REPORT DOCUMENTATION PAGE

**Form Approved
OMB No. 0704-0188**

1. REPORT DATE *(DD-MM-YYYY)* 30-04-2012	2. REPORT TYPE Master of Military Studies Research Paper	3. DATES COVERED *(From - To)* September 2011 - April 2012

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
RECOGNITION-PRIMED DECISIONS, ETHICAL INTUITION AND BORROWING EXPERIENCE	N/A
	5b. GRANT NUMBER N/A
	5c. PROGRAM ELEMENT NUMBER N/A

6. AUTHOR(S)	5d. PROJECT NUMBER
LEARY, BRENDAN J.	N/A
	5e. TASK NUMBER N/A
	5f. WORK UNIT NUMBER N/A

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) USMC Command and Staff College Marine Corps University 2076 South Street Quantico, VA 22134-5068	8. PERFORMING ORGANIZATION REPORT NUMBER N/A

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A	10. SPONSOR/MONITOR'S ACRONYM(S) N/A
	11. SPONSORING/MONITORING AGENCY REPORT NUMBER N/A

12. DISTRIBUTION AVAILABILITY STATEMENT
Unlimited

13. SUPPLEMENTARY NOTES
N/A

14. ABSTRACT
In today's military environment of disaggregate operations and high operational tempo, new SEAL operators frequently make quick decisions in ambiguous environments that develop very rapidly. Due to the nature of special operations, on the ground decisions frequently have strategic impacts. Any such decisions that have an element of moral and ethical implications increase the strategic risk involved. This is a very challenging environment in which the right decision must be made in a split second. This paper diserns how to best train SEAL candidates and new SEALs for moral and ethical decision-making during difficult and uncertain situations when the stakes are high and disproportionate to their relative tactical experience.

15. SUBJECT TERMS
Moral and Ethical Decision-making; setting command climate; Recognition-primed Decisions

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES 29	19a. NAME OF RESPONSIBLE PERSON Marine Corps University / Command and Staff College
a. REPORT Unclass	b. ABSTRACT Unclass	c. THIS PAGE Unclass			19b. TELEPONE NUMBER *(Include area code)* (703) 784-3330 (Admin Office)

MASTER OF MILITARY STUDIES

RECOGNITION-PRIMED DECISIONS, ETHICAL INTUITION AND BORROWING EXPERIENCE ·

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

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Executive Summary

Title: Recognition-primed Decisions, Ethical Intuition and Borrowing Experience

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Thesis: How are intuitive moral and ethical decision making (MEDM) skills best developed within SEAL selection and training?

Discussion: Special Operations Forces (SOF) are normally employed on tactical missions that have operational or strategic objectives. In the current environment future engagements will be small in nature, and SOF will frequently be a force of choice due to organic capability, relative size, and the maturity of its operators. The maturity of SOF operators will give decision-makers confidence that any issue that arises during the mission, especially those that are moral or ethical in nature, will be handled appropriately. As such, new SEALs must be well prepared to quickly address moral and ethical aspects that arise during their mission.

Research psychologist Dr. Gary Klein developed a model of Recognition-primed Decisions (RPD) that states that as one becomes more experienced, one is able to speed up the rational process due to experiential familiarity of a situation until the process seems or becomes instinctual or intuitive. Klein's model describes how people quickly assess a situation and use their repertoire of patterns developed from prior experience to make decisions. SEAL training develops one's repertoire of patterns by conducting battlefield-like training that later fosters application into RPD. This be applied to moral and ethical decision-making (MEDM).

Stuart and Hubert Dreyfus believe that MEDM is not about attaining volumes of ethical knowledge but instead about gaining experience in making moral and ethical decisions. According to Dreyfus and Dreyfus's perspective, it is more important to have a foundation of ethical comportment, rather than rational judgment to assist with decisions on the battlefield. Dreyfus and Dreyfus see MEDM much like Dr. Klein sees RPD. Dreyfus and Dreyfus believe that experience from relevant situations refines one's moral behavior and decision-making. If ethical comportment is needed for good MEDM, then one must consider how ethical comportment is fostered in SEAL training and embodied within command climate.

In general, morals and ethics are about our relationships with individuals and institutions, and the obligations that accompany those relationships. These include relationships with and obligations to one's self, family, friends, military command, profession, fellow citizens, nation, etc. These relationships are an important component of command climate and provide a framework of experiences that will silently guide one's actions and refine moral comportment.

Organizational Ethics express the values of an organization to its employees irrespective of governmental or regulatory laws. In the military, Organizational Ethics feeds into a unit's command climate. Just as Organizational Ethics are important to military personnel and decision-making, so are Professional Ethics. Professional Ethics identify the principles that govern the conduct and obligations of a given profession. Naval Special Warfare's Ethos is its Professional Ethic. In order to inculcate NSW members with a practical ethic that ensures ethical decisions on target, one must effectively integrate the professional ethics, in this case the NSW Ethos, into the organizational ethic, or command climate. This experiential learning will

develop a repertoire of patterns for application in RPD. When the ethics of the profession and the organization are complimentary in nature, decision-making on target will be easier and quicker because there are fewer angles to consider and less conflict between principles. This will enable a command climate that establishes ethical comportment that will provide the experience that Dreyfus and Dreyfus described in their 1994 study. However, when these ethics are not complimentary to one another, the individual must consider which morals and ethics are appropriate to a situation. This is confusing, time consuming, and can lead to significant, if not deadly, consequences on target. Conflict between Professional and Organizational Ethic can lead to moral disorientation that can negatively affect MEDM in the operational context.

In looking at the manner in which Professional Ethic is incorporated into the learning at BUD/S training and SQT, one can see an obvious progression between the two training programs. BUD/S training indoctrinates its candidates with the NSW values and expects the candidates to apply them in their daily conduct. SQT continues indoctrination of the NSW values and introduces the concepts of proportionality, discrimination, law of armed conflict (LOAC), and rules of engagement (ROE) at a rudimentary level. These four concepts are important because they define for a novice operator what is right and what is wrong. When assigned to his first SEAL Team, the training does not progress to help the operator gain experience in deciding between the better of two rights and the lesser of two wrongs. In today's military environment decisions that distinguish between the better of two rights and the lesser of two wrongs could make a difference between strategic success and failure. Since field training exercises do not progress to help the operator gain experience in deciding between the better of two rights and the lesser of two wrongs, how could a new operator be able to make these types of decisions in a RPD manner on the battlefield?

Conclusion: The present security environment calls for small footprints forward to deal with threats in the immediate future. Special Operations Forces will be a frequent choice. In this environment, the challenges will be plentiful, but the margin for error minute. It will be of the utmost importance that good decisions are made during mission execution, or mission failure could result. The experience of the operator will not be an acceptable excuse in the event of a mistake, and as such, a new operator will shoulder the same responsibility for success as the seasoned. It is because of this environment that new SEAL operators must be developed to make quick, effective, and moral decisions during the most chaotic of times and ambiguous of environments. Though SEAL training develops its trainees well tactically, it does not maximize training and climate to enable intuitive ethical decisions in an RPD manner. In order to capture the benefits of RPD in MEDM, an individual must develop a repertoire of moral and ethical patterns in the context of the tactical environment. To accomplish this, SEAL training must harness the benefits of Klein's, Dreyfus and Dreyfus', and Nonaka's theories in field training exercises (FTX), Professional Military Education (PME), and everyday ethical comportment. Specifically, MEDM must be considered against Dreyfus and Dreyfus' Model of Skill Acquisition to determine the specific skills to be addressed at each level of the model, and then those skills must be incorporated into FTXs to develop a repertoire of patterns as discussed in the models of the Dreyfus brothers and Klein, and into PME for learning as discussed in Nonaka's model.

The conclusions drawn from this research led to several recommendations that foster MEDM within the SEAL Training pipeline. NSW should deliberately collect MEDM AAR/LL from real-world missions for dissection, understanding, and force communication by a semi-annual Board of Ethics (BOE). The BOE should provide advice and guidance on the topic from the vantage point of the NSW Ethos and an experienced perspective, not to deliberate or judge the decision made, but instead to make recommendations to the NSW community writ large. These recommendations should be included in training scenarios, command PME, and professional mentorship programs to maximize knowledge and rapidly expand the repertoire of patterns of new SEALs to maximize the effects of Klein's, Dreyfus and Dreyfus', and Nonaka's theories. The result will be a generation of new SEALs capable of making battlefield moral and ethical decisions in a millisecond with the perspective of experience beyond their years.

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Preface

The completion of this project is significant to me because it allowed me to explore an area in which I have both professional and personal interest. I am passionate about how people reach conclusions and make good decisions. This project would not have been possible without the mentorship, expertise, and support of my research mentor, Dr. Rebecca Johnson. Your effort in my endeavor is inspirational to me and is very much appreciated. I could have neither begun nor completed this project without you. Thank you.

I would like also to thank the faculty and staff of the Marine Corps University and my fellow Command and Staff College students, particularly Lt. Col. Jeff Tlapa, Dr. Jonathan Phillips, Dr. Richard Dinardo, and my fellow students of Conference Group Seven. The learning environment that the faculty provided and the conversations with which my colleagues engaged me resulted in my profound professional growth. Thank you.

I would like to thank my brothers in Naval Special Warfare. It has been an honor to serve with you and fight along your side. You have had a profound impact upon who I am as a SEAL, as a leader, and as a man. Thank you.

I would like to thank my parents, Jack and Dolores Leary for instilling in me an appreciation for education, a sense of work ethic, and a cornerstone of family values. I am forever indebted for the love, support, and example that you have shown me. Thank you.

I would like to thank my three wonderful children, Kiernan, Declan, and Brigid. You inspire me to seek improvement in myself, ensure our country's future, and laugh along the way. Thank you.

Finally and most importantly, I would like most to thank my loving wife, Erinn. You will never know the impact that you have had upon my life and how I live it. I appreciate your encouragement when I am strong, your support when I am weak, and your love that makes my life enjoyable. Thank you.

Introduction

During a Direct Action mission in Afghanistan, an Assault force surrounded and systematically cleared its target. During the clearing, a threat emerged, and the assault force employed its Multi-purpose Canine (MPC), a non-lethal capability. Three Special Operations assaulters entered the room in which they employed the MPC. The three assault team members observed the MPC attacking a noncompliant male inhabitant while a female inhabitant observed. The assault team members identified and held on the perceived threats in the room and began de-escalation. Suddenly, the woman attacked the MPC with a knife. In a millisecond, the assault team members needed to decide what to do. They shot the woman dead.

When making a decision in milliseconds, there are limited options that can be applied. Yet when given time, we can systematically dissect the situation and weigh the moral and ethical aspects of the dilemma that presented itself to the assaulter team members. For instance, one might argue that the rules of engagement (ROE) provide soldiers the inherent right to protect themselves, their team and their equipment with deadly force and that shooting the woman was within their ROE. Another might argue that the MPC is a tool for application in the problem set, much the same as a mechanical breaching tool, and therefore is of lesser value than human life. From this perspective, one may conclude that the woman should not be shot unless she presents a threat to a human on target. One may think that the MPC is *more* than simply a tool for tactical application since the MPC has a heartbeat, learned military discipline, and earned awards for battlefield accomplishments. Since the MPC is sent in before the assault team members to minimize their risk, an interesting point may be that the MPC is more than a tool, but less than a human member of the patrol. This perspective leads one to conclude that the woman who was shot for attacking the MPC was valued less than the MPC, which was employed to protect

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human lives in the first place. This perspective means that the life of the MPC is valued more than the a human life which is not part of the patrol. Finally, one other perspective may be that the woman should not be shot unless she attacks a human in the patrol because of the strategic risk that she represents to the U.S. mission in Afghanistan. Because all of these perspectives fall within Rules of Engagement and Law of Armed Conflict, this example is a right versus right dilemma. The issue is not "could" the assaulters shoot her, but instead "should" the assaulters shoot her. Whichever solution one believes to be correct is inconsequential. The real question is- could you derive the same conclusion in a millisecond?

In today's military environment of disaggregated operations and high operational tempo, new SEAL operators frequently make quick decisions in ambiguous environments that develop very rapidly. Any such decisions that have moral and ethical implications increase the strategic risk involved. Yet, a good decision must be made in a split second in this very challenging environment.

The goal of this project is to examine how intuitive moral and ethical decision-making (MEDM) skills are presently developed within SEAL selection and training in order to provide recommendations so that intuitive MEDM can be achieved on target. Though the significance of this project may be applicable to all special operations forces (SOF) and irregular warfare units, the scope of this research project will be limited to the exploration of how to best train SEAL candidates and new SEALs for difficult and uncertain situations when the stakes are high and disproportionate to their relative tactical experience. First, this paper will discuss Recognition-primed Decision and its application to SEAL training. Second, it will provide moral and ethical considerations in the context of setting command climate and its training application within Naval Special Warfare (NSW). This paper will then examine the training methodology of Naval

Special Warfare as it pertains to intuition and decision-making. Finally, this paper will make specific recommendations to the best method to conduct moral and ethical training in order to enable good decision-making on the battlefield.

Decision-making, Recognition-Primed Decisions, & SEAL Training

There are three basic types of decision-making models. There are rational models, intuitive models, and rational-iterative models. The rational model is analytical in nature and focuses on the analysis of the positive and negative aspects of various options until those are evaluated and a judgment is made.[1] The Military Decision Making Process (MDMP), Joint Operational Planning Process (JOPP), and Marine Corps Planning Process (MCPP) are examples of the rational decision-making model. The intuitive model makes use of "gut feelings" to make a decision and is useful especially in situations where there is not much time to deliberate and the situation is quite uncertain[2]. Finally, the rational-iterative model states that as one becomes more experienced, one is able to speed up the rational process due to experiential familiarity of a situation until the process seems or becomes instinctual or intuitive. Of the rational-iterative models, Dr. Gary Klein's Recognition-primed Decision (RPD) model is the most widely acknowledged by the cognitive psychology community[3] and as it turns out, is very applicable to SEAL training.

Military personnel routinely find themselves in combat situations where they are compelled to act for reasons that they cannot explain. Some describe this as a "gut feeling," an "instinct", or "second nature". This phenomenon also exists among many professionals who make on the spot decisions during uncertain situations, such as police officers, fire officers, Paramedics, and Stockbrokers.[4] Research psychologist Dr. Gary Klein pioneered Naturalistic

Decision Making. He studied firefighters in their on-scene environment, as he believed one could not study decision-making during times of uncertainty in a laboratory[5] and his findings described in his Recognized-primed Decision (RPD) model are profoundly applicable to combat decision-making.

The RPD model describes how people use their experience to form a repertoire of patterns. Klein has discovered that when people need to make a decision they quickly assess the situation and match the situation to the patterns they have learned[6]. If they find a match, they implement the solution and complete the task. Klein's also explains that one also uses RPD to compare possible solutions to the problem rapidly when a specific solution is not in ones repertoire of patterns. He calls this phenomenon simulation[7]. In his study of Fireman Commanders Klein found that they quickly evaluate courses of action by using mental simulation to imagine how their potential course of action would work within the context of the current situation. If the Fireman Commander found that the course of action would work, then he would initiate the action. If he found that the course of action would not work, then he would adapt it or consider other courses of action until an option with which they were comfortable was found[8].

RPD is a process that delivers the quickest workable option rather than spending valuable time to identify and implement the perfect solution for the situation. RPD is experiential in nature since one's breadth of experience is directly proportional to the repertoire of patterns one applies as potential solutions. According to Dr. Klein, the RPD model is a blend of intuition and analysis. The pattern matching is intuitive and thus is tacit knowledge, while the mental simulation that Klein describes is the explicit or rational knowledge.[9] Upon examining SEAL

Training with the wisdom of Dr. Klein's RPD model, it is easy to see that SEAL training fosters this type of decision-making.

The goal of SEAL training is to develop creative and quick thinking operators whose body and mind will prevail in rigorous, ambiguous, and dynamic environments to achieve mission success. SEAL Training accomplishes this goal and fosters the benefit of experiential learning that Dr. Klein describes in his RPD model by pushing physical and mental endurance to its limits. Well-constructed and physically challenging exercises develop one's repertoire of patterns as well as one's leadership, collaborative abilities, teamwork, and attention to detail. Additionally, the training exercises throughout SEAL training develop deep-rooted cognitive processes that are important to RPD such as Self-regulation, Procedural Knowledge, and Episodic Memory. Self-regulation will be the first to be discussed.

Self-regulation is the ability to achieve a desired behavior by controlling one's emotions and desires. Self-regulation is an important executive function of the brain that SEAL training tests and develops with most of its water evolutions. During BUD/S training, evolutions such as the 50-meter underwater swim, underwater knot tying, and drown-proofing are a few of the methods used to develop self-regulation[10]. Each of these evolutions gives the candidate complex tasks and procedures to accomplish while under water, which limits one's ability to seek air and increases anxiety and stress during the exercise. During these exercises, the students must mentally suppress the anxiety associated with their need to breathe and evaluation by instructors while successfully completing complex tasks and procedures underwater. In each evolution, the student will not succeed if his anxiety renders him unable to apply the prescribed procedures or causes him to succumb to his need for air prior to his successful completion of the tasks. Each of these evolutions is a contest between mind and matter that have profound impacts upon a

student. Development of self-regulation also occurs during SEAL Training that takes place after BUD/S.

SEAL Qualifying Training (SQT) develops self-regulation in a similar manner as BUD/S by using extreme conditions and introducing physiological challenges. An example would be conducting river and stream crossing in a winter warfare environment during multi-day field training missions. The individual will be cold, wet and in extreme discomfort, yet must remain task oriented, not for survival but for mission success.

SQT also develops self-regulation by establishing responsibility upon the individual that must be accomplished for the group to achieve mission success. For example, a pointman is responsible for all navigation plans and tactical approach. This is an immense responsibility as he not only needs to find the best route to the target, but he is also needs to ensure the safe passage of the team while on patrol. During patrol, the point man must suppress his own fatigue to ensure the correct route and that every sign of enemy is observed so that dangers to the patrol are circumvented. This is a mentally taxing task in which the SQT candidate must self-regulate to minimize biological and environmental distractions to ensure the success of his patrol.

In mastering self-regulation, the student learns that he is more physically capable than his instincts had previously led him to believe. While SEAL instructors might say the student develops mentally toughness, behavioral scientists would say that the student is able to self-regulate. Once a student realizes that perceived physical limitations can be easily overcome if he focusses on the task rather than on the conditions under which the task is being performed, he develops a profound self-confidence and the ability to self-regulate in almost any situation. Self-regulation enables one to use RPD in a practical sense because the student is able to ignore distractions, identify the root problem, apply a pattern from one's repertoire, and successfully

solve the problem. While self–regulations helps one to suppress anxiety and distractions needed to pattern match in applying RPD, the development of Procedural Knowledge builds a student's "quick reference" of patterns that are implemented during RPD. As it turns out, SEAL training also develops Procedural Knowledge quite well.

Procedural knowledge is knowledge exercised in the performance of tasks. The more one performs the task, the more familiar one becomes with the task[11] and therefore the more quickly and effortlessly one can perform the task. A common example of procedural knowledge would be driving a car. When people first learn to drive, they are very deliberate in their thoughts and their actions. Driving to the inexperienced driver is a systematic process. However, as a driver becomes more experienced, his actions in the vehicle become less deliberate because of their knowledge of the procedures- or their procedural knowledge. Ultimately, when enough experience is gained the driver does not need to think about the procedure any longer because the process becomes intuitive. Procedural knowledge, however, has its limitations in that it is specific to a certain task[12]. For instance, procedural knowledge of how to start the engine of a car does not give a proportionate level of knowledge in starting the engine of a motorcycle. However, the knowledge of starting the car may give one insight to the steps taken to start a motorcycle since in both cases one is really just starting a gas-powered engine. This adaptation of the Procedural Knowledge is what Dr. Klein called simulation.[13]   Simulation is how RPD and procedural knowledge reciprocate. The experience of starting a car will help one to reason through starting other types of engines. The SEAL training pipeline is full of opportunities and examples by which SEALs develop procedural knowledge that will become a foundation with in their repertoire of patterns for use within the RPD model. "Pool week" during Dive Phase of BUD/S is a great example.

During Dive Phase in BUD/S, SEALs learn self-contained underwater breathing apparatus (SCUBA) and combat swimmer skills. Its practical use is introduced and tested during a week called "pool week". During Pool week, the students learn and employ strict procedures for troubleshooting their equipment underwater. These procedures are important since SCUBA provides the student with life support under the water, but also in a tactical realm because it ensures that they remain undetected in an enemy harbor. This week of training is a fast paced, progressive training that puts the students under significant duress in a pass or fail environment, while establishing very high standards for adherence to proper execution of procedures. Early in the week, the student must employ these strict procedures to take the equipment off and put it back on underwater. Once successful, the student must do this while "blindfolded" with a mask which has been taped with duct tape so the student cannot see. In the middle of the week, the testing introduces a second swimmer and tests the ability of the pair to complete these tasks while only having one set of SCUBA between the two. The culmination of "pool week" is an exercise called Pool Competency, or "Pool Comp", in which the student must remain submerged for fifteen minutes while successfully troubleshooting equipment and air source problems introduced by instructors. The procedures learned during "pool week" will be important skills that will be relied upon throughout the graduate's career. The knowledge of the needed procedures is developed from a systematic, mechanical process to procedural knowledge just as in the common example of driving a car. Another example of the development of procedural knowledge in SEAL training is the Military Free-fall (MFF) training that occurs during SQT.

During the MFF training, free-fall parachuting operations and equipment are introduced to the students. During this training the students become familiar with the procedures involved in preparing to exit the aircraft, exiting the aircraft, actions during free fall, parachute opening

sequence and actions under canopy. A new jumper is very deliberate in his movements as he focuses his attention on maintaining his body in a specific heading (i.e. not spinning) while maintaining a flat and stable body position. An experienced jumper no longer focuses internally on his body position but instead is able to maintain his attention on others jumping and his relative position in formation. Much like the driver of the car, the jumper is no longer mechanical and deliberate with his actions and movements. He has internalized his procedures to move in the relative wind and now just "flies" where he wants to go. MFF, much like "Pool Week" and the 50-meter underwater swim, add elements of stress and anxiety to its physical and mental challenges. MFF training, like all of the training discussed in this paper, develop procedural knowledge and self-regulation. Additionally, SEAL training is also well suited in the development of Episodic Memory- another cognitive function that is important to RPD.

Episodic Memory results from the experience of profound events that create indelible memories[14] such as the memory that results from one's first car accident. SEAL Training creates indelible memories that result from the extreme nature of the physical and mental stress present in the training exercises such as the 50-meter underwater swim, "pool week", or MFF Training. Emotions associated with highly stressful or anxiety-producing events are processed in the emotional centers of the brain as tacit knowledge[15]. Tacit information is stored in the emotional centers of the brain, or short-term memory, until an understanding of the event is achieved. Once meaning and understanding of the event is achieved, the information is categorized and is stored in long-term memory[16] and the information becomes part of ones repertoire of patterns. The Episodic memory that is produced from the stress and anxiety associated with dangerous yet highly progressive training events is what ensures that self-regulation and procedural knowledge

are incorporated into one's repertoire of patterns for application within RPD or Mental Simulation.

RPD, procedural knowledge, simulation, and episodic memory are cognitive phenomenon that explain why SEALs effectively make instinctual decisions when faced with time-constrained and uncertain situations. The evolutions experienced during SEAL training require the candidates to create unique solutions that develop and test procedural knowledge and self-regulation in an environment that produces episodic memory.[17] This develops one's repertoire of patterns through applicable experience and fosters later application into RPD. Students learn to implement organized patterns of thought that are either born from shear creativity or developed through procedural knowledge or simulation.

It is easy to see why SEAL training develops people who make very good instinctive decisions and when one understands that special operations are tactical missions that normally have strategic objectives, it is also easy to see why it is important that it does.[18] The question that lies ahead is; can the SEAL Training methodology develop intuitive decision makers with regard to moral and ethical decision-making (MEDM) in the operational context?

Current Environment, Setting Command Climate and its effect on MEDM

Special Operations Forces (SOF) are normally employed on tactical missions that have operational or strategic objectives.[19] The current school of thought is that future engagements will be small in nature due to shrinking budgets and public support toward larger scale operations[20]. Force footprint and the number of "boots on the ground" will be a factor in deciding which force option will be used in this environment and SOF will frequently be a force of choice due to organic capability, relative size, and the maturity of its operators. The maturity of SOF operators will best enable mission success when the size of footprint is quite restricted

and gives decision-makers confidence that any issue that arises during the mission, especially those of moral or ethical nature, will be handled appropriately. As such, new SEALs must be well prepared to address moral and ethical aspects that arise during their mission.

MEDM in the operational context is not about attaining volumes of ethical knowledge according to phenomenologists such as Stuart and Hubert Dreyfus.[21] Dreyfus and Dreyfus believe that MEDM is more influenced by ethical comportment rather than rational judgment.[22] Their approach begins by describing our everyday, ongoing ethical behavior and decision-making as a baseline. They believe that experiential ethical perspective gained from responding to actual happenings is useful since the context of the situation is also understood.[23] In this regard, Dreyfus and Dreyfus see MEDM much like Dr. Klein's sees RPD. That is, both believe that experience from relevant situations refine our decision-making.[24] According to Dreyfus and Dreyfus, it is more important to have a foundation of ethical comportment, rather than rational judgment to assist with decisions on the battlefield. If ethical comportment is needed for good MEDM, then one must consider how ethical comportment is fostered in SEAL training and embodied with in command climate. The first to be discussed will be ethical comportment and command climate.

Morals and ethics are about our relationships with individuals and institutions, and the obligations that accompany those relationships. These include relationships with and obligations to one's self, family, friends, military command, profession, fellow citizens, nation, etc. These relationships establish responsibility for behaviors that result in the ethics embodied in one 's self, command, and profession will be important to the scope of this paper. These relationships are an important component of command climate and provide a framework of experiences that will silently guide one's actions and as result establish moral comportment.

Organizational Ethics express the values of an organization to its employees. They describe the values and virtues that members of the organization should use to respond to internal or external stimuli, and they shapes the expectation of and behavior within the organization.[25] In the military, Organizational Ethics feeds into a unit's command climate. Just as Organizational Ethics are important to military personnel and decision-making, so are Professional Ethics. Professional Ethics identify the principles that govern the conduct of and obligations of a given profession[26]. Naval Special Warfare's Ethos (See Appendix II) is its Professional Ethic.

In order to inculcate NSW members with a practical ethic that ensures ethical decisions are made on target while deployed, NSW must effectively integrate the professional ethics, in this case the NSW Ethos, into the organizational ethic, or command climate. This will enable a command climate that establishes ethical comportment that will provide the experience that Dreyfus and Dreyfus described in their 1994 study. This experiential learning will develop a repertoire of patterns for application in RPD. When the ethics of the profession and the organization are complimentary in nature, decision-making on target will be easier and quicker because there are fewer angles to consider and less conflict between principles. However, when these ethics are not complimentary to one another, the individual must consider which morals and ethics are appropriate to a situation. This is confusing, time consuming, and can lead to significant, if not deadly, consequences on target. One needs to look no further than the actions of C 1/20th Infantry at My Lai, Vietnam to see this.[27]

The atrocity at My Lai resulted because the morals and ethics fostered within TF Barker and C 1/20th Infantry were not in keeping with those of the US Army and the profession of armed conflict. This conflict in organizational and professional ethics led to a command climate

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that enabled in atrocities at the hands of 18 to 25 C Company personnel[28]. Additionally, the conflict between Organizational and Professional Ethics clouded the decision-making beyond the 18 to 25 personnel who participated in the atrocity since the rest of the company did not intervene. An even more recent example occurred in Iraq in 2006. Colonel Michael Steele, Commander of the 3rd Brigade, 101st Airborne Division fostered a command climate that was outside the morals and ethics of professional soldiering and led to the murder of three non-combatants during Operation Triangle.[29] The command climate that Colonel Steele fostered resulted in strategic damage to the U.S. mission in Iraq.[30]

These two historical references exemplify the importance and interdependence of Professional and Organizational Ethics in establishing MEDM in a unit. They demonstrate that conflict between Professional and Organizational Ethics can lead to moral disorientation that can negatively affect MEDM in the operational context. While there is not an issue of conflict between the Professional Ethics and Organizational Ethics of NSW, a reduction in prominence of the professional ethic can be seen between SQT and the SEAL Team.

When a newly qualified SEAL reports to his first SEAL Team, the ethos that represented the NSW standard fades into the background. At the SEAL Team the Ethos is not actively used as a yardstick to measure performance as it is during BUD/S and SQT, but is instead relegated to a framed picture on the wall of the quarterdeck.[31] Frequently, the NSW Ethos is used only as a counseling tool when someone has failed, rather than being fully integrated as a foundation of the command climate and used as a method to positively reinforce success. Because the NSW Ethos has not been completely integrated into the command climate in the SEAL Team, it will not effectively support ethical comportment at the SEAL Team and will therefore not support battlefield decision-making in a manner described by Dreyfus and Dreyfus.

In order to inculcate NSW members with a practical knowledge of the ethics that are required for mission success, one must effectively integrate the professional ethics, in this case the NSW Ethos, into the organizational ethics, or command climate. When a commander is setting his command climate, among other things, he is attempting to establish organizational and professional ethics that both provide a favorable and effective work for his employees as well as to shape their behavior and actions. Setting command climate involves a process that Sigmund Freud[32] termed Socialization. According to Freud, socialization is the primary source of moral development and people develop morally when one's internal desires are overcome by external influencers.[33] In establishing his command climate, the commander establishes his organizational ethics, emphasizes the professional ethics and maximizes its integration through socialization. That is, the MEDM of a SEAL has been developed when his actions on target are in keeping of the Professional Ethic, the principles within the NSW Ethos, and the Organizational Ethic, described here as a component of command climate. However, this process begins before assignment to a SEAL Team. This process begins with the socialization of the NSW professional ethic during BUD/S and SQT.

Because BUD/S is a selection and training program, the candidates are widely tested for selection purposes, but the tactical training that one receives is rather basic. However, much emphasis placed upon the development professional ethics. In fact, beyond testing of one's determination to succeed, leadership, physical toughness, and basic SEAL competencies, it could be argued that BUD/S only instills and develops the desired values within its graduates. During BUD/S training, the NSW Ethos is discussed as an underlying element of professional discussions and is used as a yardstick when measuring the success or failure of candidate's actions both personally and professionally. Teamwork, selflessness, loyalty, accountability,

integrity, leadership, mental toughness, physical tenacity, and desire to succeed are developed during BUD/S as a foundation of professional ethics that will be further developed during in SQT.

The focus of SQT is to qualify the individual operator as a SEAL. SQT further develops professional ethics by continuing to emphasize NSW values developed during BUD/S while introducing the concepts of proportionality[34], discrimination[35], rule of law (ROL) and rules of engagement (ROE). SQT develops the tactical skills proficiency and tactical decision-making of the operator by immersing each operator in tactical situations and field training exercises (FTX). SQT will incorporate rudimentary scenarios that have aspects of proportionality, discrimination, rule of law (ROL) and rules of engagement (ROE) to introduce the candidate to the tactical decisions associated with each concept. Emphasis on the NSW values and these four concepts will continue once the individual is assigned to his first SEAL team.

A newly qualified SEAL, assigned to a SEAL team and placed in a platoon, begins pre-deployment training with this tactical element. Pre-deployment training develops the tactical capability, autonomous planning, and decision-making of the platoon. Much of the platoon's pre-deployment training will incorporate field training exercises (FTX) to allow practice to perfect their planning, tactics and decision-making. In these FTXs, the platoon will be provided scenarios in which they will need to make tactical decisions relating to the concepts of proportionality, discrimination, law of armed conflict (LOAC), and rules of engagement (ROE).

In addition to field training exercises, SEAL Team Commander will provide professional military education (PME). The SEAL Team Commander focuses his PME program on the topics that he thinks are important to his SEALs development and the command climate that he

wants to set. PME normally includes topics such as leadership, accountability, integrity, and service with honor. The training and PME received at the SEAL Team is the final phase where guidance, direction, and mentorship will be able to help prepare the platoon and its operators for autonomous operations overseas.

In looking at the manner in which Professional Ethics is incorporated into the learning at BUD/S training and SQT, one can see an obvious progression between the two training programs. BUD/S training indoctrinates its candidates with the NSW values and expects the candidates to apply them in their daily conduct. SQT continues indoctrination of the NSW values and introduces the concepts of proportionality, discrimination, law of armed conflict (LOAC), and rules of engagement (ROE) at a rudimentary level. These four concepts are important because they define for a novice operator what is right and what is wrong. Once at a SEAL Team, these concepts are more deeply reinforced within the SEAL operator.

When assigned to his first SEAL Team, a newly qualified SEAL will participate in FTXs that will allow him to further practice and gain experience with proportionality, discrimination, law of armed conflict (LOAC), and rules of engagement (ROE). However, because of the nature of these for concepts, in particular how ROE includes prescriptive proportionality and discrimination, the training that he receives will remain at and reinforce a "what is right" and "what is wrong" level. The training does not progress to help the operator gain experience in deciding between the better of two rights and the lesser of two wrongs. In today's military environment it will be these decisions that could make a difference between strategic success and failure. Because field training exercises do not progress to help the operator gain experience in deciding between the better of two rights and the lesser of two wrongs, how could a new operator be able to make these types of decisions in a RPD manner on the battlefield?

According to the works of Dr. Klein and Stuart and Hubert Dreyfus, training that provides experience of relative context will facilitate intuitive decisions in that same context[36]. SEAL Training capitalizes on the use of field training exercises to put operators in ambiguous, battlefield situations where they must problem-solve in a high-pressure and time constrained environment. This methodology capitalizes on procedural knowledge by requiring operators to perform their missions in an applicable battlefield context, while introducing stress and pressure in order to capitalize on the benefits of self-regulation and episodic memory. This training and these training models depend on individual involvement and experience. The limitation of these models is that without individual experience one cannot form a repertoire of the patterns for use in RPD. As the old adage goes, "you can't buy experience". However, according Ikujiro Nonaka's[37] Theory of Knowledge Management, you can borrow it; and as such, Ikujiro Nonaka work is profoundly important to PME.

Ikujiro Nonaka developed a theory of knowledge Management. His theory states that *all* knowledge, implicit[38] or explicit[39], is transferable between two or more people[40]. Therefore, Klein and Nonaka's theories considered together represent an interesting possibility to military decision-making. Klein's RPD states that framing one's personal experiences will provide a repertoire of patterns that can be used in time constrained decision-making if the context of the situations are similar.[41] Nonaka's theory means that one can develop one's repertoire of patterns from someone else's experiences. Ikujiro Nonaka's Theory of Knowledge Management states implicit and explicit knowledge can is transferrable between individuals. If implicit and explicit knowledge are transferable as Nonaka explains, then implicit knowledge - intuition- can be learned from someone else's experience. Nonaka's theory describes four methods that transfer

knowledge between people: externalization, socialization, combination, and internalization (See Appendix III). Externalization and socialization are important to the scope of this paper[42].

Externalization is the process of turning tacit knowledge into explicit knowledge[43]. Though one cannot verbalize tacit knowledge, after-the-fact rationalizations are profoundly important to teaching others. Externalization only means that the knowledge is transferred as explicit, not implicit, knowledge[44]. Imagine an inexperienced Platoon Assistant Officer in Charge (AOIC) and an experienced Platoon Chief sitting at a table talking about a problem that the Platoon Chief had solved in an instinctual nature. As he explains his decisions, he is not telling "how" the solution came to be, but instead he is rationalizing "why" the solution came to be. Therefore, the knowledge and understanding that the platoon AOIC received was an explicit explanation of a decision that was instinctive, and thus tacit in nature. Externalization is an important concept because it enables the *translation of* the tacit knowledge, which cannot be articulated, to rational knowledge that allows one to describe one's tacit knowledge through explicit mediums, such as written and oral communication[45].

Nonaka's theory states that Socialization is the process of transferring tacit knowledge from one person to another[46]. It is an experiential transfer through observation and interaction[47]. Imagine the same Assistant Officer in Charge (AOIC) doing a terrain walk with his Platoon Chief in which the Platoon Chief is explaining what tactical advantages he sees in the terrain. The platoon Chief points out and the two men discuss every feature of tactical advantage, cover, or concealment. Imagine the two not only walking and pointing, but instead moving from terrain feature to terrain feature as if they were rehearsing a contact with an enemy. Instead of making one decision and moving on, they look at their options and choose the one that they consider best before continuing. This type of situation and mentorship enables the direct transfer of tacit

knowledge from one individual from another[48]. As the AOIC experiences his environment with his five senses, he is receiving verbal accounts, descriptions, and advice explicitly. The combination of implicit and explicit knowledge transfer, along with the visualization of the event and the environment, allows the AOIC to gain the tacit knowledge of someone more experienced. Ikujiro Nonaka's theory of Knowledge Management has profound impact upon making effective intuitive decisions during missions, but the question still has not been answered how do you best train new SEALs to do this. In order to answer that question we will next explore Dreyfus and Dreyfus' Model of Skill Acquisition.[49]

In 1980, while studying at the University of California, Berkley, Stuart and Hubert Dreyfus developed their Model of Skill Acquisition. Their approach is to take the reliance on "everyday familiarity in problem solving not as an anomaly, but as a pervasive and essential feature of human intelligent behavior"[50]. Their Skill Acquisition Model states that as one becomes more skilled, one relies more on concrete experience than rational principle. The Dreyfus Skill Model has five stages of Skill: novice, competent, proficient, expert, and mastery. Each stage is progressively characterized by a better understanding of the given situation due to an increased amount of experiences that resulted from similar or related situations[51]. The following paragraphs will give a description of each stage the Dreyfus model, use "Pool Week" to give a concrete, example of each phase, and offer an example of how the values within the SEAL Ethos, proportionality, and discrimination fit within each stage of the model.

Novice is the first stage in the Dreyfus Model of Skill Acquisition. Novices adhere to specific rules and apply them in a systematic or hierarchal manner. Novices do not use discretionary judgment[52]. The knowledge of the skill is treated without reference to the context.

There is not recognition of the relevance of the task, the context of the task is assessed analytically, and decision-making is rational[53].

On the first day of pool week, the SEAL candidate will perform "Buddy Breathing" where the two candidates must swim while sharing one SCUBA. The student must successfully achieve the task and demonstrate proper implementation of strict procedures, communication, and teamwork. In the realm of MEDM, the novice SEAL candidate student must demonstrate an understanding of the NSW Ethos and that they can explain their actions or performance within the terms of the ethos.

Competence is the second stage in the Dreyfus Model of Skill Acquisition. The competent individual has a limited understanding of the skill and its context[54]. The knowledge of the skill is treated in context but there is not recognition of the relevance of the task. The context of the task is assessed analytically, and decision-making is rational[55].

On the second day of Pool Week, students perform and exercise called "Ditch and Don" where they must take-off and put-on their SCUBA equipment underwater while performing strict adherence to systematic procedures. Success during Ditch and Don is determined by successfully completing the exercise in the prescribed time and by executing the procedures properly. In the realm of MEDM, the competent SEAL candidate will demonstrate a holistic understanding of the NSW Ethos and that they can apply its values appropriately to their actions or performance.

Proficiency is the third stage in the Dreyfus Model of Acquisition[56]. The proficient individual formulates routines and copes with multiple activities and the accumulation of information. The individual now sees actions as part of a "big picture". The knowledge of the

skill is treated in context and there is now recognition to the relevance of the task. The context

of the task remains assessed analytically, and decision-making remains rational[57].

On the third day of Pool Week, the candidates perform "Night Ditch and Don". The

candidate must again take-off and put-on their SCUBA equipment underwater while performing

strict adherence to systematic procedures, but this time a taped mask blindfolds the candidate.

Success during "Night Ditch and Don" is determined by successfully completing the exercise in

the prescribed time and by executing the procedures properly while demonstrating familiarity

with the equipment and procedures. In the realm of MEDM, the SQT candidate demonstrates

knowledge of proportionality and discrimination during practical exercises in which the

candidate deals with combatants lethally and non-combatants non-lethally.

Expertise is the fourth stage in the Dreyfus Model of Skill Acquisition[58]. The expert

individual is able to recognize what is most important in a situation and perceives deviations

from the normal pattern. Decision-making is less deliberate and maxims are used generally for

guidance[59]. The knowledge of the skill remains in context and recognition to the relevance of

the task continues. The context of the task is now holistic, but decision-making remains

rational[60].

On the fourth day of Pool Week, the student must perform "Find Your Equipment". The

candidate will begin on a breath hold and swim 25-meters underwater to his equipment, to which

instructors have introduced problems that must be solved. The candidate must swim to his

equipment, prepare it for breathing, and then don the equipment. Success during "Find Your

Equipment" is achieved when a candidate efficiently troubleshoots the problems introduced to

the equipment, then successfully dons the equipment. In the realm of MEDM, the Proficient

SEAL is able to demonstrate judgment in proportionality and discrimination, and is able to respond properly when a non-combatant *becomes* a combatant.

Mastery is the fifth stage in the Dreyfus Model of Skill Acquisition[61]. Those who have achieved mastery no longer rely on rules. They intuitively grasp situations based on tacit understanding and only use analytical approaches when problems are experienced. The knowledge of the skill remains in context and recognition to the relevance of the task continues. The context of the task remains holistic and decision-making is now intuitive[62].

On the fifth day of Pool Week, the student must perform "Pool Comp". The candidate must remain submerged for fifteen minutes while unmasked and successfully troubleshoot multiple problems introduced to the student's air source by instructors. Success during "Pool Comp" is achieved when the student is able to diagnose his problem, troubleshoot his equipment, and reestablish his air source while remaining underwater for fifteen minutes. In the realm of MEDM, the expert SEAL is able to make intuitive decisions of proportionality and discrimination appropriately regardless of the situation and can intuitively decide the better of two rights and the lesser of two wrongs associated with the situation.

Conclusion and Recommendations:

The present security environment calls for small footprints forward to deal with threats in the immediate future. Special Operations Forces will be a frequent choice because of their ability to operate independently and unsupported for limited durations of time. In this environment, the challenges will be plentiful, but the margin for error minute. It will be of the utmost importance that good decisions are made during mission execution or mission failure could result. The experience of the operator will not be an acceptable excuse in the event of a

mistake, and as such, a new operator will shoulder the same responsibility for success as the seasoned. It is because of this environment that new SEAL operators must be developed to make quick, effective, and moral decisions during the most chaotic of times and ambiguous of environments.

SEAL training has always developed quick and effective decision-makers and in examining the NSW training methodology, it is easy to see why. SEAL training quickly immerses candidates in ambiguous situations while under extraordinary pressure. This forces candidates into situations where they must make effective decisions quickly or fail. SEAL Training effectively develops episodic memory, self-regulation, and procedural knowledge through well-constructed, stressful exercises. These cognitive phenomena create deep-rooted experiences that add to a repertoire of patterns that enable SEALs to apply RPD and simulation to their tactical decision-making effectively. While SEAL training develops its trainees well tactically, it does not maximize training and climate to enable intuitive ethical decisions in an RPD manner.

Because SEAL training focuses mostly on choices of tactics employment, ROE, and LOAC, it mostly trains operators to make choices only of right versus wrong. As such, the opportunity to develop an operator to make intuitive choices in the moral and ethical decisions will be limited. It will be limited because the training does not make the operator make choices of the better of two rights or the lesser of two wrongs. In order to capture the RPD benefits in the realm of MEDM, an individual must develop a repertoire of patterns of a moral and ethical nature in the context of the tactical environment. In order to develop the repertoire of a SEAL operator in the current SEAL training pipeline, it must harness the benefits of Klein's, Dreyfus and Dreyfus', and Nonaka's theories in field training exercises (FTX), Professional Military

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Education (PME), and everyday ethical comportment. Specifically, MEDM must considered against Dreyfus and Dreyfus' Model of Skill Acquisition to determine the specific skill to be addressed at each level of the model and then those skills must be incorporated into FTXs to develop a repertoire of patterns as discussed in the models of the Dreyfus brothers and Klein, and into PME for learning as discussed in Nonaka's model.

The conclusions drawn from this research led to several recommendations that foster MEDM with in the SEAL Training pipeline. Each recommendation has been made to help inexperienced SEALs make good, intuitive decisions that support success in their tactical mission and its strategic goal. The following are recommendations for implementation by the Naval Special Warfare community to strengthen community abilities for MEDM in the operational context.

1. <u>Establish a Board of Ethics</u>: The establishment of a NSW Board of Ethics (BOE) will provide a framework to guide NSW professional behavior and responsibilities, promote practice of high standards, and provide a benchmark for self-evaluation. The BOE should be comprised of SEALs that are both Officer and Enlisted having 12 or more years of experience within NSW. The BOE should meet twice per year (once per NSW Squadron deployment) to review MEDM AAR/LL and decide which lessons from these real world situations are appropriate for the NSW community writ large to understand. The BOE will identify the skills, ideas, and desired decisions from each AAR/LL and provide guidance to the NSW community for incorporation into field training exercises and PME. Each NSW command should have an Ethics representative who is responsible for incorporating the board outcomes into training scenarios to maximize episodic memory and procedural knowledge to expand the repertoire of patterns of each command

member for use in RPD. The Ethics Representative is also responsible to advise the Commanding Officer on ways to incorporate these lessons and guidance into his command Professional Military Education (PME) to maximize effect of knowledge transfer as described by Nonaka's Theory of Knowledge Management.

2. Maximize use of Battlefield MEDM AAR/LL: Require deployed NSW Squadrons to include MEDM AAR within its post-deployment AAR in order to ensure that MEDM/LL are reviewed and dissected so that suggestion are made to the force writ large and the LL are implemented into training and education. The SEAL team members involved in the MEDM AAR/LL provided to the BOE should be present to ensure that the BOE best understands the context in which the battlefield decisions were made. Additionally, it is recommended that each SEAL Team provide summary of any MEDM related NJP proceedings to the ethics board as a feedback loop to the NSW community on where community problems may lay, and to provide all commanders perspective for similar events that may take place at their commands.

3. Establish the use of ethical dilemma's during Field Training Exercises: Develop scenarios for field training exercises that incorporate NSW Squadron MEDM AAR/LL that have been examined by the BOE to ensure that SEAL operators develop a repertoire of patterns for use in RPD. Following the live-fire training scenario, as part of the "hot wash", the dilemma should be dissected and discussed not from the perspective of "what can one do", but instead from the perspective "what should one do". This "hot wash" conversation should be founded in the principles of the NSW Ethos and highlight the recommendations and perspective of the BOE. This will best develop one's repertoire of

patterns and ability to use RPD for ethical dilemmas in the field, such as the dilemma presented in the introduction of this paper.

4. <u>Continue emphasis on the NSW Ethos throughout SEAL Training in its entirety</u>: In 2004, Naval Special Warfare developed and introduced the force to its newly written Ethos. The community dedicated much care to the development of its Ethos and an outstanding product was the result. The NSW Ethos, however, has yet to be fully embraced at the SEAL Team and as result has not been completely effective in shaping organizational ethics. BUD/S and SQT effectively integrate the NSW Ethos into their curriculum. In these environments, the Ethos is discussed as an underlying fact of professional discussions and is used as a yardstick when measuring the success or failure of candidate's actions both personally and professionally. However, a newly qualified SEAL reports to his first SEAL Team, the ethos fades into the background and is relegated to a framed picture on the wall of the quarterdeck. It is often only used as a counseling tool after negative personal or professional conduct. It is recommended that the NSW Ethos be as inculcated into the culture of the SEAL team as it is to the culture of BUD/S and SQT to maximize the benefit of Professional and Organizational Ethic in a command climate. The Ethos should feature as prominently in the lives of qualified SEALs as it does in that of SEAL Candidates, and should be used to counsel, define and provide context for both success and failure equally.

5. <u>Formalize SEAL Team command PME programs</u>: PME at the SEAL Team should be formalized by requiring certain topics be contained within the commanders PME program. The required topics should include the MEDM AAR/LL of other SEAL Squadron deployments and the lessons gleaned from the BOE processes. This

recommendation does not mean to prescribe all content of a commander's PME program, but rather to make mandatory only a foundation of topic that is important to the NSW community writ large. This recommendation maintains the Commanding officer and Command Masterchief as the command mentors, ensures that the information that results from the BOE is discussed at all levels of the NSW community, and supports the building of ones repertoire of patterns in a manner described by Nonaka's Theory of Knowledge Management.

6. <u>Establish a command mentorship program</u>: Establish a command mentorship program to achieve two benefits. First, a command mentorship program will ensure that senior SEALs understand the MEDM AAR/LL from BOE processes. Secondly, a command mentorship program will make sure that new SEALs are receiving the community perspective on MEDM subjects, and NSW comportment through field training exercises, PME, and socialization. In this mentorship system, seasoned SEALS will be mentored by the Executive Officer and Command Masterchief directly to ensure that the Mentor has a mature perspective to be passed on to his mentee. A command mentorship program will be the most decentralized manner in place to ensure that new SEALs experience MEDM AAR/LL to develop their repertoire of patterns for use with intuitive MEDM as described in by Klein, Dreyfus and Dreyfus, and Nonaka's theories.

In summary, NSW should deliberately collect MEDM AAR/LL from real-world missions for dissection, understanding, and force communication by a semi-annual Board of Ethics (BOE). The BOE should provide advice and guidance on the topic from the vantage point of the NSW Ethos and an experienced operator perspective, not to deliberate or judge the decision made, but instead to make recommendations to the NSW community writ large. The guidance of

the BOE should be included in training scenarios, command PME and professional mentorship programs to maximize knowledge and rapidly expand the repertoire of patterns of new SEALs (see appendix V). The result will be a generation of new SEALs capable of making battlefield moral and ethical decisions in a millisecond with the perspective of experience beyond their years.

APPENDIX I

THE SEAL TRAINING PIPELINE

Because this paper will focus on the preparation of a newly qualified SEAL for his first deployment, we will use the term SEAL training pipeline to describe all the training that a new SEAL will complete prior to his first deployment. In this definition, the SEAL training pipeline is comprised of three distinct stages; Basic Underwater Demolition / SEAL (BUD/S) Training, SEAL Qualifying Training (SQT) and once the individual is assigned to his first SEAL team Unit Level Training cycle (ULT) or "work up". Though "work up" is not considered by most in the Naval Special Warfare (NSW) Community to part of the "Training Pipeline", it is important in the scope of this paper that it is included in the Training Pipeline for three reasons. First, the paper sets out to explore how intuitive moral and ethical decision-making (MEDM) skills are best developed within new SEALs prior to their first deployment and therefore "work up" offers a significant amount of training time to prepare the operator. Secondly, in order to recognize and remedy any inconsistencies or gaps that may be present between BUD/S, SQT, and "work up". Finally, the NSW Ethos states that "my training is never complete" and therefore promotes the thought of continuous professional growth from linked training opportunities and experiences. The first step in the training pipeline, BUD/S, implements a foundation that generates elite warriors who can make effective decisions and succeed in chaotic and ill-defined environments.

The first step one takes to becoming a SEAL is entrance into BUD/S. BUD/S is a six-month training course held at the Naval Special Warfare Center in Coronado, CA. BUD/S training has a mythic reputation and is thought by many to be the toughest military training in the world. The goal of BUD/S, and SEAL training writ large, is to develop creative and quick

thinking operators whose body and mind will prevail in rigorous, ambiguous and dynamic environments to achieve mission success.

BUD/S consists of three phases, each approximately 2 months long, where the standards of the physical conditioning and water skills become progressively more stringent and are designed to test one's comfort in the water and ability to accomplish tasks while under stress. The first phase is "Conditioning Phase" where the focus is to test the physical endurance, mental tenacity, teamwork and determination of the candidates. Second phase is "Dive Phase" in which SEAL Candidates learn about two different types of SCUBA and participate in progressive diving schedules that focus on basic combat swimmer skills. Third phase is "Land Warfare Phase," which focuses on developing demolitions, weapons, and land navigation skills as well as small-unit tactics.

Once a SEAL candidate completes BUD/S, his training continues on to SEAL Qualifying Training (SQT). SQT is a six-month course that builds upon the basic skills developed during BUD/S and elevates those tactical skills in to the intermediate level. Candidates also receive exposure to a wider range of equipment, weaponry and tactics during SQT. Upon completion of SQT, if the candidate has demonstrated that he has possesses the individual skill and knowledge to begin training with a tactical element, he will graduate SQT as a qualified SEAL and be assigned for duty at his first SEAL Team.

Once assigned to a SEAL Team, the newly qualified SEAL will be assigned to a SEAL platoon and will undergo a pre-deployment training cycle that is called "work-up" to develop the platoon members into a cohesive fighting unit. During the platoon's work up, the newly qualified SEAL will continue to hone his individual tactical proficiency while focusing on his specific role within the SEAL platoon. Upon the completion of the platoon's work-up, the new

SEAL will be deployed overseas with his SEAL platoon to conduct special operations in support of combatant commanders for the first time.

APPENDIX II

SEAL ETHOS

In times of war or uncertainty there is a special breed of warrior ready to answer our Nation's call. A common man with uncommon desire to succeed. Forged by adversity, he stands alongside America's finest special operations forces to serve his country, the American people, and protect their way of life. I am that man.

My Trident is a symbol of honor and heritage. Bestowed upon me by the heroes that have gone before, it embodies the trust of those I have sworn to protect. By wearing the Trident I accept the responsibility of my chosen profession and way of life. It is a privilege that I must earn every day.

My loyalty to Country and Team is beyond reproach. I humbly serve as a guardian to my fellow Americans always ready to defend those who are unable to defend themselves. I do not advertise the nature of my work, nor seek recognition for my actions. I voluntarily accept the inherent hazards of my profession, placing the welfare and security of others before my own.

I serve with honor on and off the battlefield. The ability to control my emotions and my actions, regardless of circumstance, sets me apart from other men. Uncompromising integrity is my standard. My character and honor are steadfast. My word is my bond.

We expect to lead and be led. In the absence of orders I will take charge, lead my teammates and accomplish the mission. I lead by example in all situations.

I will never quit. I persevere and thrive on adversity. My Nation expects me to be physically harder and mentally stronger than my enemies. If knocked down, I will get back up, every time. I will draw on every remaining ounce of strength to protect my teammates and to accomplish our mission. I am never out of the fight.

We demand discipline. We expect innovation. The lives of my teammates and the success of our mission depend on me - my technical skill, tactical proficiency, and attention to detail. My training is never complete.
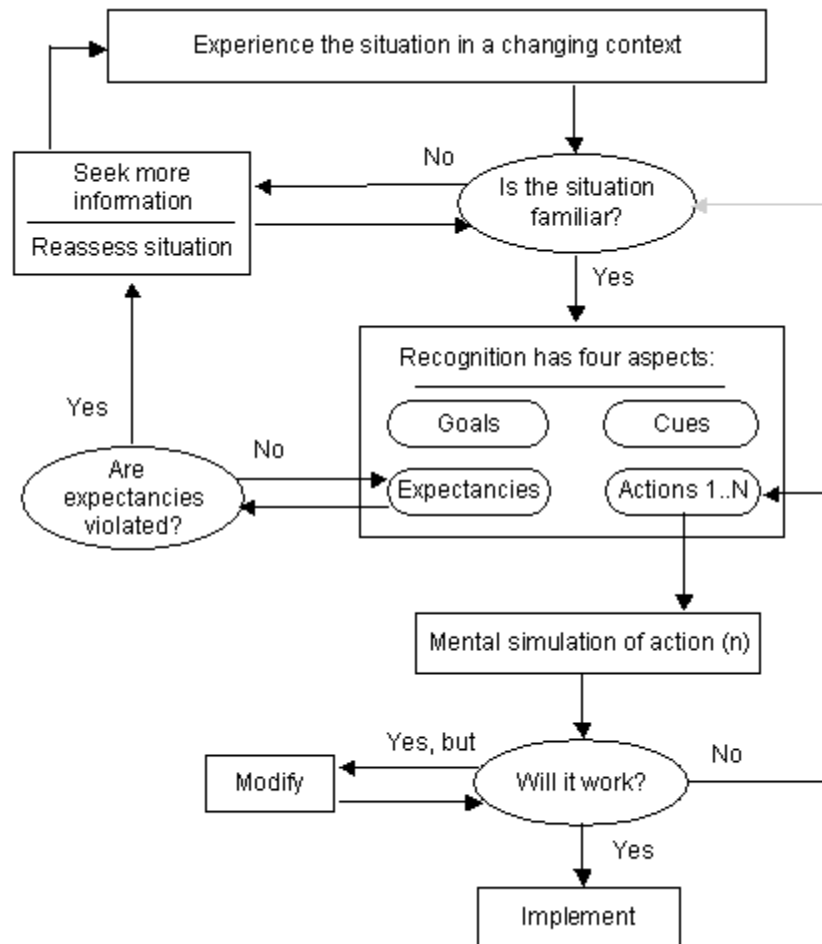
We train for war and fight to win. I stand ready to bring the full spectrum of combat power to bear in order to achieve my mission and the goals established by my country. The execution of my duties will be swift and violent when required yet guided by the very principles that I serve to defend.

Brave men have fought and died building the proud tradition and feared reputation that I am bound to uphold. In the worst of conditions, the legacy of my teammates steadies my resolve and silently guides my every deed. I will not fail.

Visual Depiction of Klein's Recognition-primed Decisions

**A visual depiction of Nonaka's Theory of Knowledge Management**

From /To	**Tacit**	**Explicit**
Tacit	*Socialisation* Creates *sympathised* knowledge through the sharing of experiences, and the development of mental models and technical skills. Language unnecessary.	*Externalisation* Creates *conceptual* knowledge through knowledge articulation using language. Dialogue and collective reflection needed.
Explicit	*Internalisation* Creates *operational* knowledge through learning by doing. Explicit knowledge like manuals or verbal stories helpful.	*Combination* Creates systemic knowledge through the systemising of ideas. May involve many media, and can lead to new knowledge through adding, combining & categorising.

APPENDIX V

Graphic Depiction of Author's recommendations
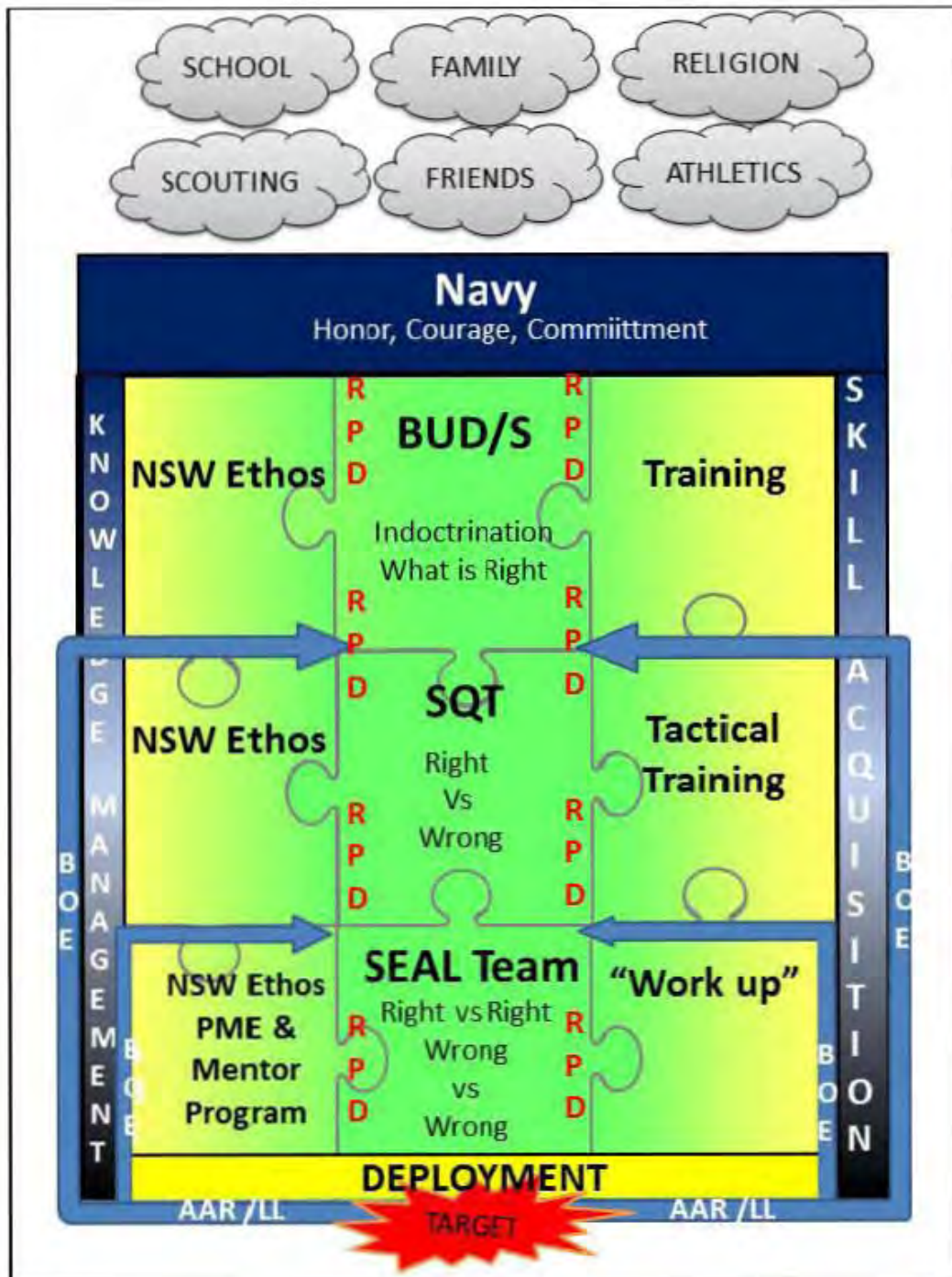
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[7] Gary Klein, Sources of Power: How People Make Decisions (MA: The MIT Press, 1999), 148-149.

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[13] Gary Klein, Sources of Power: How People Make Decisions (MA: The MIT Press, 1999), 148-149.

[14] Hoffman, D. "Hellweek 101". Proceedings. United States Naval Institute. Pp. 96-97.

[15] knowledge that cannot be articulated. "We know more than we can tell." Tacit knowledge is not easily shared. Although it is that which is used by all people, it is not necessarily able to be easily articulated. It consists of beliefs, ideals, values, schemata and mental models which are deeply ingrained in us and which we often take for granted. While difficult to articulate, this cognitive dimension of tacit knowledge shapes the way we perceive the world. In the field of knowledge management, the concept of tacit knowledge refers to a knowledge possessed only by an individual and difficult to communicate to others via words and symbols. Therefore, an individual can acquire tacit knowledge without language. Apprentices, for example, work with their mentors and learn craftsmanship not through language but by observation, imitation, and practice. The key to acquiring tacit knowledge is experience. Without some form of shared experience, it is extremely difficult for people to share each others' thinking processes Lam, A. (2000). Tacit Knowledge, Organizational Learning and Societal Institutions: An Integrated Framework. Organization Studies 21(3), 487-513

[16] M. Sinclair, "Intuition: Myth or Decision-Making Tool"? management Learning, Vol. 36, No. 3 (2005):353-370.

[17] Hoffman, D. "Hellweek 101". Proceedings. United States Naval Institute. Pp. 96-97.

[18] Joint Publication 3.50-1, " Doctrine for Special Operations" The Joint Staff. pp. xiii

[19] Joint Publication 3.50-1, " Doctrine for Special Operations" The Joint Staff. pp. xiii

[20] Global Security Forum 2012. "The Future of Special Operations: Proposed Changes in the Unified Command Plan". Center for Strategic International Studies. Transcript April 2012. Pp.2.

[21] While at the University of California, Berkley in 1980, Stuart and Hubert Dreyfus studied skill acquisition in a project for the Air Force Office of Scientific Research. The Dreyfus brothers claim that moral behavior is a skill, and like other skills is developed through practice.

[22] Dreyfus, H. L. & Dreyfus, S. E. (1992) "What is Moral Maturity? Towards a Phenomenology of Ethical Expertise". State University of New York Press. pp. 111.

[23] Dreyfus, H. L. & Dreyfus, S. E. (1992) "What is Moral Maturity? Towards a Phenomenology of Ethical Expertise". State University of New York Press. pp. 113.

[24] Dreyfus, H. L. & Dreyfus, S. E. (1992) "What is Moral Maturity? Towards a Phenomenology of Ethical Expertise". State University of New York Press. pp. 114.

[25] Butts, J.B. "Ethics in organization and leadership". Jones and Bartlett Publishers. Pp. 125-126.

[26] Strahlendorf, P. "Professional Ethics". Session 714. Ryerson University. April 2004. Pp.1

[27] On March 16, 1968, C Company entered the village ready to address and kill a relentless enemy and its sympathizers, however only civilians were present in the village. A group of people were gathered and killed. As the people of the village tried to flee they were shot. The wild and violent inertia present in the actions of 18-25 C Company personnel resulted in the mass murder of 374-504 civilians, mostly women and children.

[28] Peers, W., "Report of the Department of the Army review of the preliminary investigations into the My Lai incident. Vol. 1, The report of the investigation." Dept. of the Army. Washington D.C. 1970. Summary.

[29] Operation Iron Triangle was led by Michael D. Steele in 2006. The operation targeted a suspected al-Qaeda in Iraq training facility southwest of the city of Samarra. In the first few hours of the operation four soldiers executed three unarmed Iraqi detainees. One later testified that they had cut the Iraqis loose and let them run before shooting

them, to make the incident look like an escape attempt. These four soldiers testified that Steele had told them to "kill all military-age males".

[30] Raffi Khatchadourian, "The Kill Company ," The New Yorker, July 6, 2009. Pp. 9-10.

[31] The quarterdeck is that part of a naval vessel designated by the commanding officer for official and ceremonial functions. In port, the quarterdeck is the most important place on the ship, and is the central control point for all its major activities. The term quarterdeck is also frequently applied to the reception areas or lobby of shore-based naval facilities. Bearden, Bill (1990). The Bluejackets' Manual. Annapolis, Maryland: United States Naval Institute. Pp. 99–101.

[32] Sigmund Freud (6 May 1856 – 23 September 1939), was an Austrian neurologist who founded the discipline of psychoanalysis.

[33] Kornblum, W., "Sociology in a Changing World." Harcourt Brace Jovanovich, Publishers, Fort Worth, Texas. 1991 Pp. 108-110.

[34] Pfaff, Tony. "Ethics in Complex Contingencies". The Future of the Army Profession. Boston: McGraw Hill. 2005. The harm to noncombatants and their property must be proportional to the desired military objective and measured against the threat to political sovereignty and territorial integrity; however, when the establishing a stable peace is no longer at risk, the bad effect must be measured against the threat individual life and liberty.

[35] Pfaff, Tony. "Ethics in Complex Contingencies". The Future of the Army Profession. Boston: McGraw Hill. 2005. Combatants must discriminate between enemy combatants who represent a threat and noncombatants who do not.

[36] Gary Klein, Sources of Power: How People Make Decisions (MA: The MIT Press, 1999), 148-149.

[37] Ikujiro Nonaka is an influential writer and Professor Emeritus at Hitotsubashi University Graduate School of International Corporate Strategy; the First Distinguished Drucker Scholar in Residence at the Drucker School and Institute, Claremont Graduate University; the Xerox Distinguished Faculty Scholar, Institute of Management, Innovation and Organization, University of California, Berkeley. He is best known for his study of Knowledge Management.

[38] Knowledge that can be articulated but hasn't yet been articulated.

[39] Knowledge that is able to be rationalized and articulated. It is formal and systematic such as a mathematical equation or a scientific formula . Explicit knowledge is sometimes also called Declarative Knowledge.

[40] Scharmer, O.C., "Conversations with Ikuliro". Reflections. Learning and Change (Cambridge, Mass.)Vol. 2, No. 2. Feb. 1996. Pp.2.

[41] Gary Klein, Sources of Power: How People Make Decisions (MA: The MIT Press, 1999), 168-169.

[42] Scharmer, O.C., "Conversations with Ikuliro Nonaka". Reflections. Learning and Change (Cambridge, Mass.)Vol. 2, No. 2. Feb. 1996. Pp.2.

[43] Scharmer, O.C., "Conversations with Ikuliro Nonaka". Reflections. Learning and Change (Cambridge, Mass.)Vol. 2, No. 2. Feb. 1996. Pp.2.

[44] Nonaka, Ikujiro. "Organizational Knowledge Creation." Knowledge Advantage Conference by Bill Spencer, November 11-12, 1997 1-3

[45] Nonaka, Ikujiro. "Organizational Knowledge Creation." Knowledge Advantage Conference by Bill Spencer, November 11-12, 1997 1-3

[46] Scharmer, O.C., "Conversations with Ikuliro Nonaka". Reflections. Learning and Change (Cambridge, Mass.)Vol. 2, No. 2. Feb. 1996. Pp.2.

[47] Nonaka, Ikujiro. "Organizational Knowledge Creation." Knowledge Advantage Conference by Bill Spencer, November 11-12, 1997 1-3

[48] Nonaka, Ikujiro. "Organizational Knowledge Creation." Knowledge Advantage Conference by Bill Spencer, November 11-12, 1997 1-3

[49] In the fields of education and operations research, the Dreyfus model of skill acquisition is a model of how students acquire skills through formal instruction and practicing.

[50] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp.5.

[51] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Abstract.

[52] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp 7.

[53] Lester, S. "Novice to Expert: the Dreyfus model of skill acquisition". Stan Lester Developments, 2005. Pp. 2

[54] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp 8.

[55] Lester, S. "Novice to Expert: the Dreyfus model of skill acquisition". Stan Lester Developments, 2005. Pp. 2

[56] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp 10.

[57] Lester, S. "Novice to Expert: the Dreyfus model of skill acquisition". Stan Lester Developments, 2005. Pp. 2

[58] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp 12.

[59] Jones, M. P., "Nursing Expertise: a Look at Theory and the LNCC Certification Exam". Journal of Legal Nurse Consulting. Spring 2007. Pp. 11.

[60] Lester, S. "Novice to Expert: the Dreyfus model of skill acquisition". Stan Lester Developments, 2005. Pp. 2

[61] Dreyfus, S.E., Dreyfas H.L, "A Five Stage Model of the Mental Activities involved in Directed Skill Acquisition", Operations Research Center, University of California, Berkley. 1980. Pp 14.

[62] Lester, S. "Novice to Expert: the Dreyfus model of skill acquisition". Stan Lester Developments, 2005. Pp. 2

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