attack and defense into the regular list of weapons employed by operators and to treat it no different than unarmed or even armed solo combat.

Bringing Technology into the Body-Mind-Spirit Trilogy

Holism and Somatic Training

Before continuing, it is important that we understand some definitions as they relate to this paper. Integration relates to the harmonization of body, mind and spirit within the individual. Modern press calls this Somatics, from the Greek word Somatikos meaning 'of the body'. The use of the word today implies 'a philosophy of mind and body unity'. As Stozzi-Heckler points out:

- This is the human possibility of harmonizing body, mind, emotions and spirit. What somatics proposes is a fully integrated individual who embodies athletic prowess, emotional maturity, and a spiritual sensibility...increase[ing] our ability to be self-educating, self-healing and self-generating.⁷

It is this integrated existence that is the goal when I mention living a balanced life. While traditionally taught through the martial arts, there are now several individuals and companies providing somatic training.

⁷ Somatics in Cyberspace, Richard Stozzi-Heckler, pg 3

There is no question as to the benefit of somatic training to today's warrior. In fact, most are already familiar with the concept, albeit tangentially. The method of accurately firing a rifle is classic somatic training. Proper sight picture, breathing and trigger squeeze are essential to accurate marksmanship. The shooter must bring everything into synchronicity at the time of complete trigger pull in order to put rounds down range, where and when they are needed. Every time a round enters the 10 ring, the marksman has mastered body mind integration for that round. For most, the integration only lasts for that round, rounds or time on the range. True somatic training aims at having the warrior live and operate in such a state across all their domains of responsibility and functioning. As evidenced by the Trojan Warrior project, there was an overall increase of performance through somatic training and awareness disciplines.⁸

Prior to the advent of high tech war fighting, the body-mind-spirit trilogy represented the entire realm of the single warrior. Everything else was a tool. While the warrior trained in the principles of weapon use, they did so from a position of personal balance. In today's technology centric conflict space, body-mind-spirit no longer represents the entire warrior realm. The United States has a society that is completely dependent on technology.

The over-reliance on technology extends itself to the warrior class. It is imperative that we find some way to bring technology into the body-mind-spirit arena in order to increase the warriors' efficacy across many operational domains.

Achieving balance and integration of body, mind and spirit is difficult enough. But the payoff of reaching that goal is immeasurable. Against this chaotic backdrop we must also add technology; and ubiquitous technology at that.

The Relationship of Technology to Body Mind Spirit

Ubiquitous technology quickly and easily throws all balance to the wind by its unpredictability and unreliability. Technology has inserted itself into every aspect of our lives. Our over-reliance on technology, coupled with its inherent instability creates great stress and unbalance. For example, think of the number of times your cell phone has dropped calls or how often your computer crashes and needs rebooted. Look at the complexity of cable, TV and home entertainment remotes; the DVD/DVR player at my house actually takes time to boot up before I can use it. In fact, at this year's Super Bowl party, my Window Media Center PC was connected to an LCD projector for the game. During the 2nd quarter it crashed and needed to be hard-reset (drop the power completely, plug in and reboot). Not a pleasant operation in a room full of Pittsburgh Steelers fans. In 1997, the USS Yorktown, a U.S. Navy Aegis Cruiser, had its propulsion systems crashed by an operating system error.⁹ In 1998 a Galaxy-4 communications satellite failed. In 1999 a GE-3 satellite likewise failed.¹⁰ Both failures were technology related and impacted paging and other communications for hours and days. This paper could easily focus on the numerous disruptions that technology failures have caused. In every instance, the failure caused great loss and created a great deal of havoc and stress. Even without technological failures, we live in times of unbalance and stress; this affects performance and decision making.

⁸ In Search of the Warrior Spirit, Richard Strozzi-Heckler, pg 309

⁹ http://www.gcn.com/print/17_17/33727-1.html. Note that there are conflicting reports as to whether or not the Yorktown returned to port under its own power.

¹⁰ <http://www.cnn.com/TECH/space/9903/12/satellite.outage.03/index.html>

Stressors affect the decision cycle. Research initiatives such as SPAWAR's TADMUS (Tactical Decision Making Under Stress) were created to study stress and its effects on decision making. The results are nothing new; any kind of stress impacts our ability to make sound decisions in a timely manner. Whether the stress is related to combat, family or job issues, financial or personal, the results are the same. While empirical studies are helpful, they are not as meaningful as examples from real life. It is a simple fact that trouble in one aspect of your life impacts your overall ability to operate at optimal performance. When a child is sick or there are family health issues, work suffers. When work becomes burdensome and more time is spent in airports than home, your family life suffers. The less fit you are, the more likely you are to get sick and impact both work and home. The examples continue; finances and job stress are the top two leading causes of stress according to a 2005 LifeCare Poll.¹¹ Forty three percent of adults suffer adverse health effects from stress (and that's a 1997 statistic¹²). According to some studies, spending on sleep aid drugs rose 19% in 2005, while drugs for treating ADHD in adults likewise rose over 30%.¹³ Likewise, according to the HANES 1999-2000 data, two thirds of all adults in the U.S. are overweight with one-third being obese.¹⁴

The net result of these statistics is the simple truth that failure to maintain a balanced existence is part of our culture. As a culture, we work too hard, sleep too little and eat too much. As such, we operate below our optimal levels. Part of the balancing solution is the conscious integration of the various parts of our lives and acknowledging the interconnectedness of our existence. Conscious integration of body, mind and spirit is the key element to balancing. Once we are balanced, we perform better and maintain a higher quality of life. Furthermore, making decisions from a position of balance (physical or otherwise) is always better than the alternative. Balancing also extends beyond the self. A team built of such balanced individuals will simply perform better. We have all experienced the difficulties of team performance when one member is focused elsewhere or not able to perform at the same level as the rest of the team.

The case is made for the need for a more balanced existence through body-mind-spirit integration. However, we are a technological society with an even more high tech warrior class. The Trojan Warrior project produced remarkable results across many measurable attributes. The net result was a more balance warrior, a better performing team with a greater chance of mission success.¹⁵ As Company Commander Thorne said about the program: "This training is designed to produce changes in lifestyle rather than impart knowledge for future use. In this regard it differs completely from most formal schooling our personnel have attended. Our greatest challenge in the future will be to find ways to prevent the closing of our soldiers' minds."¹⁶

Add now CNA/CND training as a martial art to the combined integration of body-mind-spirit. The goal is a balanced and centered warrior, confident in their self knowledge and adept on any battlefield, real or virtual. Expand this to a team and the benefits grow exponentially: a team that now has more options for mission completion because they operate from a center of knowledge that encompasses any aspect of a mission, a team that can blend digital and physical attack and defense

¹¹ http://www.lifecare.com/news/archives/finances_stress.html

¹² http://www.ontario.cmha.ca/content/about_mental_illness/mental_health.asp?cID=3963

¹³ <http://www.medicinenet.com/script/main/art.asp?articlekey=47163>

¹⁴ <http://win.niddk.nih.gov/statistics/index.htm#preval>

¹⁵ In Search of the Warrior Spirit, Richard Strozzi-Heckler, pg 309

¹⁶ Ibid. pg 310

in a fluid battle sphere. Computer attacks won't be carried out remotely by hackers in basements at Lackland. Digital surveillance and communications networks can be controlled by the same operators on site as part of the entry team.

Conclusion

Technology is a weapon, pure and simple. Just as everyone in the Army is taught the rifle, so too should they be taught the computer. The generation joining the ranks would have no problem making the transition from computer-as-tool to computer-as-weapon. At the basic ranks, simple skill awareness is enough. At the higher level of operators; Ranger and Special Forces, more formal training on the CNA/CND aspects should be integrated. Balancing body-mind-spirit and technology should be taught. Centered and balanced personnel operate from stronger positions.

Technology as a weapon and its relationship to the integration of body, mind, and spirit is very similar to that of the sword to the Samurai. A sword is a weapon, used to fight men holding other swords. The sword is both an offensive and defensive tool. The wielder of the sword who does so from a position of balance holds the advantage against one who is unbalanced. The sword is an extension of the body, controlled by the mind and defined by the spirit.

In the high tech war of CNA/CND, the sword is replaced by the computer. It is the weapon of the new Samurai and as such deserves to be taught alongside other martial pursuits.

The Samurai mastered the pen, the sword, their spirit and their bodies. The same model works today. Balance and center the warriors, teach them the new weapon and bring it into the fold. Create a team with greater operational capacity. We cannot predict the future; but the more futures we prepare for, the better.

The martial arts teach beyond the physical needs of self mastery. There are underlying philosophies and a spirituality that permeates the higher belt ranks. While rarely taught in the United States, the 'softer' sides of the arts are just as important as the kick and punch. One of the ultimate goals of the martial artist is mastery of self. When one operates from a position of balance and a centering that comes from deep introspection, you are not only a better martial artist, but a better person. This centering and balance will bleed over into all aspects of your life. The Samurai understood that one should master many things; body, mind, arts, and fighting. They made no distinction between them and treated them with equal intensity.

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