
# THINKING FOR IMPACT

## A PRACTICAL GUIDE FOR SPECIAL OPERATIONS FORCES

Dr. Emily Spencer

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BY

DR. EMILY SPENCER

Canadian Special Operations Forces Command
101 Colonel By Drive
Ottawa, Ontario K1A 0K2

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# About the Author

Dr. Emily Spencer has a PhD in War Studies from the Royal Military College of Canada. She is currently the Director of the CANSOFCOM Education and Research Centre (ERC). Her research focuses primarily on the importance of cultural knowledge to success in the contemporary operating environment, particularly as it applies to special operations forces, as well as the role the media plays in shaping understandings of world events. Dr. Spencer has published widely in these areas, as well as in the field of gender and war.

# INTRODUCTION

*21st century security is about brain-on-brain warfare.*

James G. Stavridis
Author[1]

Thinking is a process that we do every day and, like breathing, we are sometimes conscious of it and more often than not we take it for granted. Often when you behave in a careless or inappropriate way, the reasoning, or more appropriately the excuse, is that you were "not thinking". The reality is, however, that you were thinking, you simply were not doing so effectively.

Like an elite athlete who learns how to control his or her breathing in order to maximize output, your ability to think more effectively can be practiced and improved upon. As such, *Thinking for Impact* provides a practical guide to different mechanisms involved in the thought process and ways to improve your decision-making.

This book can be read in its entirety from cover to cover but each chapter is also designed to be able to be read on its own. Additionally, even though the subject matter is quite academic in nature, *Thinking for Impact* is not an academic book. Yes, the content of the book is supported by sound academic research, but the book itself is meant to be a practical guide for ways to improve decision-making. Through the use of case studies, hypothetical situations and academic studies, *Thinking for Impact* provides personal context for why and how these ideas may be important to you. It is written in a way that should be easy to understand and relate to and, as such, be "user-friendly". Ultimately, *Thinking for Impact* seeks to engage your passion for learning and help to guide you in this process.

Everyone can surely benefit from enhanced decision-making and consequently this book should appeal to a wide variety of audiences. Specifically, however, this book is designed to help Special Operations Forces (SOF) personnel be better able to determine the best course of action (COA) under potentially dynamic, complex and / or stressful situations. Consequently, examples tend to focus on SOF roles, tasks and missions. Nonetheless, through these at times harrowing examples of decisions made in life or death

situations, everyone can gain insight into how the decision-making process can be optimized.

Notably, there is no claim that *Thinking for Impact* will directly make SOF better at performing close quarter combat (CQB) drills or any other type of tactics, techniques and procedures (TTPs) required for precision kinetic activity against an enemy. What this book will help you do, however, is better assess information, identify and understand core issues at play, adapt to the environment you are in, come up with unique solutions and improve your communication skills. Consequently, SOF should be better able to assess opponents, understand all available options, communicate plans, evaluate actions and identify areas for improvement, which may lead, among many things, to better TTPs being developed.

Ultimately, *Thinking for Impact* should be considered as a practical guide for SOF regarding the cognitive elements of decision-making. Drawing on a breadth of academic disciplines including anthropology, sociology, psychology, philosophy, political science and history, this book is designed to help people make the best decisions under even the worst of circumstances.

# PART I

# CONTEXT

# PREFACE
## PART I

*Thinking for Impact* is about how Special Operations Forces (SOF) can apply strategic thinking to help them determine the best course of action in potentially stressful, high-risk scenarios. As such, in order to appreciate the requirement for SOF to apply strategic thinking, it is first beneficial to understand who SOF are and what they do. Additionally, to make the case that strategic thinking is an essential skill-set for these warriors, an appreciation of what strategic thinking is and what it can enable individuals to do is also a requirement. This section provides the context for *Thinking for Impact* by describing SOF, as well as strategic thinking and, ultimately, illustrating that strategic thinking is an essential enabler for SOF to achieve strategic impact under most, if not all, circumstances.

# CHAPTER 1

## SOF Theory: Why SOF Need to be Good Decision-Makers

*We want a kid who can think...who can make decisions on his own....You have to have a young man who has the capacity to think on his own under very stressful conditions.*

Rear-Admiral Ray Smith
Former Commander
Naval Special Warfare Command[2]

Special Operations Forces (SOF) have a reputation for "getting the job done." They are seen by their governments, their allies and the public at large, as well as their opponents, as reliable, skilled warriors who have a tenacious mission focus. Since the Second World War, modern SOF have earned this reputation through a long history of daring deeds and superb martial accomplishments. They have repeatedly responded to crises and filled gaps when conventional forces were unable to do so.

Similarly, throughout their evolution, SOF have shown an ability to not only cope with, but thrive in, ambiguity and operate in harsh and hostile environments, normally in small teams working independently, distant from other forces. As a result, SOF must be self-reliant and they must be able to make quick, sound decisions, as the epigraph underscores. After all, their mission and lives depend on it, not to mention the potential fates of nations.

Consequently, decision-making and, by extension, strategic thinking become critical to the development of SOF warriors. To fully appreciate this connection, it is important to first look at rudimentary SOF theory in order to understand what makes SOF "special". Notably, SOF theory sets the foundation for why it is so important for each member to be good at decision-making. Certainly there are many organizations in which the decisions of various members contribute greatly to the overall achievement of the corporate strategy. Arguably, however, there is no other singular organization in which the decisions of each member may not just affect the

lives of the men and women involved in the actual mission, indeed, they may also impact the strategic goals of the nation. As such, SOF provide an excellent template in which to explore decision-making under the most crucial of circumstances and SOF theory provides the backdrop to this discussion.

## CONTEXT

The birth of modern SOF is generally accepted as having occurred in the Second World War and SOF have continuously evolved since then. During World War Two (WWII), SOF were generally defined as consisting of "special men, special training and special missions." They were often marginalized by the larger military institution until a crisis or a gap in military capability emerged. Then, normally due to champions in high ranking political and / or military leadership and command appointments, SOF were relied on to respond to the new threat or circumstances until, as a minimum, a conventional solution could be prepared, the crisis passed, or the requirement transitioned to a standing SOF capability (e.g. counter-terrorism).

Not surprisingly, post-WWII SOF continued to evolve to match the constantly changing security environment. Certainly, its current structure in the Post-9/11 world is a departure in form and substance from its WWII roots. The current Canadian definition of SOF, for example, describes contemporary SOF as:

> *… organizations containing specially selected personnel that are organized, equipped and trained to conduct high-risk, high value special operations to achieve military, political, economic or informational objectives by using special and unique operational methodologies in hostile, denied or politically sensitive areas to achieve desired tactical, operational and/or strategic effects in times of peace, conflict or war.*[3]

Encapsulated within this definition is the key to SOF's strategic utility in the current operating environment. Specifically, SOF provide their government a wide range of cost efficient and effective capabilities and options outside of those found in conventional forces. SOF's ability to produce, on short notice, courses of action in a number of domains – regardless of location or environment – resulting in desirable national outcomes give it great saliency to political and military decision-makers.

Embedded in the Canadian SOF definition is also the core responsibility of SOF: special operations (SO). SO are defined as:

> *Operations conducted in hostile, denied, or politically sensitive environments to achieve military, diplomatic, informational, and/or economic objectives employing military capabilities for which there is no broad conventional force requirement. These operations often require low-visibility, clandestine, or covert capabilities. SO are applicable across the range of military operations. They may be conducted independently or in conjunction with operations of conventional forces or other government agencies and may include operations through, with, or by indigenous or surrogate forces. SO differ from conventional operations in degree of physical and political risk, operational techniques, mode of employment, independence from friendly support, and dependence on detailed operational intelligence and indigenous assets.*[4]

## THE COMPONENTS OF "SOF POWER"

SOF's enduring value is its ability to provide relevant capability to their government so that national governments can achieve their political objective(s). As such, SOF meet the true test of strategic utility, namely an organization's ability to contribute to national power and to project or defend national interests. Strategy, in essence, is about ends (objectives), ways (courses of action) and means (resources). For SOF to be a "force of choice", or to demonstrate "SOF Power", means that SOF must have substantive value in the exercise of national interests. In short, SOF must deliver a capability which is complementary to traditional capabilities and they must expand the option space for political and / or military decision-makers. SOF achieves this objective by the nature of its characteristics, operating imperatives and, in particular, its personnel. In total, these elements produce SOF capability, or in more current terms, SOF Power.

### Characteristics of SOF

In short, SOF characteristics include:

1. Small footprint / small team deployments;
2. Ability to operate clandestinely, covertly or overtly;

3. Conducting operations that often occur at great distances from a supporting operational base;
4. Use of sophisticated means of insertion, support, and extraction to penetrate and successfully return from hostile, denied, or politically sensitive areas;
5. Employment of sophisticated communications systems;
6. Proficiency with, and enabled by, application of advanced technologies;
7. Use of unorthodox tactics;
8. Development, acquisition, and employment of equipment that is not standard for others;
9. Conduct of operations conventional forces cannot perform;
10. Suitability for operations in denied and / or politically sensitive environments;
11. Ability to conduct operations not only against military objectives, but also to support the application of the diplomatic, informational, and economic instruments of national power;
12. Capability of working independently or in conjunction with conventional forces, other government agencies, and / or host nations / partner nations;
13. Proficiency at inter-organizational coordination; and
14. Conducting missions that are differentiated by physical and political risk, operational techniques, modes of employment, and dependence on detailed operational intelligence and indigenous assets.

## Operational Imperatives

While these characteristics amplify the definitions given earlier and layout some of the typical and unique features of SOF, the operational imperatives underscore the basic operational tenets that are fundamental to achieving mission success. These operational imperatives also serve to highlight why making good decisions is so important for all SOF personnel and why optimizing one's ability to think efficiently and effectively should be a continuous pursuit for SOF. The operational imperatives are:

1. Relentless task and mission focus – an unwavering commitment to mission success. This focus includes rigorous training and detailed rehearsals of any mission;

2. Adherence to the highest uncompromising standards – an unyielding and resolute personal commitment to achieve and maintain the highest standards of personal and organizational competence, tradecraft and conduct;

3. Deep understanding of the geographical area, including the "human terrain," in which a mission is to be conducted;

4. Comfort operating in conditions of ambiguity and chaos – an acceptance that operations will always be conducted in a context of potential, if not perpetual, ambiguity, chaos and change;

5. Interoperability – the realization that the battle space is complex, dynamic and inter-connected by a myriad of organizations and capabilities that must be coordinated, fused and integrated to achieve the best possible effect and mission success;

6. Operational Security (OPSEC) – the recognition that security is a fundamental prerequisite for SOF. However, OPSEC is balanced with a realization that over-compartmentalization that excludes key partners may also jeopardize mission success; and

7. Develop multiple courses of action – a realization that agility of manoeuvre is key to success, therefore, SOF must always develop a broad range of courses of action and contingency plans to allow for changes in the anticipated environment, unforeseen circumstances and / or higher direction.[5]

## The Enduring SOF Strength: Its People

The SOF characteristics and operational imperatives provide an important framework to help explain SOF Power. They articulate the organizational strengths and conceptual underpinnings of SOF operational success. Notably, however, SOF Power lies in its ability to deliver success in accordance with government requirements. In essence, it is all about delivering the desired effect. As a consequence, SOF Power is all about the people and their ability to think and act exceptionally well under all types of harsh, stressful and ambiguous circumstances.

Without question the key factor to SOF effectiveness is its people and is aptly captured in the mantra "SOF equips and enables the man; it does not man the equipment." Importantly, the selection and screening protocols that are fundamental principles of all SOF organizations provide a good baseline of individuals for the organization. The people who are attracted to SOF, who volunteer and who are ultimately chosen to serve in SOF organizations as a result of highly refined selection procedures and standards, are what provide the SOF edge. They are the key factor for mission success.[6]

In the end, to achieve the SOF edge that provides the catalyst for success, SOF organizations seek individuals who are:

- **Risk accepting** – individuals who are not reckless, but rather carefully consider all options and consequences and balance the risk of acting versus the failure to act. They possess the moral courage to make decisions and take action within the Commander's intent and their legal parameters of action to achieve mission success.
- **Creative** – individuals who are capable of assessing a situation and deriving innovative solutions, kinetic or non-kinetic to best resolve a particular circumstance. In essence, they have the intellectual and experiential ability to immediately change the combat process.
- **Agile Thinkers** – individuals who are able to transition between tasks quickly and effortlessly. They can perform multiple tasks at the same time, in the same place with the same forces. They can seamlessly transition from kinetic to non-kinetic or vice versa employing the entire spectrum of military, political, social and economic solutions to complex problems to achieve the desired outcomes. They can react quickly to rapidly changing situations and transition between widely different activities and ensure they position themselves to exploit fleeting opportunities. Moreover, they can work effectively within rules of engagement (ROE) in volatile, ambiguous and complex threat environments and use the appropriate levels of force.
- **Adaptive** – individuals who respond effectively to changing situations and tasks as they arise. They do not dread the unknown and embrace change as an inherent and important, dynamic element in the evolution of organizations, warfare and society.

- **Self-Reliant** – individuals who exercise professional military judgment and disciplined initiative to achieve the Commander's intent without the necessity of constant supervision, support or encouragement. They accept that neither rank, nor appointment solely define responsibility for mission success. They function cohesively as part of a team but also perform superbly as individuals. They continue to carry on with a task until impossible to do so. They take control of their own professional development, personal affairs and destiny and ensure they strive to become the best possible military professional. They demonstrate constant dedication, initiative and discipline and maintain the highest standards of personal conduct. They understand that they are responsible and accountable for their actions at all times and always make the correct moral decisions regardless of situation or circumstance.

- **Eager for Challenge** – individuals who have an unconquerable desire to fight and win. They have an unflinching acceptance of risk and a mindset that accepts that no challenge is too great. They are tenacious, unyielding and unremitting in the pursuit of mission success.

- **Naturally Orientated to the Pursuit of Excellence** – individuals who consistently demonstrate an uncompromising, persistent effort to excel at absolutely everything they do. Their driving focus is to attain the highest standards of personal, professional and technical expertise, competence and integrity. They have an unremitting emphasis on continually adapting, innovating and learning to achieve the highest possible standards of personal, tactical and operational proficiency and effectiveness.

- **Relentless in their pursuit of Mission Success** – Individuals who embody a belief that first and foremost is service to country before self. They have an unwavering dedication to mission success and an acceptance of hardship and sacrifice. They strive to achieve mission success at all costs, yet within full compliance of legal mandates, civil law and the law of armed conflict.

- **Culturally Attuned** – Individuals who are warrior / diplomats, who are comfortable fighting but equally skilled at finding non-kinetic solutions to problems. They are capable of operating individually, in small teams or larger organizations integrally, or with allies and coalition partners. They are also comfortable and adept at dealing with civilians, other governmental departments (OGD) and international organizations, as

> well as non-governmental organizations (NGOs). They are culturally attuned and understand that it is important to "see reality" through the eyes of another culture. They understand that it is not the message that was intended that is important but rather the message that was received that matters. They strive to be empathetic, understanding and respectful at all times. They comprehend that respect and understanding build trust, credibility and mission success.[7]

The reliance on its people as the core to SOF success is not difficult to understand. A key component of SOF's utility has always been its ability to deal with crises in a timely and responsive manner, usually through innovation and adaptation. Central to this ability are individuals with the cognitive dexterity and agility to assess a situation, often with incomplete information and / or in conditions of ambiguity and chaos, and devise creative solutions not constrained by doctrine or convention. In fact, the universally accepted SOF Truths are largely focused on the human element of SOF:

- **Humans are more important than hardware:** The SOF operator is the "core capability" and the reason for mission success. SOF equips and enables the man; it does not man the equipment.
- **Quality is better than quantity.** In the end, effectiveness and special operations mission success is normally more dependent on the presence of qualified, specially trained and experienced operators that are agile in thought and action, culturally attuned and adaptive, as well as creative in their response to changing, complex and / or ambiguous situations than it is on the umber of actual boots on the ground.
- **SOF cannot be mass produced.** The special selection and subsequent training, education and experience that is accumulated over time through the necessary practice, exercise and operations to create the fully mature, insightful, reflective and capable SOF operator takes time, as well as dedicated resources and mentorship. There are no shortcuts for increasing output.
- **Competent SOF cannot be rapidly created after emergencies occur.** A solid SOF capability with depth of personnel and capacity requires a consistent, well-resourced structure that continually nurtures and grows the SOF capability and looks to the future in order to ensure constant evolution to not only be capable of reacting to, and defeating, the next threat but pre-empting and disrupting it. SOF must always stay ahead

of a nation's adversaries. Without this consistent long-range outlook, the ability to quickly generate the necessary SOF capability or increased capacity is impossible in the immediate aftermath of a crisis. It will take time to create / develop /grow the necessary SOF response after the fact if it has not been anticipated, supported or resourced prior to the emergency.

- **Most Special Operations require non-SOF assistance.** Despite SOF's attributes and characteristics, SOF rely on conventional forces to assist in most of their mission-sets, either through supporting functions, particularly combat enablers that are not already integrated into standing task forces (e.g. airlift, fires, Intelligence, Surveillance, Reconnaissance (ISR)), or with combat forces (e.g. cordon and / or follow-on forces).[8]

## SOF CAPABILITIES TRANSFORMED TO SOF POWER

Once the organizational strengths are operationalized by SOF personnel, the result is SOF capability. In short, creative, innovative, adaptive individuals, working in small multi-disciplinary teams, supported by advanced equipment and technologies, with the requisite enablers, can provide their national government with a wide range of options and capabilities.

In general, SOF normally conduct the following core tasks:

1. Direct Action;
2. Special Reconnaissance;
3. Military Assistance;
4. Counter Terrorism;
5. High Value Tasks (as determined by the national government);
6. Hostage Rescue;
7. Chemical, Biological, Radiation, Nuclear (CBRN) crisis response;
8. Counter-proliferation;
9. Sensitive Site exploitation; and
10. Support to non-combatant evacuation operations.

Important to note is that "High Value Tasks," provide an outlet for SOF to meet the requirement to respond to any crisis situation or task its government may face.[9]

The core tasks and, specifically, SOF's unspoken mandate to meet the unexpected, unknown, ambiguous threat(s) of tomorrow make it a strategic instrument of great importance. SOF's ability to provide a government with an expansion of options, ground truth and an economy of force (i.e. small team footprint) give it great strategic utility and saliency. Additionally, SOF Power speaks to SOF's ability to provide governments:

1. High readiness, low profile, task-tailored Special Operation Task Forces (SOTFs) and / or SOF Teams that can be deployed rapidly, over long distances and provide tailored proportional responses to a myriad of different situations;
2. Highly trained technologically enabled forces that can gain access to hostile, denied, or politically sensitive areas;
3. Discrete forces that can provide discriminate surgically precise kinetic and non-kinetic effects;
4. A deployed capable and internationally recognized force, yet with a generally lower profile and less intrusive presence than larger conventional forces;
5. An economy of force foreign policy implement that can be used to assist coalition and / or allied operations;
6. A rapidly deployable force that can assess and survey potential crisis areas or hot spots to provide "ground truth" and situational awareness for governmental decision makers;
7. A highly trained, specialized force capable of providing a response to ambiguous, asymmetric, unconventional situations that fall outside of the capabilities of law enforcement agencies (LEA), conventional military or other government departments (OGDs);
8. A force capable of operating globally in austere, harsh and dangerous environments with limited support. SOF are largely self-contained and can communicate worldwide with organic equipment, and can provide limited medical support for themselves and those they support;

9. A culturally attuned SOTF or SOF team that can act as a force multiplier through the ability to work closely with regional civilian and military authorities and organizations, as well as populations through Defence, Diplomacy and Military Assistance (DDMA) / Security Force Assistance (SFA) initiatives;

10. A force capable of preparing and shaping environments or battle-spaces (i.e. setting conditions to mitigate risk and facilitate successful introduction of follow-on forces); and

11. A force able to foster inter-agency and inter-departmental co-operation.[10]

## "THE FORCE OF CHOICE"

SOF's ability to directly assist the government as a strategic resource and instrument to affect national strategy, either in defending or projecting national interests, has earned it the recognition of possessing SOF Power. Moreover, commentators have also bequeathed the moniker "Force of Choice," to SOF, particularly, in the context of the contemporary and future operating environments. In light of SOF Power, this accolade is not hard to understand. After all, SOF have earned the title because they:

1. Are capable of rapid deployment into any environment;

2. Are proficient at deploying small highly capable teams that have a low signature / are low-visibility or clandestine and do not represent a major foreign policy engagement;

3. Serve as a catalyst to unify, extend the reach and maximize the effects of other instruments of national power;

4. Are capable of working with conventional and indigenous forces, as well as other government departments;

5. Provide the government with a wide spectrum of special operations options, lethal and non-lethal, to deter, disrupt, dislocate, and when necessary, destroy those that would do harm to the respective nation, its allies and friends, or its national interests, in hostile, denied or politically sensitive areas; and

6. Represent a highly trained and educated, adaptive, agile-thinking force capable of dealing with the threat(s) that has not yet been identified.[11]

Indisputably, SOF strength stems predominately from its people. Given the high risk nature of their jobs and the life and death implications that their successes and/or failures hold, all SOF need to be good at thinking and making decisions. As such, SOF organizations must continue to select, train and educate their forces to be able to generate the best courses of action in any given circumstance. Their lives, as well as the success of the mission and all the consequences that failures could entail, depend on it. Consequently, improving strategic thinking, and correlated to that, decision-making, is a critically important area that requires continued focus and work.

# CHAPTER 2
## Strategic Thinking

*Strategic thinking is the art of outdoing an adversary, knowing that the adversary is trying to do the same to you.*

Manu Amitabh and Arun Sahay
Scholars[12]

In a way, the concept of strategic thinking is as simple as the above citation suggests: at its core, strategic thinking is about outsmarting an opponent whom is simultaneously trying to outmaneuver you.

Within a defence paradigm, however, the situation in which one needs to apply strategic thinking is rarely simple. First, the issue is generally neither contained between two belligerents, nor acted out within the construct of a zero-sum game. Instead, multiple players may be involved and mutual gains and / or losses are possible. A further complicating factor in this non-"black-and-white, you win, I lose" scenario is that success is interpreted subjectively. Moreover, not only is the meaning of success potentially different between players, its delineation may even fluctuate within a specific state over time. The omnipresence of the media simply underscores these challenges by allowing nearly everyone, particularly those not in harm's way, the capacity to simultaneously judge the actions of those on the ground in near real time through their own subjective lenses of right and wrong, success and failure.

In the case of conflict and war, the decisions made by the men and women on the ground, particularly those individuals serving in high reliability organizations (HROs) such as Special Operations Forces (SOF), are not easy and they can have grave consequences.[13] These individuals are subjected to unwieldy amounts of information and misinformation, which they need to make sense of in a short amount of time. Significantly, it is not sufficient to simply gauge the immediate consequences of their actions; they must also factor in the second and third order effects that may occur as a result of their actions within the complete ecosystem in which they are operating.

Importantly, while the area of operations for kinetic activities may be contained (i.e. within a specific, defined area of operations), the reactions and ripple effects caused by these actions, often carried via media wavelengths to homes across the world, can be global in scale. Consequently, the decisions made by SOF in potentially hostile environments with limited time can have a large impact on many different audiences, including political and military decision-makers, as well as the general public. Not surprisingly then, it is important to ensure that SOF personnel not only make good decisions, they must make the "right" ones.

Strategic thinking, or as some argue, thinking strategically, is an essential tool in ensuring that the best possible decisions are being implemented. While strategic thinking is the art of outdoing an adversary, knowing that the adversary is trying to do the same to you, it is best to further deconstruct the term into key components in order to improve one's ability at the process.

## STRATEGIC THINKING DEFINED

As is the case with many complex terms, there is no standard definition of strategic thinking. In fact, both military and business literature have several functional definitions of strategic thinking, many of which actually contradict one-another. Additionally, the term has often been erroneously used as a substitute for military strategy and strategic planning. As such, it is first useful to distinguish between military strategy, strategic planning and strategic thinking prior to deconstructing the elements within strategic thinking.

### Military Strategy

Within contemporary discussions of war and conflict three main levels of war are generally discussed. Beginning with the easiest to comprehend, the tactical level of war is comprised of the planning and execution of battles or individual combats. In its simplest terms, it is characterized by, relatively speaking, small group kinetic (fire and manoeuvre, i.e. battle) and non-kinetic actions that occur on the battlefield. The next level of war is the operational level which refers to simultaneous or sequentially planned tactical actions within an area of operations that are aimed at achieving a defined objective (i.e. campaigns). These campaigns connect the tactical level

of war with the third level of war, the strategic level, by assigning missions, tasks and resources to tactical operations. The strategic level of war refers to the overall military aim within the conflict. It is concerned with the art and science of employing, or threatening to employ, military power to achieve national goals.[14] Notably, in addition to these three levels of war, the term grand strategy is also often used to refer to the degree of mobilization of a nation's complete resources, political, economic, social and military, to achieve a desired end-state.

Strategic thinking should not be confused with military strategy or grand strategy, however. Strategic thinking will improve one's ability to make and execute effective decisions at the strategic levels of war. Nonetheless, it is equally as valid a tool to employ at the tactical and operational levels of war as it concerns itself with the process of decision-making and not the level at which decisions are being made.

## Strategic Planning

Strategic planning is an organization's means of assigning processes and resources to achieve a desired end-state. Notably, it is distinct from the more holistic thought process that is ideally involved in determining strategy (i.e. strategic thinking). Professor Henry Mintzberg explains, "Strategic planning isn't strategic thinking. One is analysis, and the other is synthesis." He elaborates, "Planning has always been about *analysis*—about breaking down a goal or set of intentions into steps, formalizing those steps so that they can be implemented almost automatically, and articulating the anticipated consequences or results of each step." Conversely, strategic thinking, as Mintzberg articulates, "is about *synthesis*. It involves intuition and creativity."[15]

## Strategic Thinking

Strategic thinking, as Mintzberg identifies, is about synthesis and combines many different methods of thought.[16] In general, definitions of strategic thinking tend to focus on the holistic and creative nature of the thought processes involved in order to deal effectively with an uncertain future environment.[17] While these skill-sets are often associated with the right side of the brain, the logical analysis associated with left brain activity is also required in order to ensure that root causes and concerns are being properly

addressed. As a result, drawing on the multiple definitions currently at use, as well as extrapolating other skill-sets that should fall under the rubric of strategic thinking, the working definition to be used is:

> *Strategic thinking is the art of applying critical and creative thinking, and emotional intelligence in a holistic manner in order to achieve sustainable success within complex, dynamic and multi-player environments.*[18]

Within a military context, US General Martin Dempsey, former Chairman of the Joint Chiefs of Staff, aptly comments on the skills required for military leaders to apply strategic thinking in the post Afghanistan and Iraq operating environment. Dempsey comments:

> *…strategic leaders must be inquisitive and open minded. … they must think critically and be capable of developing creative solutions to complex problems. They must be historically minded; that is they must be able to see and articulate issues in historical context. … they must be able to navigate successfully in ethical 'gray zones', where absolutes may be elusive. Similarly, they must be comfortable with ambiguity and able to provide advice and make decision with less, not more information.*[19]

For SOF, in particular, it is important for all members to apply strategic thinking whether or not they are functioning at the strategic level. Underscoring this reality is the fact that the high value tactical operations that SOF are deployed on can have a direct strategic impact without necessarily being aligned within a larger operational campaign. Conversely, mission failure can be catastrophic, tactically, as well as strategically.

Indeed, the difference between success and failure often comes down to decisions made in non-optimal conditions. For example, in their account of the March 2002 US engagement against al Qaeda forces on Takur Gar, Afghanistan, which resulted in seven American casualties prior to taking the mountain, authors and veterans of the United States (US) 160th Special Operations Aviation Regiment, fittingly describe the decision-making environment that often faces SOF in theatre. As they recount, "Many men would be making decisions that day – some good, some bad, some carefully considered, some instinctive. Later on, with the comfort of armchair analysis,

some would call the events on Takur Gar a mishap, a tragedy or a fiasco. They would blame poor planning, miscommunications and faulty equipment. But it was none of those things." As the authors explain, "It was just war, and incidents of war often take place in very close quarters, and with as much time to consider one's responses as in an unprovoked bar fight." [20] This comment underscores the point that it is vital to make sure that the decision-making processes employed by SOF are the best they can be and become instinctive prior to being tested in battle.

## STRATEGIC THINKING DECONSTRUCTED

In order to effectively apply strategic thinking there are three conditions that must be maintained. These conditions are: having a systems perspective; remaining goal focused and appreciating the connections between the past, present and the future.[21] With these three conditions being applied, strategic thinking can be achieved. (Importantly, these conditions are necessary but they may not be sufficient to ensure that strategic thinking is being applied.)

| | Three Essential Conditions for Strategic Thinking |
|---|---|
| 1 | Having a systems perspective |
| 2 | Remaining goal focused |
| 3 | Appreciating the connections between the past, present and the future |

Having a systems perspective means that you need to understand the whole ecosystem in which you are operating and appreciate that actions will create reactions and thereby shape the future environment. In general, within a military context, multiple players and / or groups will be involved. There will not necessarily be clear winners or losers and rather multiple gains and or loses can occur thereby complicating the decision-making process. Additionally, the media has the power to globalize local issues. In essence, one must be aware of second and third order effects and how specific actions shape the potential outcomes.

The constant question that SOF members must repeatedly ask themselves is how their tactical actions will affect the political and / or the Commander's intent for the mission. For example, Marcus Luttrell recalls thinking of the second and third order effects of killing his target when he finally had the opportunity to do so following the death of three of his fellow Navy

SEALs in Afghanistan. Luttrell comments, "he had green eyes, and they were filled with a hatred that could have melted a U.S. army tank. He stared right through me and spoke not one word. I noticed he was unarmed, and I tightened my grip on the Mark 12 [special purpose rifle] and very slowly turned it on him until the barrel was aimed right between his eyes." As Luttrell explains, "I had a powerful instinct to shoot that bastard dead." Despite the loss of his comrades and the fact that terminating the target was his actual mission, Luttrell correctly realized that, given the circumstances, those actions would not support the strategic aim of the mission. Lowering his weapon he concluded, "If I'd shot him, I would not have lasted twenty seconds. His guys would have gunned down both me and Gulab [the local individual who had been aiding him] and, then, minus their beloved commander in chief [Luttrell's target], probably would have massacred the entire village, including the kids."[22] The collateral damage, he had concluded, would have likely exceeded any gains made by completing the original mission.

Notably, strategic thinking is also about achieving a goal, even if that goal needs to be amended given changes in the environment. For SOF, this element translates into mission focus with an understanding that the tactical mission may need to be adapted to ensure that it still reflects strategic objectives. For example, during Operation Colossus, on 10/11 February 1941, 7 officers and 31 non-commissioned officers (NCOs) were parachuted into south-eastern Italy to destroy the Tragino aqueduct which fed water to a number of key port facilities. During the aerial insertion the engineer party and most of the explosives were lost. The team could no longer complete the mission as planned. Nonetheless, the team assembled what equipment and explosives they found and moved off to the objective. Disappointingly, upon arrival they found that the aqueduct was made of reinforced cement and not brick as intelligence had indicated and their shortfall in explosives and expertise was now even more severely underlined. Showing ingenuity and agility of thought, the Commander understood that the importance of the mission was not simply destroying the actual aqueduct, which would cause a temporary disruption at best, but rather striking the enemy on his own territory where he had thought he was safe. This thinking process drove him to realize that the creation of destruction and chaos was the important factor, not simply destroying the aqueduct. Therefore, the group damaged what they could of the aqueduct, as well as a nearby bridge. Despite the challenges that the team had faced and the fact that they had been unable to

accomplish their originally assigned task of completely destroying the aqueduct, they continued to pursue the strategic aim of the mission. By demolishing even part of the aqueduct, they were able to demonstrate the ability of allied forces to strike into the heart of Italy and caused Fascist Dictator Benito Mussolini to tie-down approximately 400,000 troops for rear area security for the remainder of the war. [23] Clearly, there is a relationship between having a systems perspective and being able to remain focused on the strategic goal even if this requires adapting tactical actions to better suit the dynamic operating environment.

Finally, in order to apply strategic thinking a connection between the past and the present needs to be formed in order to help to visualize the future. Yet, as the famed baseball player Yogi Berra so aptly remarked, "Prediction is difficult, especially about the future." The past, however, can provide insight into future probable outcomes. While it is an error, and sadly a common one, to prepare for the last war rather than the current one, one should not deny that the past shapes the present and helps to define the future. Historian, Sir Michael Howard, captured it succinctly. In 2010, he wrote, "No matter how clearly one thinks, it is impossible to anticipate precisely the character of future conflict. The key is to not be so far off the mark that it becomes impossible to adjust once that character is revealed."[24] Nothing exists without roots. Therefore, decisions should be made within their proper historical context.

Additionally, working with the idea that strategic thinking is the art of applying critical and creative thinking, and emotional intelligence in a holistic manner in order to achieve sustainable success within complex, dynamic and multi-player environments, it further follows that critical and creative, and emotional intelligence are key elements within the process. In fact, these three types of thinking help you understand yourself and your opponent, as well as the operating environment – three conditions that the legendary warlord and military strategist Sun Tzu identified as instrumental for – if not predictive of – victory in war.

Importantly, *Thinking for Impact* focuses on exploring each of these three types of thinking. This deconstruction is particularly helpful when you consider that the goal of strategic thinking is to enable individuals to determine the best course of action (COA). In the case of SOF this decision-making process will generally take place in a dynamic, complex and / or stressful

environment. Moreover, it will regularly require members to make quick decisions with limited and / or, paradoxically, too much information. Importantly, many of these choices will have strategic consequences. (See Figure 1.)

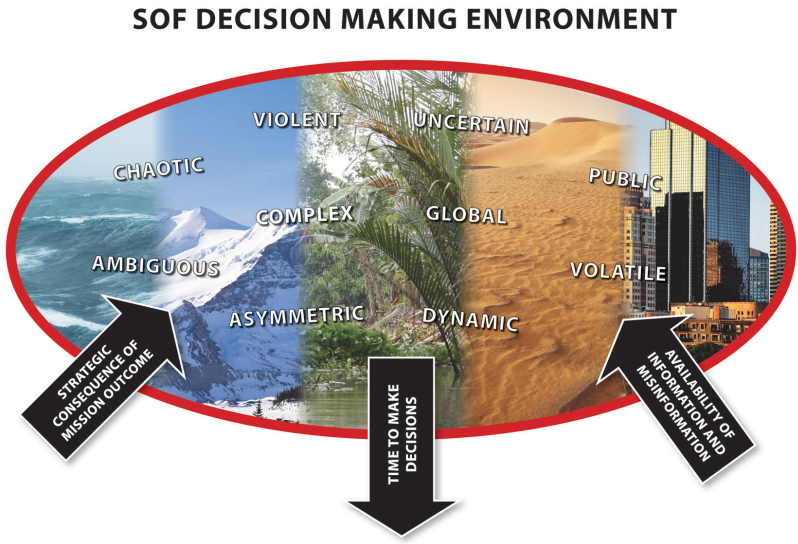


FIGURE 1. The SOF decision-making environment.

# PART II

# THE BUILDING BLOCKS OF STRATEGIC THINKING

# PREFACE
## PART II

When applying strategic thinking to a problem, you rarely, if ever, will consciously breakdown your thinking into component parts, specifically, critical and creative thinking, as well as emotional intelligence. In essence, however, you are automatically applying these types of analyses and problem solving skills holistically and simultaneously. Indeed, strategic thinking happens all at once with elements instantly feeding on each other and broadening the option space. Nonetheless, in order to improve strategic thinking it is important to explore each element on its own so that you can fine-tune the processes and identify specific elements for improvement. Like learning a new military skill, such as firing a weapon for example, you first learn all the steps involved in the process and then you learn to automatically go through the process in a seemingly seamless action while being able to troubleshoot if and when required. Strategic thinking is no different – first you learn the steps, then you can apply them together and when and if required you can troubleshoot where necessary. To facilitate this process, this section explores critical and creative thinking, as well as emotional intelligence individually.

# CHAPTER 3

## Critical Thinking

The Red Army Faction (RAF), also known as the Baader-Meinhof Gang, was a left-wing militant group in Germany that existed from 1970 to 1998. It claimed to be a communist and anti-imperialist urban guerilla group engaged in armed resistance against a fascist state. In total, the group is credited with causing thirty-four deaths and approximately 300 bomb attacks, arsons and bank robberies. Although key leadership was captured throughout their existence and its effectiveness waned, particularly after the fall of the Soviet Union and the end of funding by the East German Stasi, the group was never fully run down and some members were still at large at the end of the century.

When teaching strategic thinking, I often present the class with the above vignette and ask students to figure out how to locate and capture the remaining terrorists. This example is useful because it requires all elements of strategic thinking – critical and creative thinking, as well as emotional intelligence – to solve. In particular, it requires critical thinking skills as a first step towards finding a solution.

Not surprisingly, every group that I have worked with to date, which has included military members, law enforcement and intelligence analysts, as well as other groups within the defence and security framework, has come up with the same responses. In general, the solutions are all potentially viable but they are also quite predictable. The options include releasing prisoners and following them, bribing them, following know associates and family members, and trying to pose as a criminal in order to gain the confidence of imprisoned RAF members so that they might share information, just to mention a few, (and not to mention the more politically incorrect options that sometimes surface).

What is predictable about all of these responses is that they all approach the issue from a law-enforcement / security agency point of view. Every group has placed themselves in the position of the "good guys" trying to capture the "bad guys". It is not until students are asked to change their perspective and to think "like a terrorist" – or someone "living on the lamb" – that students start to broaden their point of reference.

When asked what the terrorists would need to survive and how they might need to live, groups tend to be able to come up with the idea of looking for things that stand out from the "normal," much like the German *Grenzschutzgruppe* 9 (GSG9) and police services eventually did. While the German Government utilized a number of tactics to try and shut down the RAF such as surveillance of known family and associates, analysing old Stasi files and agents / handlers, offering earlier release to incarcerated RAF members in return for information, etc., the last members of the RAF were only located after authorities utilized a different lens to solve their quandary, specifically looking at the problem through the eyes of the fugitives. In the end, the elusive final felons were arrested by undertaking a search of all those in Germany who paid for utilities in cash. The logic was that if you were a wanted felon, it would be difficult to get credit and have a credit card / bank account. After making this association, it was relatively easy for the GSG 9 and police services to verify the actual identities of the very few people who paid for their utilities in cash. Importantly, when using this example in the classroom, most groups are also able to come up with this solution once they are prompted with the more direct question of how might you need to function if you were living as a fugitive.[25]

What this example highlights about strategic thinking is that in order to problem solve, you need to fully understand what the issue is about and address it from the correct perspective. Critical thinking helps to enable you to see what the core issues are and helps you to broaden your perspective so that you can explore the problem from different points of view. As such, when applying strategic thinking, critical thinking is a good start point.

Critical Thinking is a convergent thought process that facilitates determining what the core issue is and, accordingly, what information is relevant and accurate, and, importantly, what gaps / questions still remain with respect to a specific topic / issue / question. While there is no consensus on the exact definition of critical thinking, put quite simplistically it can be described as channeling your inner five year old and continuously asking how / why in order to debunk assumptions and get to the core of issues. Of course, there are a few nuances that require further explanation.

Specifically, when applying critical thinking one should apply both deductive and inductive reasoning to the problem as required. Deductive reasoning refers addressing a logical problem that starts with a hypothesis

(i.e. an argument) that is applied to a general category and then based on membership to this category one can deduce whether or not the hypothesis is also applicable to the specific case. In this way, deductive reasoning begins with a theory that is assumed to be sound and is then followed by observations regarding how specific elements fit into the larger theory. For instance, one could argue based on deductive reasoning that: if all Canadian Special Operations Forces (CANSOF) are Canadian Armed Forces (CAF) members and Steve is CANSOF, then Steve is also a CAF member. As long as the hypothesis is true, (in this case that all CANSOF are CAF members), then the rest of the argument is also valid.

Inductive reasoning works in the opposite direction of deductive reasoning and allows one to make broad generalizations from specific observations. Notably, simply because the observation and the generalization fit one set of circumstances, one cannot assume this association to be true for all observations. For instance, one could say Michelle is a female SOF member and then apply inductive reasoning and argue that all SOF members are female. Clearly this one observation does not provide a clear picture of the broader context and the conclusion does not follow logically from the statement.

When applying critical thinking to a problem it is useful to use both inductive and deductive reasoning when addressing a problem. Inductive reasoning allows one to form a hypothesis based on specific observations. Deductive reasoning allows one to test the hypothesis in order to determine if it applies logically to a set of observations. By going back and forth between inductive and deductive reasoning, assumptions are debunked and the "truth" is further revealed.

In most circumstances, however, one works with the best available information and in this way applies what has been termed abductive reasoning to the problem. In essence, you make an educated guess based on experience and the best available information.[26]

Whether using deductive, inductive and / or abductive reasoning one should always prioritize four questions when applying critical thinking to a problem. These question will help ensure that you are focusing on the actual core problem and that you are applying relevant and accurate information, as well as identifying both gaps in your reasoning and gaps in the available information. Additionally, as you address each question, you may want to revisit the previous question and refine your knowledge / assessment.

Specifically, when applying critical thinking the following four questions need to be addressed:

1. **What is the core issue?** Too often we find ourselves concentrating on solving superficial or tangent concerns rather than the actual core issue. This divergence in focus is not a new phenomenon. In fact the proverb "give a man a fish, and you feed him for a day; teach a man to fish, and you feed him for a lifetime" highlights this point quite well. In this particular case the concern is not hunger but rather sustainability. If you think the issue is hunger, then it is easy to see how the solution is food. If you consider the issue to be sustainability, then it becomes obvious that a long-term solution for the procurement of food is what is actually required. In essence, different questions elicit different answers.

   Too often people focus so much on the solution that they forget to reflect and ask if they are even addressing the appropriate issue. Spending time reflecting on what the core issues and actual concerns are is rarely, if ever, misspent. Indeed, it is often more challenging to come up with a good question than it is to come up with a good answer. Nonetheless, the right question is essential to procuring the correct answer.

   In order to make sure that you are addressing the core issue at hand, it is useful to ask open-ended questions such as how and why in order to determine what the issue is really about. For instance, by repeatedly asking why until you can no longer dig any deeper ensures that you are addressing root causes. Repeatedly asking how-questions, such as how do I believe this to be true, how do others see this issue, etc., helps to make sure that you are addressing the topic from a variety of perspectives. In these circumstances, both why and how questions are important in helping to frame the issue.

2. **What information is relevant?** Once you have determined what the core issue is, then it is important to figure out what information / knowledge you require in order to make an informed decision. At this stage it can be useful to create a "dream list" of all the different pieces of information that you would like access to in order to make an informed decision. While you may never be able to actually have access to all of the information on your dream list, being able to identify the desire to have this information and recognize the holes

in your argument by not having access to the data will help you determine the level of confidence you should place in your decision.

3. **How accurate is the relevant information?** Once you have determined what information is required to make an informed decision, you then need to assess the accuracy of the information you are looking at. All information should not be considered of equal value. For instance, you want to know the source of the information and any biases s/he / it may have. You also want to know if the information is intentionally misleading. For instance, tools such as PhotoShop have been around for a long time. Additionally, you want to recognize your own personal and cognitive biases that come into play. For example, just because you like a source does not mean that s/he / it is accurate and / or trustworthy (i.e. personal bias), and simply because a piece of information is vivid and captures your attention does not necessarily mean that it is accurate (i.e. cognitive bias), (cognitive biases will be discussed in a subsequent section of *Thinking for Impact*); and

4. **What gaps remain?** Having determined what information you have access to, and what is relevant and accurate, as well as the delta in terms of information you want to have access to and that which you actually can consult, will help you determine what gaps remain in your analysis. As discussed, knowing the gaps in your argument will help you determine what level of confidence to place in your assessment. Moreover, knowing what gaps exist can help you ask different question and assess the issue from a different perspective. This alternate viewpoint can help shed valuable light on a problem by highlighting different and perhaps available, reliable sources or allowing you to rethink the problem in a new manner, for instance.

Significantly, as you answer each of the questions mentioned above, you may be drawn back to re-examining the question that came before it. During this process you may change your view on that particular element. As such, the process should be considered as a loop and each time you go through the loop you should gain deeper insight into the issues at hand. (See Figure 2.) The time to make a decision will likely be the determining factor regarding how often you progress through the loop, but other resources such as access to information and the importance of the issue will also affect how much effort is given to the process.

| THE CRITICAL THINKER'S CHECK-LIST | | |
|---|---|---|
| **Key Questions** | **Strategies** | **Outcomes** |
| **1** What is the **core issue**? | Ask open-ended questions (such as "how" and "why" questions) in order to determine what the actual issue is REALLY about.<br><br>Interpret the issue from different perspectives. | Enables you to address the root issue while maintaining focus on your desired goal. |
| **2** What information is **relevant**? | List all the information you would like to know in order to make a perfectly informed decision.<br><br>Do not limit yourself to information you have access to.<br><br>Consider different perspectives in addition to simply raw data.<br><br>Eliminate information that is not relevant to the core issue. | Enables you to know what information / understandings are relevant to your core issue and which pieces of information are superfluous. This process will help you narrow the scope regarding what you need to know in order to make an informed decision. |
| **3** How **accurate** is the relevant information? | Make sure that personal and / or cognitive biases are not causing you to make errors in judgement.<br><br>Make sure that you access the accuracy of information from different perspectives to avoid a myopic view.<br><br>Question your sources.<br><br>Debunk your assumptions (i.e. do you "know" something or do you "think" you know something simply because that is the way it has always been done.) | Enables you to evaluate the quality of your information. This step may cause you to re-assess how much relevant information you really have. |
| **4** What **gaps** remain? | Identify what issues you would still like answers to.<br><br>Determine which questions you would ask if you could.<br><br>Identify sources you would like access to. | Enables you to determine the level of accuracy with which you can make an informed decision. This step may cause you to search for additional relevant and accurate information before making a decision. |

FIGURE 2. The Critical Thinker's Checklist

Remarkably, applying critical thinking to a problem does not necessarily involve much time or effort, and the results will undoubtedly be worth it. Additionally, the consequences of not applying critical thinking can be drastic. For example, throughout the counter-insurgency operation in Afghanistan, Americans were detaining certain individuals and questioning them. In the case of Afghan teenage boys, which represented a high target group since many of the insurgents in Afghanistan are young males, an Afghan elder warned coalition members that these boys needed to be "home by dark." The Americans understood what "home by dark" meant, specifically before sunset, but they did not pay much attention to the comment. While questioning could last for hours, and often only ended in the middle of the night, the Afghan teenagers were always offered a ride home – which apparently few, if any, ever took – so the Americans thought that they had done their due diligence regarding the Afghan elder's request to have the young men home by dark. What the American's did not understand, however, was that in Afghanistan, while the sexual assault of young men is not uncommon, if a young man is suspected of having been molested, he could lose all the social status that he had accumulated and often be disowned by his family. Returning home after dark, with no one to account for their whereabouts during their absence, many of the young men who had been detained could end up being shunned by their families. With few places to turn, joining the insurgency could seem like a good, if not only, option. Remarkably, it took a decade before the significance of these actions was fully understood by the Americans. They had made a conscious effort to minimize the number of insurgents in Afghanistan but, in this case, they had neglected to apply critical thinking to what the Afghan elder was telling them and ask the very simple question of why – why is it important that these young men are home by dark? A short, even if carried out through interpreters, dialogue could have altered ten years of potential harm.[27]

In another instance, a veteran of the war in Afghanistan revealed that he was stunned following a night raid when an Afghan came up to him and suggested that he would prefer the coalition forces kill one of his kids rather than his dog, an issue that had arisen because dogs were being shot during nocturnal operations when they would bark, thereby potentially alerting the Taliban to the location of coalition forces. The veteran was astounded. All he heard was: "kill my kid rather than my dog." Given the way that Afghans treat their dogs, which is in stark contrast to many of the pampered pooches

in the West, the sentiment seemed even more unconscionable to the Canadian. While there was an understanding that winning Afghan "hearts and minds" was part of their mission, the Afghan's declaration simply alienated the Canadian's empathy and respect for the locals.[28]

Now the issue could simply be left alone and a determination could be reached on whether or not winning the hearts and minds of locals was worth the associated risk of having dogs bark during night raids. Alternatively, an educated person might explore the issue more deeply.

In Afghanistan, dogs are considered working animals and a well-trained dog is an asset for farming and often essential for protection. Moreover, well-trained dogs are hard to come by. Additionally, the country is faced with one of the highest infant mortality rates. Arguably then, the Afghan was not really saying that he would rather one of his kids were killed instead of his dog. It is quite plausible that he instead was trying to communicate the severe implications of killing the dogs. Specifically, that by killing their dogs, the coalition forces were directly hurting the Afghans' ability to survive. In fact, this is a completely different message than what was heard and understood by the Canadian veteran. This new communication is one that many CAF members would deem important to act on: please stop hindering our chances of survival.

Far too often it is easiest to just take information at perceived face-value and act accordingly. It is much more challenging to dissect information in order to uncover its true meaning. Critical thinking extends far beyond the mere accumulation of facts and knowledge and instead focuses on the mechanism of how to think over what to think. These two examples illustrate how applying critical thinking to a problem can provide a different perception on issues and lead to different – generally much more effective – courses of action (COAs) than if you simply took the information at face-value.

Since I began this chapter with an example that I use when teaching, I think it is appropriate to end in a similar manner. After learning about critical thinking and how to improve one's ability at this endeavour, students, whom generally have experience working in the defence community, are presented with several more historical vignettes, including one that occurred during Operation Enduring Freedom (OEF). Specifically, students are provided the following scenario:

> During OEF, as US SOF with their Northern Alliance partners were driving the Taliban further south towards Kandahar, they decided it was necessary to further dislocate and fragment the Taliban command structure and their fighting forces. As a result, they determined they needed to create additional pressure in the Taliban heartland of Kandahar.

Students are then asked what they would do prior to being provided with the account of what actually happened. Ultimately, US SOF decided on the concept of phantom SOF operators. They dropped blocks of ice at night by parachute. The sound of aircraft overhead with the subsequent discovery of empty parachutes blowing around the countryside was anticipated to achieve a number of aims. First, it would put the Taliban on edge, believing that US SOF operators were lurking around ready to kill important leaders. Second, it would tire and spread their forces out looking for non-existent SOF teams. Indeed, based on captured diaries and interviews it appears the ruse both confused and terrorized the Taliban. Every mishap and "bump in the night" was attributed to the phantom "commandos".[29]

From a critical thinking perspective, this example is important because it forces students to identify the root issue, which is not to have SOF infiltrate the Taliban heartland but rather to have the Taliban think that they had – a vital distinction. Importantly, while the same critical thinking skills are relevant to the example of the RAF in Germany presented at the beginning of this chapter and the OEF example above, students tend to be remarkably better at the latter which is provided after an overview of critical thinking which highlights its importance and techniques for improvement. As countless courses have demonstrated, even brief exposure to the concepts of critical thinking and a reminder of its importance to problem-solving can have an immediate impact on performance.

Ultimately, there is no substitute for critical thinking when wanting to make good decisions, (except of course good luck but hope should never be one's first choice COA). Nonetheless, figuring out core issues is but one element in determining the best COA. As the example of OEF has also illustrated, coming up with creative solutions is another common requirement for problem solving.

# CHAPTER 4
## Creative Thinking

Being able to think creatively is an essential skill for Special Operations Forces (SOF) and often cited as a core value for many SOF organizations. Indeed, the jobs that SOF perform are generally not standardized. There may be specific tactics, techniques and procedures (TTPs) and standard operating procedures (SOPs) but, more often than not, SOF are put into unique situations that demand unique and, often, creative solutions. Importantly, creativity may need to be harnessed under even the most austere and threatening of circumstances. It is thus important to foster an environment in which people feel comfortable and confident to offer creative solutions, and also to practice honing creative skills prior to operations.

Simply put, creativity is about being able to come up with a new solution to a problem while avoiding being caught up in a conformist way of thought. While creativity might sound simple in principle, in practice it is anything but simple. In fact, all of our lives we have been programmed to think in a certain way and to see things in specific ways. We are taught acceptable social behaviours and protocols, how to use specific items and what tools and equipment are required for specific tasks. Additionally, when we diverge from the "normal" we are often judged negatively by our peers. As many researchers have noted, the older people get, the less creative they generally are due to these circumstances.

Essentially, creative thinking involves feeling comfortable and confident in being able to challenge the norm and come up with unique, often simple, solutions to problems. More specifically, there are five principles that should be followed in order to create an environment that is conducive to creative thought. (See figure 3.)

The first principle of creativity is to not judge. Again, this is an easy statement to make and yet a difficult thing to actually do. Consider the following example of the Special Operations Executive (SOE) which had a mandate to support sabotage and subversion in occupied Europe and Asia during the Second World War. Members of the SOE were able to develop several

devices to help assist agents and resistance members with sabotage and subversion while ensuring that they could still move freely, perform their missions and avoid detection and capture. One of these devices, which was designed to impact enemy morale, was named the "Who, Me?" It was a chemical that smelled like a bowel movement and children in Shanghai were asked to squirt it on the uniforms of Japanese officers, a group of men who were particularly sensitive to such issues of privacy. Did it win the war? Of course not, but it quite possibly led to some decrease in morale amongst Japanese officers. For the purpose of this chapter, the execution and impact is not the vital piece. Rather, what is noteworthy is that the person who suggested that course of action clearly felt comfortable and not judged amongst his or her peers. Significantly, the leader of the group fostered an environment that allowed individuals to pitch "unique" ideas without hesitation. Good ideas can disappear quickly in your mind before they have even had a chance to blossom if there is the slightest hint that they will be met with ridicule amongst your peers. Conversely, creating a judgment-free zone can open the floodgates of creative ideas and discussions. Notably, instigating periods of play can help to diminish judgments as games tend to take people out of their comfort zones and force them to embrace new experiences in a safe and consequence free arena.

The second principle of creativity is the need to focus on the core issue, something that critical thinking can help you to identify. For example, during the space race which emerged as part of the Cold War, the Americans realized that their pens were no good in space and thus they spent millions of dollars in research and development to solve the problem and create a pen that would be able to write in space. Thus the "zero gravity" pen, which also writes in water and under any weather conditions, was developed. The Soviets had the same problem with their pens but they saw the core issue as being that they needed something to write in space with, not necessarily a pen that could write in space. Their solution: a pencil.[30] When being creative, never forget the actual issue that you are trying to solve. Ultimately, especially in a military context, creativity for the sake of creativity is not the point. What one requires is creative solutions to real, pertinent issues.

The third principle of creativity is to keep things simple and remember the basics. For example, due to increased incidents of birds colliding into jets, British scientists built a gun specifically to launch dead chickens at the

windshields of airliners and military jets all travelling at maximum velocity in order to test the strength of their windshields. American engineers heard about the gun and were eager to test it on the windshields of their new high-speed trains. When the gun was fired, however, the engineers stood shocked as the chicken hurled out of the barrel, crashed into the supposedly "shatterproof" windshield, and led a path of destruction until it embedded itself in the back wall of the cabin. They begged the British for help. The British responded with a simple reminder: "First, defrost the chicken!" Try not to neglect the obvious as simple solutions are often the best.[31]

The fourth principle of creativity is to look at things from multiple perspectives. For example, by the early 1970s, after the Israelis' capture of the Gaza Strip in the 1967 Six Day War, the Gaza Strip had become a veritable hornet's nest of terrorist activity which required a creative solution to curb. Bombings and shootings were daily occurrences and the Israelis had all but lost control over the violent refugee camps, which proved to be sanctuary for terrorist groups and their leadership. One particular group that was effective in its terrorist attacks was the Popular Front located in Beth Lahia, a terrorist stronghold in the south of the Gaza Strip. Its leadership was secretive and difficult to locate in the staunchly supportive, crowded, refugee camp. The Israelis required a creative solution. In response, in 1971, the secret Israeli Defence Force (IDF) Rimon Commando Unit departed from the Israeli port of Ashdod in foul weather in a clapped-out boat. They spent the night at sea in a storm and the following morning raced through the swells and large breaking waves to land heavily on the beach. They waded ashore - fatigued, clothes rumpled, stubble evident on their unshaven faces – all indicative of a long hard journey. As they emerged from the water, they raced off as on their heels was an Israeli torpedo boat that was firing at them. Children who had witnessed the events quickly led the commandos, who were posing as terrorists, to safety in an orchard where they hid as Israeli soldiers seemingly searched for them along the beach. Late that night an armed Palestinian found them in the orchard and asked who they were. The commandos replied that they were members of the Popular Front for the Liberation of Palestine from the Tyre Refugee Camp. They explained that their Commander had sent them with money and weapons to meet with the Popular Front commanders in Beth Lahia to coordinate operations. The following morning several armed terrorists escorted the commando members to an isolated house in the Jabalia Refugee Camp. Shortly after which the leaders

of the Popular Front arrived. The commando leader asked if the entire leadership was present. When he was told they were, he looked at his watch, a prearranged signal to the other commando members. At that moment they all pulled their pistols and shot the entire leadership of the Popular Front and their bodyguards. They then entered the teaming streets of the refugee camp and disappeared in the sea of people and made their way safely to the border.[32] Clearly the IDF had tried to see the perspective of the terrorists when formulating their plan rather than simply looking at the issue from a defence paradigm.

The final principle of creativity is to have fun in the process. Creative ideas are much more apt to occur while you are enjoying yourself. For example, a team from the Combat Applications Group (CAG) was deployed to Bosnia- Herzegovina to capture a number of Persons Indicted for War Crimes (PIFWC). Human intelligence provided information that one of the top ranking PIFWCs, (along with his body-guards), were scheduled to enter the country through a rural back road route over a two day period. The area through which the two vehicle "PIFWC" convoy was to pass was not overly friendly to Western North Atlantic Treaty Organization (NATO) personnel. Significantly, CAG had developed a "concussion-type" round that when fired at a vehicle created an effect that would stun and disorientate the passengers of a vehicle. It provided a potential solution to the team's problems. Nonetheless, to be effective, the round had to impact dead-on. Therefore, they had to ensure the vehicle slowed down sufficiently to enable the necessary shot. As such, in addition to carefully selecting the location, they needed a distraction. They decided to have an individual dress up in a realistic gorilla costume that would, due to the "WTF" value, cause someone to slow down to take a hard look at what they thought they had just seen. The CAG team also developed a "spike strip" that would deflate the tires on the vehicles and would hopefully not be noticed because of the gorilla. Apparently, they eventually caught their PIFWC utilizing the above plan, or at a minimum they attempted the rescue, as a local reported having seen a Sasquatch in the area. It is worth noting that while formulating the plan, the team who was comfortable and familiar with each other had a great deal of fun thinking of creative ways to stage a distraction.[33]

| The Five Principles of Creativity | |
|---|---|
| 1 | Do NOT judge |
| 2 | Focus on the core issue |
| 3 | Keep things simple |
| 4 | Look at things from multiple perspectives |
| 5 | Have fun! |

FIGURE 3. The Five Principles of Creativity

In addition to following these five principles of creativity, there are two specific things to try if you are stuck on a problem and are having trouble coming up with a creative solution. First, stop thinking about it. A lot of research suggests that when you stop focusing on a problem and let your mind wander that is when you will have that "eureka" moment and actually be able to just see the solution. The second thing you should do is physical activity. Recent advancements in neuroscience have been able to provide scientific proof of the connection between physical activity and increased mental ability which can lead to creative ideas. Essentially, if you are having a creative block, change your environment, think about something else and get active. With any luck the solution will present itself.

Indeed, creativity can take many forms, particularly if you are not encumbered by ethical behaviour. For example, during the Second World War, Major David Stirling was faced with the perennial problem of procuring the necessary resources for his "L" Detachment, Special Air Service (SAS), in North Africa. As such, when opportunity presented itself he was quick to seize it. On 8 August 1942, he was invited to a dinner with British Prime Minister Winston Churchill and the Commander-in-Chief of Middle East forces in Cairo. Before the evening was out, Stirling requested the autographs of the two men on a piece of paper as a "souvenir". Once back in unit lines, Stirling typed "Please give the bearer of this note every possible assistance" above the signatures. He then passed the note to his supply officer who now discovered that the note made acquiring supplies, vehicles, weapons and ammunition amazingly simple.[34]

Creativity is often the offspring of necessity as the above example illustrates, but importantly it needs not to be. By engaging in the five principles of creativity and fostering an environment that is conducive to creative thought

and discussion, creativity can flourish. Additionally, and importantly, it can thus be practiced and improved upon prior to being tested in battle. For this reason, engaging in a creative pursuit should be a daily occurrence.

# CHAPTER 5

## Emotional Intelligence

In today's world, your emotional intelligence will go a long way in determining how great of an impact you will have. Nonetheless, the word "emotional" tends to have a negative connotation, particularly within the military where the perceived weakness of the term is even further underscored within the Special Operations Forces (SOF) community. For instance, being emotional is generally considered a negative attribute that stands in stark contrast to the tough, warrior spirit that envelops SOF. Those who are thought to be emotional are thought to be "SOFT" not "SOF".

While there is a rise in respect for the "soft" skills required to perform many SOF tasks, particularly those associated with traditional Special Forces (SF) roles, such as unconventional warfare (UW) and special warfare which entail working with indigenous populations, there still remains some reluctance to prioritize soft skills in SOF education and training. These negative associations and lack of prioritization with regard to training and education are lamentable because emotions are in fact at the heart of decision-making and, indeed being able to even make a decision, which is without doubt a skill that nearly all SOF members consider essential to doing their jobs effectively. Additionally, emotional intelligence is core to being influential and having an impact without applying kinetic force, which is an area that many SOF organizations are now prioritizing. Consequently, emotional intelligence is an important area for SOF to explore and, unlike traditional intelligence measured by items such as IQ tests, emotional intelligence is a skill that can be improved upon thereby leaving no excuse to not excel at it.

Emotional intelligence can be defined as "a set of emotional and social skills that influence the way we perceive and express ourselves, develop and maintain social relationships, cope with challenges, and use emotional information in an effective and meaningful way."[35] As is evident in the above definition, there is a recognizable difference between acting emotionally and exhibiting high levels of emotional intelligence. Additionally, emotional intelligence is more than simply recognizing your own emotional state and that of others. At the center of the concept is the ability to use this knowledge

to affect desired behaviour in order to achieve an objective. As such, emotions need to be recognized and, more importantly, channeled appropriately in order for you to achieve your desired impact.

Perhaps shocking to some, emotions and the emotional centres of the brain (i.e. the prefrontal context and the amygdala), rather than the rational thought centres of the brain (i.e. the neocortex), are what is believed to enable decision-making. An often cited example for this argument is that of a high achieving corporate lawyer who faced many life-changing issues following seemingly successful brain surgery to remove a tumor. Post-surgery, the lawyer had no alteration to his IQ and showed no deficiencies with regard to paying attention and his ability to focus, but he was incapable of keeping a job, then divorced and lost his house. In desperation he consulted neuroscientist Antonio Damasio, a specialist in brain circuitry. Dr. Damasio discovered that some of the neurological connections between the amygdala and the prefrontal cortex had been destroyed during the patient's surgery. In trying to determine the effect of the loss of connectivity on the lawyer's behaviour he was given a clue when he asked to schedule their next meeting. The lawyer was fully capable of providing rational reasons regarding the advantages and disadvantages for each option but he was completely incapable of selecting a time-slot and actually making a decision.[36] This case, as well as others, has led some neuroscientists to conclude that the emotional centers of the brain are indeed key for decision-making.

While certain types of psychological disorders may distort the normal sensing and / or display of emotions in some people, emotions are generally thought to be biologically innate, universal to all humans, and displayed through facial expressions.[37] It is thus important to be able to recognize your own emotions as well as those with whom you are interacting in order to be able to exhibit high levels of emotional intelligence.

Being able to recognize your emotions sounds like a simple, perhaps even kindergarten level, task. Remarkably, however, identifying your emotions is anything but simple. Emotions are complex, deep rooted and often unconscious. Additionally, emotions generally happen to people rather than people selecting their emotions and / or emotional reaction to events. For example, for the most part one does not get up in the morning deciding to be in a rage. Rather, rage is exhibited as a reaction to perceived events.

Further, emotions can be classified by degrees. For example, annoyance, anger and rage share a common root and represent different degrees of the same emotion.

Complicating the issue of identifying your emotions is the fact that there is no consensus on how many emotions exist. For instance, Robert Plutchik created a "wheel of emotions", which identifies eight basic emotions: joy, sadness, trust, disgust, fear, anger, surprise, and anticipation. Emotions can be further categorized according to their intensity, as well as the combination of two or more basic emotions. In another study, one of the leading researchers on facial recognition, psychologist Paul Eckman, notes that there are only six basic facial expressions that are universal across cultures thereby representing six primary emotions: happiness, sadness, surprise, fear, anger, and disgust. More recently, some researchers determined that fear and surprise, as well as disgust and anger, engage the same sets of facial muscles. They hence collapse those categories and concluded that there are only four basic emotions: happiness, sadness, anger, and fear. Notably, however, they do not argue that there are only four emotions. Rather, there are four primary, or basic, emotions that can combine to create a kaleidoscope of potential emotions much like the three primary colours form the building blocks for all other colours.[38] Indeed, lists of emotions based on these primary emotions, (regardless of whether you count eight, six or four emotions as being primary), appear to be endless. As such, being able to identify your emotions is certainly not an easy task.

While being able to identify your emotions may not be an easy task, it is essential in terms of effective communication. You may be able to deny emotions to yourself but your facial expressions, and generally your body language as well, do not lie. Additionally, without being aware of your emotions, you will not be able to mask them from others either. While you may deny being angry to yourself, it is less easy to hide this feeling from your audience.

Additionally, the first step in being able to control your emotions is to be able to identify them. You need to address what you are feeling and evaluate whether or not that emotion will help you further your objective. If yes, then you should embrace it. If no, then you need to identify where it is coming from and change it or, at a minimum, hide its expression as much as you can.

Importantly, identifying an emotion is not as easy as saying "I feel ….". Indeed, if you can replace the word "feel" in your sentence, with the word "think", then you are not correctly identifying an emotion. For instance, when asked to identify an emotion, especially within a context of a personal disagreement, many people may say, "I feel that you are angry because …" and consider that they have expressed a true feeling. In this case, "I feel" can easily be replaced by "I think" and all the person is doing is deferring his / her feeling and, not only focusing on the other person's feelings, but claiming expertise in this area when s/he has yet to master their own emotions. The comment, "I am upset because I think you are angry …" invites much more openness and dialogue than the former statement of knowledge concerning someone else's emotions will generally elicit.

Additionally, feelings should not be confused with sensations. For example, the statement "I feel hungry" is often misused as hunger is not a feeling but rather a sensation. One might feel annoyed because of hunger, or as has become popularly expressed through the term "hangry", you might feel angry because of a perceived empty stomach. Importantly, being hungry or thirsty are not feelings, they are sensations and should not be confused for true sentiments of feeling.

While identifying emotions may not be easy, there are some steps that you can take to improve your ability at this task. Since emotions are generally connected with facial expressions, it is possible to learn the basic facial expressions associated with the four (or six or eight) primary emotions and then practice recognizing them when looking into a mirror and then simply being able to feel their sensation on your face. Once having become proficient in this task, you can then work on identifying the basic emotions in the facial expressions of others. Of course, the range of emotions is far greater than simply their building blocks and you will need to learn to identify more than just the primary emotions.

One tool to help build your ability at expanding your capabilities at emotional recognition is to expand your vocabulary. While categorizations are social constructs and thus one can argue that the items in a category could exist equally well without categorization, humans love to categorize items in order to make sense of some of the complexities of the world. Language is a tool for such categorization and precise language provides more precise

meaning than general language. As such, expanding your emotional vocabulary enables you to increasingly identify subtleties in emotional expressions.

Once you can identify precise emotions, you need to surpass the simple identification phase and jump into the foundation of the emotion by figuring out why / how you feel that way and / or why / how someone else feels the way s/he does. Again, this process is not easy and involves a lot of introspection. Sadly, introspection is not a practice that many people indulge in regularly.

In order to help you identify why you feel a certain way, you should begin thinking about the most obvious reasons for such a sentiment. When you are thinking of these reasons you need to gage how your emotion reacts when the thought is in the forefront of your consciousness. Is the emotion getting stronger or weaker or staying the same? Go through this process and see the differences in how you react on an emotional level. When your emotion tends to grow with a particular thought, then it is likely that you are getting at the reason why you feel a certain way. You should remember though that there can be many reasons that combine to make you feel a certain way and not all emotions will have just one, single driver.

In trying to determine why someone else feels as they do, you can ask questions and hope for an honest, reflective response. More telling, however, will be to pay close attention to facial cues when the person is responding. If the facial expressions associated with a certain emotion grow stronger, you are probably hitting on the right source(s). In general, people can much more easily lie with words than they can with facial expressions, even if the expression crosses the face for just a microsecond, often referred to as a micro-expression.

Ultimately, in order to be emotionally intelligent, not only do you have to recognize your emotions and those with whom you are interacting, you additionally have to own the emotional space in which you are operating. You absolutely need to be in control of your own emotions so that you can exhibit the correct emotions for the situation. Once you can recognize your emotions and you know where they are coming from, then you can practice controlling them and exhibiting the emotion you want to portray. Given that most situations will elicit an emotional reaction, you may be able to anticipate your emotional reaction ahead of time and, if it is not optimal for the

situation that you are going to be in, you can prime yourself and thus prepare yourself to exhibit an appropriate emotion. For example, taking deep breaths can prime you to be relaxed whereas, conversely, listening to heavy metal music can prime you to be more aggressive. Importantly, recognizing and controlling your own emotions, combined with the ability to recognize and influence the emotions within others will enable you to own the emotional space. This final stage is crucial as the person who owns the emotional space will have the biggest influence in the group. (See Figure 4.)

| The What, Why and How of Emotional Intelligence | | |
|---|---|---|
| **WHAT** | **WHY** | **HOW** |
| **1** Appreciate the power of emotions space | People are swayed by emotions, not reason. | Reflect on big decisions that you make and why you decide as you do;<br><br>Observe what drives decision making in others; and<br><br>Practice focusing on your emotional intelligence and observe how your ability to influence others is affected. |
| **2** Be able to identify your emotions | Just because you cannot recognize your emotional state, does not mean you are void of emotion – emotions are omnipresent whether they are conscious or not; and<br><br>Your emotions will drive your decision making. | Be introspective and spend the time and energy in reflecting on your feelings;<br><br>Develop your emotional vocabulary;<br><br>Recognize your facial expressions and what emotions they represent |

cont...

| | | |
|---|---|---|
| **3** Be able to identify emotions in other | People are driven by their emotions and you can use this space to increase your influence. | Recognize facial expressions and what emotions they represent;<br><br>Learn to read subtle cues within body language; and<br><br>Identify speech patterns that suggest an emotional connection and / or highlight areas of importance. |
| **4** Prepare | Emotions may drive decision making but you are not a slave to your emotions. | Predict what you might expect to feel in a certain situation; and<br><br>Prime yourself so that you exhibit the most appropriate level of emotion to further your objectives. |
| **5** Own the emotional space | The person who owns the emotional space will have the biggest influence in the group. | Recognize your own emotions and those of others and mitigate the space so that you demonstrate the most effective emotions to achieve your objective while simultaneously being able to play to the emotional space of others. |

FIGURE 4. The What, Why and How of Emotional Intelligence.

## METHODS FOR DEVELOPING YOUR EMOTIONAL INTELLIGENCE

There are many different tools available that can help you develop your emotional intelligence. The following section is not an exhaustive review of items that may help you develop your emotional intelligence. Rather, this section

highlights several methods that can be used in this process. There is no single best method for everyone and instead individuals should discover what methods work best for them while recognizing that they are not mutually exclusive and results will generally be optimized if a variety of methods are employed.

## The Use of Narratives

Narratives are an excellent way of getting your points across as people like stories. In particular, people remember and act on stories that they can relate to – in essence, stories that they can build an emotional connection with. As *Black Swan* author Nassim Nicholas Talib observed, "Metaphors and stories are far more potent (alas) than ideas; they are also easier to remember and more fun to read. … Ideas come and go, stories stay."[39]

The emotionally intelligent person is able to provide valuable information and wisdom in the form of narratives that his / her audience can relate to. In this manner s/he is able to create an emotional link between the audience and the narrative. It is this relatable, emotional connection that will make the story both memorable and actionable. As author Dan Gardner remarks, "People love stories about people. We love telling them and we love hearing them. It's a universal human trait, and that suggests to evolutionary psychologists that storytelling – both the telling and listening – is actually hard-wired into the species. …"[40]

Additionally, the emotionally intelligent person recognizes the value of narratives and knows that to challenge a narrative the best option is to provide a relatable counter-narrative. As Talib also captures, "You need a story to displace a story. … If I have to go after what I call the narrative disciplines, my best tool is a narrative."[41]

Good stories do not just happen, however. Instead they need to be developed with the target audience in mind. You can improve your efficacy in doing so with practice. Debates are a good way to see who can use narratives in the most convincing manner. Additionally, retention is a good measurement of a successful narrative – do people actually remember the story in a day, a week, etc. and is it still impactful?

Emotions are so powerful for decision-making, and in fact, arguably, essential to decision making, that they often override data and argument in terms

of swaying opinion. Narratives is thus a powerful tool to help you harness the power of emotional intelligence.

## Emotional Intelligence Measurements / Assessments

There are currently a number of tools on the market that purport to measure emotional intelligence. As you can imagine, emotional intelligence is not as easy to measure as your weight or height.

While there are several scales that claim accurate and reliable measurements, the act of measuring emotional intelligence is both an art and a science. Unlike weight which is reported as an exact measurement regardless of your scale (i.e. pounds or kilograms, for instance), the different tools used to measure emotional intelligence may not be directly transferable. Additionally, the quality of emotional intelligence assessments is not universal.

As such, the use of an emotional intelligence assessment tool to help gage levels of emotional intelligence within a group should be done with caution. At a minimum, the measurement tool should be tested for validity – does it measure what it claims to measure – as well as reliability – are measurements stable and consistent.

If a test is deemed both reliable and valid, it may be a good tool to use in assessing, and later developing, levels of emotional intelligence. Having a measurement does not change anything – i.e. having a high or low emotional intelligence score does nothing to alter your actual emotional intelligence. A measurement, however, especially one that is broken down into scales and subscales based on competencies, can help you highlight strengths and weaknesses. This delineation is particularly useful if the score is derived from a multi-rater assessment. Once strengths and weaknesses are identified, desired areas of improvement can be targeted. Notably, simply because you have a low score in some area of an emotional intelligence test does not necessarily mean that you will want to improve this area. For instance, in jobs that may require lethal action, high levels of empathy may not be strongly associated with success. It is important to remember that measurements are just that: measurements. On their own, they do not indicate whether or not something is good or bad.

Assessments and measurements of this nature are most effective when coupled with the appropriate feedback. Consequently, free online tools should be taken with an especially big grain of salt, whereas assessment tools that provide individual, personalized feedback should be generally preferred, especially if the feedback is interactive (i.e. face-to-face or via on online tool that allows for interaction).

## Personality Tests

Like emotional intelligence tests, personality tests should be taken with a grain of salt but they can also provide keen insight into individual preferences and tendencies and thus can be very useful tools in helping you know / understand yourself. This benefit is underscored with the right feedback.

Personality tests cannot tell you who you are but they may provide insight into some of your preferences and / or inclinations. For instance, are you more naturally an introvert or an extrovert? Do you prefer direct or indirect communication? Etc.

Appreciating some of your general traits / attributes can shed light not just on some aspects of how and why you do the things you do, but, importantly, looking at the ranges within the variety of scales can help you appreciate why others may do / act the way they do. In essence, understanding yourself via these means can also help to provide insight into understanding others as well.

## Coaching

Coaching is a valuable tool not just in terms of improving levels of emotional intelligence but for many other aspects of self-development as well. Arguably, it is one of the most effective ways to receive feedback on either an individual assessment / test or in more generalized areas.

Unfortunately, there is no single best model of coaching. The correct coaching model should be selected based on the organization's and individual's needs and the compatibility of the coaching method to deliver on those needs.

While there are no legal criteria for "life coaches" in Canada, there are a number of different certifications available. Time should be devoted to

finding a compatible certification method that is reputable. In general, uncertified coaches should be avoided.

A good coach should be able to understand why and how you do what you do and, most importantly, help you build pathways to succeed in the way you would like yourself to behave in the future. Specifically, in terms of developing emotional intelligence, a coach should be able to help you see your strengths and weaknesses, and what areas should be improved upon in order to achieve your goals.

Importantly, a coach's role should not be to tell the client how s/he should behave. Instead, coaches should help their clients gain insights into their own behaviours and motivation. In this manner, coaches help guide their clients towards finding pathways to success. With regard to emotional intelligence, a coach should help a client understand his / her current level of emotional intelligence and help them facilitate manageable, achievable steps for improvement in desired areas.

## Self-awareness Exercises

Yoga, meditation and mindfulness are three easily dismissible practices that should not be avoided or neglected due to time constraints. In the short-term, however, the likelihood of these practices being fully embraced by CAF members at large, and in particular SOF personnel, is minimal. This prediction is based on the current culture of the organization that stresses "doing" behaviours and tends to favour masculine traits over feminine ones.[42] Nonetheless, simply because these methods of introspection may currently seem unpalatable, does not mean that they are not worthy of discussion and, indeed, application.[43] If this brief introduction to these concepts does not change the way many people in the CAF currently function, at a minimum, it will hopefully help to start the culture shift and encourage the development and practice of more introspective methods in the future.

In the end, it should be remembered that the brain is like a muscle and its function can be improved with exercise. Like the development of other muscles, recovery is an important component of the brain's development. Certainly sleep helps the brain to recover. Recently, however, modern scientists and researchers are showing that the brain recovers even more

effectively during periods of relaxation often experienced in practices such as yoga, meditation and mindfulness. As travel writer Pico Iyer recently explained, "sitting still, or meditation, can lead not just to better health or to clearer thinking, but even to emotional intelligence."[44] (Interestingly, this knowledge has been around for a very long-time and practiced regularly within certain cultures but its importance is only being recently (re)discovered within the West.)

# PART III

# SKILLS

# PREFACE
## PART III

Strategic thinking can undoubtedly contribute to good decision-making and should become the default method of thinking, particularly for issues of great importance. Importantly, not only does strategic thinking aid in decision-making, it also facilitates a number of other skills that are germane to the roles and tasks that SOF perform. This section highlights some of these skills and explains why they are important for SOF to exhibit and how strategic thinking enables their development.

# CHAPTER 6
## ADAPTABILITY

*Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after they occur.*

General Giulio Douhet[45]

Adaptability is often identified as a core value within many Special Operations Forces (SOF) organizations. The meaning of this value is often associated with being flexible in thought and action at the tactical level, as well as adaptable at the institutional and strategic levels. Adaptability within this context is not generally considered reactionary and, indeed, is actually viewed as pro-active, in terms of shaping an event. Of course, the age old question of which came first, the chicken or the egg, arises in this context too. Adaptability as well as flexibility are, by their nature, a response to the environment but one can also be pro-active in these instances and shape the environment to what you want it to be.

The evolving relationships between SOF and the media is a prime example. In the American context, thirty years ago, the media had little direct exposure to SOF. There was the stuff of Hollywood movies, like Rambo, but US SOF remained out of the media spotlight unless there was some type of "embarrassment" such as the failed attempt to rescue hostages from the US embassy in Iran in 1980 and Operation Urgent Fury, part of the invasion of Grenada in 1983. On both of these occasions US SOF gained media attention for what they failed to deliver, not for what they could and did do on the ground. With no positive image to fall back on, these negative images are what resonated in the public's perception of SOF. In fact, falling on the heels of other negative images of SOF on television shows in the post-Vietnam War era, these less than stellar images were often long-lasting.

Whether SOF liked it or not, the media was becoming even more pervasive through the 1990s and into the 2000s. Also, the rise of social media was starting to define and shape how people see the world. For an organization

that is at least partially reliant on public support for budgetary purpose – for example, US SOF budget post-Vietnam, at its lowest point in 1975, was one tenth of one per cent of the total American Defence budget, SOF needed to have a good media projection.[46]

From the 1990s onward, it was no longer good enough to remain in the shadows and to hopefully cope with the glare of the media when something went bad. American politicians and decision-makers recognized that they had to adapt to the growing power of the media and shape it to their advantage.

In fact, in Iraq some US SOF went in with cameras mounted on their helmets. Interestingly, the cameras were not just to gain a tactical advantage, they were deliberately being used for strategic messaging. For example, on 23 March 2003, US Private (Retired) Jessica Lynch was captured by Iraqi forces. Just over a week later, on 1 April, she was rescued by Navy SEALs and Army Rangers. Her dramatic rescue became a media sensation. This media coup was aided in part by the film footage that American forces produced with helmet mounted video cameras. Importantly, the event occurred at an opportune moment for the US government as Americans were questioning the invasion. Following the news coverage, surveys showed that US citizens were much more optimistic and supportive of the war in Iraq. Importantly, two weeks after the "rescue", the heroism of American SOF on this mission was partially discredited when the "truth" was revealed. First, the only reason that Lynch needed to be rescued was because the ambulance that had attempted to deliver her to a US checkpoint had been fired on. Second, at the time of the "rescue," there were no enemy present, only medical practitioners and patients. Nonetheless, the dramatic images of SOF rescuing Jessica is what remains dominant in many people's minds. Regardless of the truth, it is that video coverage – those powerful images of capable US SOF – that has stood the test of time.

The point is that the Americans seem to have fully adapted to the new media reality of the 21st Century. Obviously, some SOF commanders and US decision-makers recognized that their media policies of the 1970s, 1980s and 1990s were not effective in this day and age. As such, they adjusted their behaviour to have a desired effect, in essence, they adapted.

While adaptability is about change and adjusting your behaviours in light of new information and or a change of situation, adaptability is about more than just change. At its basic level, adaptability can be defined as an effective change as a response to a new situation. As such, adaptability is not simply about change, as the important element is achieving a desired effect through such change. In the example of US SOF and their relationships with the media, it is not so much that Americans developed a more open policy toward media exposure, it is that they did so to effect a desired result, (arguably, appropriately timed with budget cuts that in the end affected SOF far less than the other Services).

In order to be adaptive, to create a change in order to achieve a desired effect, you thus need to have two factors present:

1. You need to recognize the need to change based on some current or future perceived alteration in the environment. Ultimately, you have to recognize that what you are doing is, or will be, no longer effective; and

2. You need to change your behaviour as appropriate to achieve your desired aim.

Viewed in this way you can see how even though you are "reacting" to a change or perceived change in the environment, you are not being reactive, you are being "proactive" and making the change in order to continue to achieve your desired effect in a dynamic and often complex environment.

Adaptability should be considered a proactive skill because it requires consciously changing behaviours in order to continue to shape the environment to achieve a desired impact. It is also a learned skill that can be improved. The world is dynamic, it is constantly changing, and the only certainty is that nothing stays the same. As such, in order to succeed adaptability is essential. This process is not always as easy as it sounds, however. For example Mary Bloodworth, a former Deputy Minister of Public Safety and Emergency Preparedness, as well as a former Deputy Minister of the Department of National Defence, insisted on the need "to stress that we need fresh insights, new ideas and a willingness to not only think outside the box, but to recognize that the whole idea of neat little boxes is passé; that modern-day interconnectedness calls for new ways of approaching and interpreting

intelligence material." She added, "that does not mean we should neglect the ways of the past, but we can't assume that because something has always been done that way, we must do it that way."[47]

Evolutionary theorist / scientist Charles Darwin stated, "it is not the strongest species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change." Viewed in this light, one would be hard-pressed to argue against adaptability. Nonetheless, while the benefits of adaptability seem obvious, humans are actually quite resistant to change. As sociologist and former military officer Charles Cotton observed, "officers are generally quite conservative beings, and so are NCOs [noncommissioned officers] … on the social dimensions they're profoundly conservative, [and] resistant to change." He insisted, "They tend to get a mindset that locks into certain ways of doing things."[48]

Indeed, in general, people are creatures of habit no matter how much you want to fight it. In fact, there are numerous reports that suggest that people are most stressed when they need to change or adapt behaviour. As such, identifying some of the common reasons for why we may not want to adapt or change your behaviour, as well as underscoring the importance of adaptability and how you can improve your ability at this skill are first steps in mitigating some of this resistance to change.

There are numerous logical and common reasons for why change is often met with resistance.[49] Simply because they are common and understandable, however, does not mean that they are valid reasons to delay adaptability. These reasons include:

1. Failure to Recognize the Need to Adapt. As noted, recognizing the need to adapt is a pre-requiste to being able to adapt. If you cannot foresee that the environment is placing new demands on you, then you are not going to be able to adapt. For example, relying on SOPs because they have worked before and not examining whether or not old SOPs are still the best way to do things is an example of a potential failure to recognize the need to adapt. Furthermore, this behaviour can lead to being stuck in a "SOF box". For instance, one SOF unit was so sure that they were ahead of the game on everything that they were doing that they never bothered to explore what other units were doing. Consequently, they were stunned in theatre when

they realized that their sniper equipment was outdated compared to others. Simply put, you do not know what you do not know. This line of argument is not to suggest that change for the sake of change is worthwhile, (although it can be in some contexts but not with respect to what is currently being explored). The issue is to not be complacent. Nothing in nature is static and despite a natural tendency to not want to change, it is important to continually assess the environment and make sure that you are still achieving your desired effect;

2. Being comfortable with the Status Quo. If you like the way things are going and everything is going in your favour, then you are less likely to notice the need to change and will be less internally driven to adapt. Additionally, and importantly, if you like the way things are done you will value that way of doing business as well as those who taught you the system. When you ask people to change the way they do things, you are also asking them to change the way they see themselves and thus reshape their identity which is never an easy task. More importantly, you are asking them to disconnect not just with the old ways but with the people who taught them the old ways. Once you have gone through a process to become a member of a group, you become connected to the process and to the people who put you through that process. You see it as a necessary step in belonging to the group. When people try to force change to that process not only is the way that you identify yourself as part of the organization at stake, but so is your connection to the people who put you through that process. In this way the change means that the people that you admired and were part of the old group are no longer being respected or valued;

3. Fear: Even if you recognize the need to adapt, you may fear that you will not have the required skills demanded after adapting to the environment and / or you may fear that your status will be diminished after the change. These are fears that people will seldom admit. Nonetheless, sometimes a change in organizations necessitates changes in skills, and some people will feel that they may not be able to make the transition very well. This fear represents a big obstacle to change as most people do not want to change the rules of the game when they are good at the old way and maybe not so good at the new way. For example, do we continuously stress direct action (DA)

missions as being a key element of SOF because SOF are historically good at them. Conversely, do we look at military assistance (MA) type missions as important but not bread and butter type tasks because we do not specifically select individuals who are good at these skills, (although often the assumption is made that someone who is good at DA can easily be trained to be good at MA missions as well. Arguably, this assumption itself represents a failure to adapt.); and

4. Failure to see Alternatives. If you cannot figure out how to adapt in order to achieve your desired effect, you will end up being comfortable with the way things are.

What it comes down to is people resist change because we already think we are the best at what we do and we like it, we fear that our status might drop if the playing field changes, and we fail to see the potential in alternatives. Competence, confidence and communication are three skills that when combined help to effect desired change and encourage adaptability.

Adaptability is about having an effective change in response to an altered situation. While adaptability can be defined by this overarching statement, it is a multifaceted construct with several distinct dimensions. In order to be adaptable – in order to achieve that effective change in response to an altered situation – you need to have three overarching types of adaptability: mental; interpersonal; and physical. Importantly, it order to really demonstrate adaptive proficiency you are likely going to have to be good at mental, interpersonal and physical adaptability all at once.

## MENTAL ADAPTABILITY

Mental adaptability refers to adjusting thinking in new situations to overcome obstacles or improve effectiveness. Mental adaptability represents the cognitive / thinking piece. In order to be able to come up with a new solution you need both general cognitive ability, and domain specific knowledge and experience. That general cognitive ability – sometimes measured by IQ tests – refers to problem-solving and decision-making skills, in essence those critical and creative thinking elements. It also refers to meta-cognitive skills – being aware of how you as an individual think, in essence thinking about thinking, and knowing your cognitive biases, (which will be discussed later), for example.

Being a "deep thinker", however, does not necessarily mean you have the cognitive ability to be adaptable. You also need domain specific knowledge and experience. You need to understand the environment you are operating in – for example, to fix and adapt to a mechanical problem, you need to know how the machine works.

Past experience – both your own and that which you have garnered vicariously – within the domain will help you be able to problem solve. Past experience with adapting will also help you have confidence in your ability to adapt. Additionally, feedback can help you identify what you did right, what you may have done wrong and, importantly, what options you may have completely missed and can thus help enhance your knowledge and your confidence.

## INTERPERSONAL ADAPTABILITY

Interpersonal adaptability means adjusting what you say and do to make interactions with other people run more smoothly and effectively. It is reliant on your emotional intelligence levels.

Not surprisingly, in order to be able to demonstrate interpersonal adaptability, you need the following:

1. To know yourself. You need to understand how you think – that cognitive piece again – and you need to appreciate your predispositions to certain types of thought patterns and behaviours, meaning that you need to understand your personality traits. For example, are you an introvert or an extrovert? Are you open to new ideas or are you particularly tied to the way things are done? There are no "right" or "wrong" answers. Rather, everyone has their own predispositions and it is good to be aware of them;

2. To be aware of how others think and appreciate their personality traits. First of all, with this understanding you will be better able to predict and change their behaviour if required. And, secondly, you will be better able to understand how they see you and how they might be trying to influence your behaviour; and

3. To have good communication skills. You need to be able to adapt your behaviours, speech and writing – and any other forms of

communication – so that they will have the desired impact on your target audience. Importantly, non-verbal visual cues are often the strongest forms of communication and yet generally little attention is paid to them when preparing to address people, especially when compared to the amount of attention spent on deciding what to say in a public address.

## PHYSICAL ADAPTABILITY

Physical adaptability means the ability to adjust to tough environmental states such as heat, cold, etc. and / or pushing yourself to your physical limits while still maintaining mental an interpersonal adaptability. Most importantly, this type of adaptability allows you to meet / face physical requirements and still be able to think throughout the process. It is the ability to do something that is physically exhausting and still have that mental prowess at the end of it that is so important for SOF.

## COMPETENCE, CONFIDENCE AND COMMUNICATION

Adaptability is about achieving your desired impact in any given situation no matter how much the execution differs from the planning. At its core, it is about having the competence, confidence and communication skills to be able to alter your behaviour when required in order to achieve your desired aim.

For SOF in particular, adaptability requires that you maintain focus on the big picture – the desired strategic effect – and adapt your behaviour when necessary to achieve the desired effect. Excellent tactical ability is not important on its own; rather, it is how those tactical actions impact strategic aims which are vital.

For example, during the Second World War, against all odds, Lieutenant David Stirling convinced senior commanders in North Africa through his confident salesmanship that he should be given authority to raise a special group of individuals that would parachute behind enemy lines and destroy German aircraft, infrastructure, equipment and resupply depots, as well as kill enemy soldiers. As a result, on 4 September 1941, Stirling stood up "L" Detachment Special Air Service Brigade. On the night of 16 November,

Stirling's crew set out, as originally envisioned, to parachute behind enemy lines twelve miles from the coast and conduct a series of raids on German airfields as a prelude to a major British offensive that was to start in two day's time. Once the raids were completed, the sabotage parties were to march fifty miles into the desert where they would rendezvous with the Long Range Desert Group (LRDG) who would then ferry them back to friendly lines. Notably, Operation Squatter, as it was called, was a huge failure. Terrible weather conditions and high winds ensured the drop was a disaster. The raiding parties were scattered, many were injured and most of the containers housing their weapons and explosives were lost. Of the fifty-five men who set out, only twenty-one returned. Stirling quickly learned his lesson. Parachute insertion was a fickle endeavour. He soon realized that if the LRDG could pick them up, why not deliver his raiders to their objectives. As a result, the SAS adapted their method of entry. LRDG patrols inserted the raiders close to their objectives. Then the SAS soldiers would infiltrate on foot from a short distance, set the explosives and then withdraw to an agreed rendezvous point where they would link up with the LRDG. This methodology was used to good effect for six months. However, once the SAS became sufficiently expert at desert navigation and travel, Stirling realized that raids could be even more effective if they possessed their own transport equipped with heavy machine-guns. They could then race onto airfields and other bases shoot up aircraft, buildings and other equipment, as well as drop off individuals to plant bombs, and then as quickly as they arrived, disappear in the night. By the end of the desert campaign the SAS destroyed approximately 300 Axis aircraft, a tally greater than that of the Royal Air Force in North Africa.[50]

As this example underscores, competence, confidence and communication are indeed the pillars of adaptability. Importantly, they are all skills that can be practiced and improved upon.

# CHAPTER 7

## Innovation

*Successful innovation depends on leaders advocating for their intellectual preparation of military personnel and for innovative ideas.*

Mick Ryan
"Mastering the Profession of Arms"[51]

Innovation has recently become a popular buzz-word within the defence community, in the near past often being used synonymously with, or even replacing, the expressed need for creativity within the Special Operations Forces (SOF) community. The two concepts, however, are distinct. In simple terms, innovation can be considered as the application of creative ideas to meet the demands of the environment and to shape them to a desired end state. As such, while creativity is about having novel ideas to solve problems, innovation is about applying a novel solution to current as well as projected challenges. It is about discovering and implementing a better solution to meet the demands of the environment, often through the use of technology. Importantly, innovation requires more than simply creativity to develop. Indeed, innovation requires all of the building blocks of good strategic thinking – critical and creative thinking, as well as emotional intelligence.

In order to be innovative, you first need to apply critical thinking to understand what the issue is actually about. Innovation is about applying a novel solution to an existing or foreseeable problem and, consequently, you need to be certain of the issue that you are trying to resolve / mitigate. Once you know what the issue is, you need to figure out how to solve it, often by applying creative thinking to the problem. It is important to be open-minded and look at the problem from a variety of perspectives. For this reason, innovation is often the offspring of collaboration and interactive processes in order to achieve a desired impact. As such, emotional intelligence is also a key component to innovation as it requires working well within diverse groups.

Nonetheless, while strategic thinking is a necessary element for innovation, it is generally not sufficient. The idea of collaboration within the innovation process is particularly important to tease out with regard to how it applies within a military context and, in particular, a SOF paradigm as it highlights a paradox between the needs for containment and secrecy, and the requirements to be open and collaborative.

Two conditions for innovation have been cited as human generosity and technology.[52] Importantly, both facilitate, and arguably are necessary, for collaboration on a large scale. Wikipedia is a good example of this type of innovation. Essentially, people contribute to the website on their own time through a desire to share knowledge, which is (somewhat) self-regulated by the collective body of those who contribute and use the website. Uber, an alternate to taxi use, is another example of innovation that has relied on technology and human generosity – although drivers do get paid, the system relies on passengers to rank their drivers as a means of quality control – to "modernize" an already existing service. Both of these examples, of which there are many others, illustrate the requirement of ideas to be open-sourced and readily available to the general population. In effect, the power is being given to the people who are intrinsically motivated to uphold their perceived social responsibility.[53]

The idea that innovation is driven by open-source collaboration facilitated through technology is particularly important in a military context because it is in opposition to the principles of large bureaucracies, which instead rely on controlling information and solving problems within a contained environment. For example, think back to the story about the different solutions that the US and the Soviet Union came to in order to be able to write in space which was presented in the section on creativity. It is not difficult to imagine that had the internet been available and the issue posted to a general audience a quick and easy solution like the pencil would have presented itself to the American side as well prior to having spent millions in the research and development. The big problem is that governments and militaries are generally insular and seek to solve their problems in-house. As a result, they are often limited in terms of available knowledge and perspectives.

Consequently, the first issue that needs to be resolved in order for militaries to be innovative is one of ego. There needs to be a growing acceptance and,

indeed, appreciation that people without military training can contribute in a meaningful way to solving military problems. Additionally, while operational security (OPSEC) should always way heavily in importance, more transparency about roles, functions and issues, is required if collaboration is going to happen.

If information was once seen as power, the 21st Century is now suggesting that relationships are the new currency of power. Knowing how to solve a problem is not nearly as important as knowing someone who can solve the problem and being able to access his / her expertise. Once a more "open-source" approach is being taken, then knowing what questions to ask and to whom to ask them are the next steps. Importantly, applying strategic thinking can help to resolve these concerns.

Other challenges to innovation are similar in principle to the challenges of adaptability with one noticeable difference: risk. Innovation is often a high-risk pursuit. Ultimately, innovation involves transforming the way something has been done based on newly available alternatives enabled by technology prior to the original method being fully obsolete. For example, Netflix adapted to new emerging technologies and changed the way it delivered movies and television shows. Blockbuster did not and became obsolete. The failure to innovate in an increasingly globalized and open-sourced world can be catastrophic. Nonetheless, putting resources into as yet untried and untested course of action (COA), especially if human lives are on the line, can be equally as catastrophic.

Innovation is an idea that should neither be applied nor rejected lightly. If the military and SOF organizations are serious about the need to be innovative, however, then the conditions of human generosity and technology cannot be ignored. In particular, more diverse people need to be brought into the solution space, as the following cautionary tale suggests.

## A CAUTIONARY TALE FOR ELITE ORGANIZATIONS: DEAD CHICKENS AND UNFULFILLED POTENTIAL

SOF have challenging selection and training processes to help ensure that they are representative of the "best of the best". In fact, selection and training criteria often lead to a tiered system within the SOF community resulting in

perceived differences in status based on trade, as well as unit. In this manner, each SOF organization (e.g. CANSOFCOM, United States Special Operations Command (USSOCOM), etc.) will have in effect an "A-Team", as well as others. While this stratification is rarely overtly discussed and can foster a degree of healthy competition between units, not so favourably, it can also hinder collaboration, an essential element of innovation.

What may be surprising to some is that selecting the best of the best and grouping "Type-A" personalities together may actually inhibit innovation and effective team work, the exact opposite of its intended purpose. To help illustrate this point, in a Ted Talk about high-achieving teams, former Chief Executive Officer (CEO) Margaret Heffernan describes experiments conducted with a group of chickens. In brief, based on egg-production, the chickens were divided into two groups – those who were high-achievers and the rest. The researchers then set out to measure the productivity of each group six-generations later. What they found was that the "regular" group was continuing at their steady rate of productivity. Perhaps surprisingly, however, the high-achievers, the Type-A chickens, had for the most part killed each other and few from this group remained. Heffernan used this example to illustrate how high-achieving individuals do not always – and, arguably, rarely – form high achieving groups. Instead, they exhibit aggression, dysfunction and waste. On the other hand, high-achieving groups are not those with the highest aggregate IQs, but rather those who exhibit high-levels of social sensitivity or, in other words, emotional intelligence, cultural intelligence and / or co-operation, and allow for equal contributions amongst members.[54]

While the chicken experiments are just that – chicken experiments – the results provide a cautionary tale for elite organizations that pride themselves on selecting the best of the best and also value team work. Teamwork is often more than the mere sum of its parts and the best individuals do not necessarily create the best teammates. For example, in his discussion of the Lebanese War, Nassim Nicholas Taleb observed that "…Nobody knew anything, but elite thinkers thought that they knew more than the rest because they were elite thinkers, and if you're a member of the elite, you automatically know more than the non-elite."[55]

Strategic thinking and, in particular, emotional intelligence, however, can help create the necessary connection for effective team work, especially

amongst diverse groups of individuals. In fact, small-teams within SOF units are generally the preferred method for exhibiting SOF power and SOF organizations tend to excel in this respect by encouraging bonds between teammates with unique but arguably similar skill-sets. Successful, diverse teams in terms of trade, unit, skills, gender, background, etc. that favour innovation tend to be less prevalent, however, and this case is underscored if you add in outside organizations such as general purpose forces, other government departments and agencies, non-governmental organizations, etc.

Of note, elite organizations should learn from the aforementioned chicken experiments, particularly if they desire to be innovative. Innovation requires collaboration and interaction, and is thus reliant on personal connections and the sharing of information. Groups of high-achievers generally do not naturally foster this type of environment. Like so many things, simply being aware of this challenge will not remove it but awareness does allow for intentional mitigation of negative effects. Strategic thinking, specifically, emotional intelligence, can help to provide the necessary skills required to help develop relationships which, in turn, foster innovation.

# CHAPTER 8

## Intuitive Decision-Making

*What are our minds made for? It looks as if we have the wrong user's manual. Our minds do not seem made to think and introspect; if they were, things would be easier for us today, but then we would not be here today and I would not have been here to talk about it – my counterfactual, introspective, and hard-thinking ancestor would have been eaten by a lion while his nonthinking but faster-reacting cousin would have run for cover.*

Nassim Nicholas Taleb
The Black Swan[56]

To this point, *Thinking for Impact* has stressed the need to apply strategic thinking in order to determine and execute the best COA. Sometimes, however, as the epigraph suggests, there is a need to trust your gut and go with your instincts. The issue of concern is when is your gut right and when might it be leading you astray, or giving you simply a fifty-fifty chance of getting things right. Interestingly, applying strategic thinking about a scenario prior to being in it can help you determine if you should or should not trust your gut in that circumstance.

The average person is exposed to approximately 400 billion bits of information per day. Approximately 2000 pieces of this information are processed by your brain, at some level of consciousness, resulting in approximately 35,000 decisions a day, or just over twenty-four decisions per minute. Strategic thinking is an effective way to process information in order to make good decisions, but no one has the mental capacity to process and make twenty-four decisions using strategic thinking methods every minute of the day, (let alone any minute of the day). Your brain, therefore, needs shortcuts. Intuition is one way that your brain helps you make decisions in the midst of overwhelming data and little processing time.

Simply because your brain is telling you to do something before you have had time to consciously process the information does not mean that you

should trust your instinct; but, equally, it does not mean that you should ignore this gut feeling either. Essentially, there are two general schools of thought on the issue. On one side, psychologist Daniel Kahneman argues that your gut is no better than chance at guiding your behaviour, although he does make the case for expert intuition being effective. On the other side, best-selling author Malcolm Gladwell argues that you can train your gut to make excellent decisions.[57] Pragmatically, Special Operations Forces (SOF) will rely on their gut instincts so the approach taken here will be to ensure that these instincts are the best they can be prior to being tested in battle and that individuals know when they should trust their gut and when they should be cautious about proceeding on instinct.

Intuitive thinking is done at the subconscious level and refers to instinctively and unconsciously drawing a conclusion without applying deduction or reasoning (e.g. critical thinking). It is about "knowing" without knowing how you know. It is generally rapid paced and, often despite lack of concrete evidence to defend your decision, intuitive thinking often "feels right" making it hard to debunk.

Even in the face of a logical contradictory argument, intuition often holds its ground through our brain's ability to rationalize. Author Dan Gardner explains, "When a woman tells a researcher how risky she thinks nuclear power is, what she is saying is probably a reliable reflection of her feelings. But when the researcher asks the person why she feels the way she does, her answer is likely to be partly or wholly inaccurate." Gardner suggests that the woman in question is likely ignorant to the testing processes regarding the safety procedures of nuclear power. He continues, "It's not that she is being deceitful. It's that her answer is very likely to be, in some degree, a conscious rationalization of an unconscious judgement."[58] Scholar and author of *Black Swan*, Nassim Nicholas Taleb provides further insight on the issue: "… our minds are wonderful explanation machines, capable of making sense out of almost anything, capable of mounting explanations for all manner of phenomena, and generally incapable of accepting the idea of unpredictability."[59]

Considering the overwhelming ability for intuition to outweigh reason, the potential benefits of intuitive thinking in a given circumstances should be considered prior to being in a situation in which you feel that you have no other alternative than to rely on your gut. If you are going to rely on instinct,

you want to make sure that you are in an environment that is conducive to relying on your gut, meaning you want to make sure that your instincts are reliable in that given circumstance.

There are four issues that you should consider ahead of time before trusting your gut. (See Figure 5.) Specifically, you should consider the following:

1. **Context**. If you want to go with your gut, you need to make sure that you are making judgments in the proper context and that your instincts are not being distracted by other elements within the environment. For instance, if you are looking for a potential terrorist based on specific criteria that do not include gender, and if you have preconceptions about women not being terrorists, do not trust your gut when evaluating female suspects as you are likely to subconsciously be using this gender bias for evaluation rather than your established criteria. In this way your views on gender have polluted your assessment of the criteria you selected upon which to determine whether or not someone is a potential terrorist. In other words, if you have strong preconceptions that are not upheld with evidence, your gut will likely default to using these assumptions which can result in errors in judgement. For your gut to be trusted, the context needs to be unpolluted by prior assumptions.

2. **Experience**. Having experience in a similar environment, (preferably the same environment, but this case is unlikely to occur), as that in which you will operate is an important element to consider when deciding whether or not to trust your gut. Being able to trust your instincts in combat, for example, is best if you have previous combat experience to rely on. Notably, though, not all combat experience is interchangeable. For example, the 21st Century "War on Terror" (particularly as being fought in Afghanistan and Iraq) is arguably being conducted in a different manner, with different equipment and different antagonists, than the Second World War was fought. Experience in one theater does not necessarily transcend time and space. Additionally, success in one circumstance may lead to a sense of false expertise in a new environment in which your gut is reacting to past experiences which are no longer necessarily applicable to the present circumstance. Experience is essential in order to make good gut decisions but the experience needs to be as replicable

as possible to the current situation for your gut to be helping you to make good decisions. Otherwise those gut feelings are as reliable as a flip of the coin.

3. **Time**. Paradoxically, given when you really want to be able to rely on your instincts, your gut works best when there are no time constraints placed on it. Experiments have shown that errors of association tend to increase as the time to react decreases. In a practical context for SOF, the faster you have to react to a potential danger, the more likely instinct will steer you wrong. For example, in deciding whether someone is a friend or foe, if the decision has to be made instantaneously, there is a higher probability of error than if you take a second to breathe and assess more of the environment. In a way, your gut is experiencing tunnel vision and you want to quickly, within a second or so, give it some oxygen and let it expand its scope. The luxury of time is not always available, however.

4. **Number of variables**. Interestingly, the more variables you have to deal with the more likely your instincts will be steering you in the right direction. For example, if you are choosing between two similar weapons with only one component that differentiates them, then you are best critically assessing the differences based on your needs in order to select the preferred model. On the other hand, if you have a choice of multiple weapons, with multiple differences between them, then you are best to go with the one that "feels" right as your instincts are probably assessing all the variables faster than your analysis would allow for. As Gladwell explains, as information levels increase, accuracy in decision-making does not have a corresponding rise. He also cautions that increased information, however, often correlates with increased confidence in decision-making and this false confidence can lead to poor decisions. He thus concludes that when there are minimal variables, analysis provides the most accurate responses; when there are numerous variables, however, he argues for the power of intuition in decision-making.[60] Notably, the SOF operating environment will generally contain numerous variables.

| WHEN TO TRUST YOUR GUT AND WHEN NOT TO | | | | |
|---|---|---|---|---|
| | Context | Experience | Time | Number of Variables |
| Trust | When judgements are made in their proper context | When you have experience in that type of environment | When you are not pressured by time | When the number of variables is high |
| Don't Trust | When judgements are made out of context | When you have no experience in that type of environment (i.e. false expert) | When you are under a time constraint | When the number of variables is low |

FIGURE 5. When to Trust your Gut and When Not to.

In addition to ensuring that your environment is conducive to relying on your gut, there are specific ways to hone your instincts ahead of time prior to needing to rely on them. The following are some ways that you can train and test your instincts:

1. **Acquire context specific experience**. Make training as realistic to the operating environment as possible. Get use to the sights, sounds and feel of the environment so that your will automatically sense alterations to it. For example, if you are going to work in an urban environment, train in an urban environment that is as close to your operating environment as possible. If you enter your operating environment and all of a sudden there are no women or children around – which happened numerous times in the Afghan Theatre of War – your gut should be screaming caution at you even before you consciously realize what the concern is. If you know you have trained in a similar environment and your gut is telling you that something is wrong, trust your instincts.

2. **Provide Instantaneous Feedback**. Feedback has been shown to be one of the most effective ways to train your gut, especially instantaneous feedback. For instance, when practicing shooting, you are much more likely to perfect your skill if you get instant feedback on how each shot was. Your gut acts in a similar way. It will make micro-adjustments if it gets the appropriate feedback. The concept of feedback is simple and, in some cases, relatively easy to provide. In other instances, however, instantaneous feedback is not possible.

One way to possibly get around this difficulty is to create scenarios that rely on the same perceptions, but in which you can actually provide feedback. For example, the feedback provided through implicit bias testing in which you are asked to immediately associate an object with a black or white face will help to illustrate if you are subconsciously applying racial stereotypes to your decision.

3. **Reflect on how and why your gut guided your decision-making.** We often rely on instinct when we feel that we have no alternative. Spend time thinking about times when you have followed your gut and the results were positive and, conversely, think about times in which your gut led you astray. Try to figure out why and how each circumstance was either positive or negative. In particular, ask yourself if you were making the decision in the right context, if you had had previous experience in a similar environment, if you were under extreme time pressures and how many variables you had to assess in the environment. In essence, see if the theory matches up with your experiences and build on this knowledge.

4. **Alter the context to see if you were in fact making a good-decision**. Sometimes when you go with your gut decisions, things might not go badly and you will never have the opportunity to see what may have happened had you chosen a different course of action (COA). Subsequently, you make the assumption that your gut was right and you carry on. If possible, try to recreate a similar scenario but alter the context to see if you would make other choices given the differences and if your gut decision was actually correct. For example, when choosing a team-mate, you may have specific criteria that are essential. If these criteria are all available through anonymous test results, and yet there is a delta between your choice based on test scores and personal interviews, explore whether your gut is telling you to go with the personal interview choice because of a bunch of preconceptions and assumptions that are actually irrelevant to the given circumstance. In this case, you may end up with a good team-mate so you may never question your gut, but you may have also missed out on having an excellent team-mate. Alternatively, your gut may have steered you complete wrong because it was evaluating other criteria – perhaps how similar the person is to you, their physical appearance, their height, all of which are proven elements in making people more or less attractive to employers and, yet, often

these criteria do little to reflect ability to do the job. When you trust your gut in the wrong context, the results may not be disastrous but you will also likely never know what you are missing out on. (Notably, I have heard of a circumstance in which members were allowed into a SOF organization because their future team-mates thought highly of them and thus ignored significant red flags that were raised during the selection process. Instead of following the strict criteria the team had established for selection, they made exceptions based on their gut feelings and likeableness of the candidates. In each circumstance, the results proved negative and the red flags that were noted ended up being validated.)

In essence, intuition can be trusted when realistic environmental training has honed the required skill-sets and when immediate feedback has been provided to further perfect the process, reflecting what Kahneman has described as expert intuition. For example, a sniper who has trained in similar situations as those s/he faces in combat might be able to rely on instinct over exact wind measurements and still be accurate. Snipers, it should be noted, often receive immediate feedback on whether or not they hit their target making it easier to make instinctive adjustments than, for example, a member of a military assistance group whose contributions may not be realized for years. Unfortunately, as Kahneman also points out, false intuition is often undistinguishable from expert intuition. Indeed, you should be cognizant before you enter a situation as to whether or not you actually have the required expertise to trust your gut in that environment.

Complicating matters is the fact that the world is not predictable, making past experience a less than optimal indicator of future success. Taleb explains, "People in the classroom, not having faced many true situations of decision making under uncertainty, do not realize what is important and what is not – even those who are scholars of uncertainty (or *particularly* those who are scholars of uncertainty)."[61] While Kahneman ultimately argues that intuition can be accurate as long as the variables are the same, life clearly does not work that way. As such, intuition in general causes errors in judgment according to Kahnman.

Not all scholars have been so pessimistic about the power of intuition, however. Albert Einstein is purported to have commented, "The rational mind is a faithful servant and intuitive mind is a sacred gift," as he pondered, "We

have created a society that honors the servant and has forgotten the gift." Gladwell in his aptly titled book *Blink* also argues for the power of intuition over logic, especially when faced with data overload. Viewed in this manner, the whole is considered to be more than simply the sum of its parts and the subconscious intuitive mind is thought to be best because it tackles issues holistically.

In the real world, SOF need to make good decisions and they often need to do so with limited time, in chaotic circumstances and under duress. The default is not going to be to dig to root causes and ponder the possibilities of multiple COAs. Rather, action will be taken. Instinct will be relied on. This is a fact within the SOF world. What needs to be remembered, however, is that nobody is born with good instincts. Your instincts are learned. Since they are going to be relied on so heavily on missions, it is worth the time and effort of training them beforehand, using strategic thinking as a guide to help figure out the best ways to do so.

# CHAPTER 9

## Cultural Intellegence

*Before deploying to Afghanistan a great deal of work was put into understanding the Afghan people. This paid dividends. What I neglected was to put sufficient effort into understanding our allies the Danes – the results were that I was taken by surprise by the way they thought and acted and in the initial stages there was friction that could have been avoided by better preparation.*

British Company Commander
Afghanistan[62]

*The true benefit of culturally-aware strategies, plans, and operations can be readily seen. As is often the case, the absence of such awareness paints examples with more vivid colors.*

Justin M. Cobb, Damon B. Loveless and Angela M. Lewis
*Small Wars Journal*[63]

To work effectively in the contemporary and the projected future environments, Special Operations Forces (SOF) need to behave in a culturally intelligent manner. Cultural intelligence – or cross cultural competence or cultural savvy as some have referred to it[64] – refers to the ability to recognize the shared beliefs, values, attitudes and behaviours of a group of people and, most importantly, to apply this knowledge toward a specific goal. More specifically, cultural intelligence refers to the cognitive, motivational and behavioural capacities to understand and effectively respond to the beliefs, values, attitudes and behaviours of members of your own and other groups, societies and cultures under complex and changing circumstances in order to affect a desired change. It is about understanding the message that is being sent, making sure that the intent of your message is being properly understood and, ultimately, influencing a target group of people to achieve your goal.[65]

Importantly, cultural intelligence is more than just cultural awareness. You can think of this relationship in terms of building a puzzle. Cultural awareness represents the pieces of the puzzle – the information about people and places, the "dos" and "don'ts" if you will. Cultural Intelligence in this case acts as that "big picture" that allows you to put these pieces together in order to build your plan and achieve your goal. Putting together a thousand piece puzzle without any concept of what it is supposed to look like would be a real challenge; equally as demanding is putting together a puzzle without having all of the pieces. Clearly cultural intelligence and cultural awareness go hand-in-hand. You need that fine detail, as well as that big picture view to be able to put everything together.

First and foremost though, that big picture view – cultural intelligence – is what allows SOF to work effectively with people from a variety of cultural backgrounds, sometimes with little advanced notice regarding deployments. From a cognitive perspective, the principal elements required to behave in a cultural intelligent manner are a basic understanding of what culture is and how it affects people's worldviews, and the ability to apply strategic thinking.

While there is still a lack of consensus as to the exact definition of culture, in basic terms, culture can be defined as a common set of beliefs and values within a group of people that combined transform into attitudes and get expressed as behaviours.[66] Clearly, culture helps create both individual and group identity. Importantly, individual and group identities also contribute to the definition of culture.

Culture provides the meaning to how we see the world and our place in it, what we see as important, and how we think and act. Indeed, meaning is almost always culturally derived and, as such, culture can be seen as being about sense-making. It is about creating understandings and connections, and interpreting the world around us.[67]

While culture to a degree is derived by geographic and geopolitical "realities," (e.g. it is a response to the physical world in which we live), it is important to recognize that cultures are social constructs and therefore subject to change. Interestingly, culture is often seen as being so imbedded within a group of people that it is immutable. Conversely though, the opposite is true. Culture is in a constant state of flux and change, and negotiation and renegotiation.

Nonetheless, the beliefs, values and attitudes associated with a specific culture are often passed down through generations, are generally subconscious in nature and tend to be long-lasting.

It is important to remember that while there are a myriad of outside factors that may influence behaviour, it is the cultural meaning that is associated with these factors that really influences the behaviour. It is therefore essential to understand the "currency" that motivates the group of people with whom you are working. In order to do so, you need to appreciate the beliefs, values and attitudes of the group of people with whom you are interacting. For instance, an American business owner on Saipan, a US Protectorate in the Northern Marianna Islands, once complained that every time she gave the locals who worked at her shop a raise to reward their good service, they would simply cut back their work hours. From their perspective, they could now earn a living working fewer hours a week. The American woman, however, could not understand their lack of motivation to earn more money than simply that required for survival. But for the Chamorro people native to the Marianna Islands, leisure was valued over money. In essence, they believed free time was more valuable than accumulating financial wealth. As a result, the American was hard pressed to find an effective means of rewarding her employees and also still have people to work at her store. She first needed to understand their cultural perspective in order to be able to influence them.[68]

Additionally, it is very helpful if you can appreciate how you are being perceived. Seeing the world through someone else's eyes can often times be a difficult task in self-reflection but it can also help to ensure that messages are not "lost in translation." For example, one Canadian Armed Forces (CAF) member recalled training a group of Afghans and stressing the importance of having vehicle check-points. In fact, the Afghans saw how often the Canadians and Americans performed these checks so it was not difficult to gain their "buy-in". The Afghans subsequently stopped cars repeatedly but they never actually searched any of them since they had merely observed coalition troops "stopping" vehicles. While they understood the "action," they had no idea why it was being done so they simply mimicked the superficial behaviours that they had witnessed. It was not until the rationale for road-checks was explained and their importance was underscored that the Afghans began to behave effectively.[69]

Appreciating cultural perspectives combined with the ability to engage in strategic thinking, enables the expression of cultural intelligence. Conversely, failure to apply high levels of cultural intelligence, empowered by all elements of strategic thinking – critical and creative thinking as well as emotional intelligence – can, as illustrated, have grave consequences.

While not exhaustive, the following is a list of ten requirements for working effectively within diverse cultural groups and can be used as benchmark to determine if you are behaving in a culturally intelligent manner. Specifically:

1. You need to appreciate different points of view – it is as simple as understanding that how you see the world and what you consider meaningful is not the same for everyone. Not to undermine individual differences, you should note that many of these diverse points of view are cultural so you need to understand what culture is and how it shapes perspectives. This single point is probably one of the most important to appreciate if you want to work well in a cross cultural setting.

2. You need to understand and respect all of the different cultures that you are working within (e.g. Other Governmental Departments / Agencies, allies, host nation, etc.) Essentially, you need to recognize subcultures and counter cultures and, more importantly, you have to take all of this theoretical knowledge and apply it so you have a desired effect.

3. You need to be able to think critically and creatively in order to understand what issues are actually about and to problem solve effectively. If you do not apply critical thinking in cross cultural settings, you have a high risk of completely missing the point. You may think you are doing things correctly but you might just be running as fast as you can away from the finish line. Critical thinking is a skill that you will likely need to make sense of most conversations and interactions in cross cultural environments. Once you have applied critical thinking and figured out what issues are at play, you may need to find a creative solution so you want to make sure that you foster an environment that is open to creative thought.

4. You need to understand your natural biases and try to mitigate potential errors in judgment because of them. As noted, everyone is

biased to a certain degree, recognizing your biases and understanding other people's biases will help you communicate more effectively and also help you appreciate how other people may be seeing you.

5. You need to have good communication skills – this aptitude includes understanding body language, specifically, how to read it and also how to portray it, having good interpersonal communication skills, and also being good at communicating within a group. Small things matter. In short, if you do not know the correct cultural protocol, simply ask. Showing a genuine interest in finding out how to behave appropriately will pay dividends.

6. Appreciate that personal relationships matter. They take time and patience to build but there is no substitute for good relationships. Emotional intelligence helps to facilitate the development of good relationships.

7. You need to demonstrate competence and confidence in your tasks and roles, while simultaneously demonstrating respect and humility. When working in cross cultural environments try to imagine yourself as both a guest and a host and place yourself in the most appropriate role for the circumstance. Try to avoid simply placing yourself in your preferred role. For example, most "Type A" personalities would prefer to be in charge versus being a mere participant. Certainly, demonstrating respect and humility towards the people you are working with will go much further than doing the job yourself.

8. You need to remain mission/goal focused. While for SOF this statement is perhaps obvious during direct action missions, for military-assistance type missions, it is sometimes forgotten as the results tend to be hard to witness and long-term. Importantly, to achieve effect on military assistance and training missions, it is often not about how well you can do the tactical job, rather it is about teaching and relationship building. Ultimately, it is about empowering other people. While this process might sound simple, it rarely is and it generally requires you to constantly read the situation and amend your behaviour accordingly. Additionally, for SOF, engaging in long-term non direct action focused missions often requires strong willpower to not do what you want to do and instead do what you know you should do.

9. You need to be adaptable. At the same time, though you want to maintain consistency as to the purpose of your mission. You do not want be always changing your approach but you also do not want to keep ploughing on when the environment around you is changing. In short, you need to recognize when it is time to adapt. It should be remembered, however, that being adaptable is a lot harder than wanting to be adaptable.

10. Finally, you need to use this cultural general framework to hang cultural specific pieces of information. You need to understand how to make sense of all that data about a specific culture so that you can use that information to help you with your mission.

| 10 Requirements for Working Effectively within Diverse Cultural Groups | |
|---|---|
| 1 | Appreciate different points of view |
| 2 | Understand and respect all of the different cultures present |
| 3 | Apply critical and creative thinking to issues |
| 4 | Understand and mitigate your biases |
| 5 | Communicate effectively |
| 6 | Recognize that personal relationship matter |
| 7 | Demonstrate competence and confidence |
| 8 | Remain mission / goal focused |
| 9 | Be Adaptable |
| 10 | Use the cultural general framework to hang cultural specific pieces of information |

Additionally, whether you are talking about governments, militaries, or businesses, as the epigraph highlights, it is important to note that cultural intelligence should not simply be applied when dealing with a culture that is considered "foreign" or antagonistic. Cultural intelligence helps you work more effectively with people from your own culture, including different subcultures, people with whom you interact with in a friendly manner, people you may interact with for strictly business purposes and also the group that is actively working against what you want to achieve.

Within the context of defence, cultural intelligence needs to be applied in the context of the national, international, host nation, and enemy domains in order to be most effectively utilized. Ultimately, cultural intelligence can be beneficial when dealing with human interaction at any group level.

Western militaries need to understand and work effectively within the contexts of their own national cultures (home domain). They also need to work well within coalitions (international domain). Moreover, when deployed, it is generally essential to function effectively with local populations as well (host nation domain). Finally, cultural intelligence can also help with the ability to identify, target and influence members within the enemy domain. Notably, action in any one of these domains can – and probably will – affect the others and each domain is dynamic in its own right.[70] There is no simple solution but, within a military context, what it essentially boils down to is that you need to know yourself, you need to know your enemy and you need to know the terrain in which you are operating and this includes the human geography – both at home and abroad.[71]

Cultural intelligence is clearly a skill that is vital for the military in general and SOF in particular. Cultural anthropologist Anna Simons cites Jörg Muth, author of *Command Culture*, which explores some of the consequences of the Second World War, noting that: "'The sharpest and most devastating weapon the U.S. Army could possess today in the War against Terror is not a new computer system, a sophisticated unmanned aerial vehicle, or a smart artillery shell; it is rather a carefully selected, aggressive hard-core battalion or brigade commander who was exposed to a large dose of military history, is trusted by his superiors to conduct his own operations, and oversees them wherever the bullets fly.'" Adding to Muth's conclusion, Simons contributes that "a commander should also be able to read people, vet information, and assess situations—and, I would submit, know something about the adversary."[72] In essence, be able to apply cultural intelligence, empowered by strategic thinking.

Clearly, in today's multi-cultural world, good decisions will need to take in the cultural context of the situation. Cultural intelligence is thus an important skill, and one which is derived from the building blocks of strategic thinking. While speaking to the type of leadership required in today's defence environment, the following quote is equally applicable to decision-making within this environment: "…achieving mastery in leadership [decision-making] must include cultural studies both to generate wider viewpoints for command as well as strengthen understandings of diversity and ethical considerations."[73]

# PART IV

# CHALLENGES

# PREFACE
## PART IV

While each element of strategic thinking is full of potential in helping you make good decisions, there are also several factors that can challenge your ability to be a good at critical thinking. These challenges may be unavoidable but recognizing how they might affect your decision-making ahead of time can help you minimize their potential negative impact.

# CHAPTER 10

## Cognitive Biases
### (aka Mind Tricks)

Most people like to think that they are able to make their own, intelligent decisions by carefully assessing the information at hand, mitigating risks and choosing the best course of action given the circumstances. In general, people do not want to think that their minds are playing tricks on them and subconsciously prioritizing, sorting and filtering information and thus heavily impacting decisions without you even being consciously aware of these influences. Cognitive biases, to which no one is immune, do exactly that, however: they provide mental shortcuts to help you make decisions quickly but in this process they may also cause you to make errors in judgement.

It is first important to distinguish between personal biases and cognitive biases as the former is associated with personal experiences, and likes and dislikes whereas the latter is connected with the neurochemistry of the brain and has become more widely explored as the fields of social and psychological neuroscience develop. In brief, personal biases reflect your response to items based on past experiences. For example, you may have determined at a young age that you dislike a certain type of food. Thankfully, you can simply avoid that food item rather than have to taste it each time to recall that you do not like it. Importantly, your taste buds may have changed or you may have had a rotten apple that turned you off the fruit for a lifetime. Regardless, your bias likely came from a small sample in which you applied a generalization that then – rightly or wrongly – affected your future decisions. (I have chosen to provide a very tame example of personal bias but you can see these biases as the geneses of some forms of prejudices and discrimination.) Conversely, cognitive biases do not rely on prior experiences and instead refer to biases – or ways of thinking about or perceiving the environment – in which approximately eighty per cent of any group will interpret the data in a similar manner due to the neurochemistry of their brain.

Since the 1990s, with the rise of the fields of social and psychological neuroscience, scientists have been able to locate certain neurotransmitters that contribute to the appearance of specific cognitive biases. In effect, for some

cognitive biases, if you block the release of the a specific neurotransmitter, then you also block the appearance of its associated cognitive bias. If you remove the block, then the cognitive bias re-appears. Importantly, being aware of the cognitive bias does not make it disappear. Awareness, however, can allow you to place mitigate steps into your decision-making process so as to minimize the potential for error.

Undoubtedly, despite the science that is able to connect certain neurotransmitters to the appearance of specific cognitive biases, individuals generally remain reluctant to acknowledge that they are influenced by such biases. As such, it is always a good idea to first accept that cognitive biases do exist and likely affect your decision-making in order to more fully embrace the need to apply mitigating factors when appropriate.

One way to determine if you are subject to exhibiting cognitive biases is to observe your response / reaction to certain questions and scenarios. For instance, if you are married and aware of the divorce rate, which, in North America, hovers around the fifty per cent mark for first time marriages and simply increases from there, ask yourself if you were thinking that you had just as much chance of getting divorced as staying married when you said your vows. Most people who choose to get married, despite the odds of remaining married until "to death do us part" actually being little better than a toss of a coin, believe that their marriage will succeed. This is an excellent example of the optimism bias at play.

In another scenario, think of yourself amongst a group of your peers. Now rank your ability to get along with others? Your driving ability? Interestingly, very few people ever rank themselves in the bottom quarter in comparison tests. Mathematically, however, one quarter of each group really is in the lowest twenty five per cent of the group. (Under normal circumstances this lower portion may not seem that relevant but when you think that half of all doctors were in the bottom half of their class one can only hope for very high standards.) Again, this example illustrates the optimism bias.

The next example illustrates the comparative values bias. Most people like to feel that they are getting a good deal for their money. As a general rule, if the same $200 product is for sale a short drive away, then most people will put the effort into getting the product for $100, even if it is less convenient, (within reason of course). Now if you are purchasing a $50,000 vehicle and

you can save $100 by going to a dealership that is further away, you most likely will stay with your original, pricier, dealership. The question that then arises is why are most people willing to be inconvenienced for $100 when it represents fifty per cent of a total value and yet are generally not even concerned with saving $100 when it represents less than one per cent of the total cost. At the end of the day, 100 dollars is 100 dollars. The comparative values bias, however, suggests that it is the perceived percentage of the total value that will affect the effort you will put into receiving the savings rather than the actual amount, which would appear to be the more logical driver. (Think about how much effort you might put into buying a grocery item on sale, often for a net-savings of under a dollar. Conversely, consider how little thought you might apply to paying extra shipping costs on an item you ordered. When you take the time to think about it, the behaviours seem somewhat counter-productive, although perhaps not novel as the British saying, "penny-wise and pound foolish," suggests.)

These three brief examples are just a few amongst many that help to illustrate how cognitive biases can affect decision-making. Likely, even just based on your answers, you can see how most people exhibit cognitive biases.

In short, cognitive biases are simplified information processing strategies. As smart as we like to think we are, the human mind actually cannot in general cope with large amounts of data that have complicated relationships to one another. As a result, people tend to employ simple rules of thumb – often unconsciously – that reduce the burden of processing such information.

When we talk about "observable biases" this does not mean that every judgment by every individual person will be biased. It means that in any group of people, the bias will exist to a greater or lesser degree in most judgments made by most members of the group. Therefore, one can generalize about the tendencies of a group but not specifically what any one individual in the group may think. A cognitive bias simply means that there is a high probability that you will see or asses things a certain way.

Essentially, cognitive biases are how our brains ration what they make available to our conscious minds. In brief, our ability to cope with how much information is available is far inferior to the vast amounts of data that surround us. As a result, cognitive biases help us deal with of information overload.[74]

While no-one likes to consider themselves biased, often cognitive biases – or heuristics, which refer to "mental shortcuts" – are actually a good thing. In particular, they can enable you to make quick, often accurate decisions and, as some have argued, may in fact be an evolutionary response to the mass amounts of information in the environment.

Nonetheless, cognitive biases can also contribute to people making bad decisions, often without even realizing it. This negative aspect of cognitive biases is what we want to be able to recognize and correct in order to improve decision-making.

There are hundreds of identified cognitive biases. As mentioned, knowing that the cognitive bias exists does not remove it. Instead, the focus should be on developing mitigating processes within your decision-making that will help to minimize the potential errors within your thought processes. Figure 6 identifies many (but not all) cognitive biases, and includes a brief description of their effect and, more importantly, some ideas for how to mitigate potential resulting errors in judgement. (See Figure 6.[75]) This last column should be considered a starting point upon which you can develop more mitigating processes for the cognitive biases that you feel might be particularly relevant within your environment. Additionally, several cognitive biases deemed important for SOF to know about will be dealt with in more detail below.

| COGNITIVE BIASES | | |
|---|---|---|
| **Name** | **Effect** | **Potential Mitigating Processes** |
| **Ambiguity effect** | The tendency to avoid options for which missing information makes the probability seem "unknown." | - provide your dream list of information;<br>- acknowledge gaps; and<br>- assess uncertainties. |
| **Anchoring** | The tendency to rely too heavily, or "anchor," on one piece of information when making decisions. | - re-evaluate your information and sources. |
| **Attentional bias** | The tendency to pay attention to emotionally dominant stimuli. | - re-evaluate your sources. |
| **Availability heuristic** | The tendency to overestimate the likelihood of events with greater "availability" in memory. | - re-evaluate your sources; and<br>- approach the problem as an outsider rather than someone with an emotional connection to the issue. |

| | | |
|---|---|---|
| **Bandwagon effect** | The tendency to do (or believe) things because many other people do (or believe) the same. Related to groupthink and herd behaviour. | - get to the root cause of why you believe what you do. |
| **Base rate fallacy or base rate neglect** | In a sequence of probabilities, the tendency to ignore the first. | - re-evaluate your first thought / item at the end. |
| **Belief bias** | An effect where someone's evaluation of the logical strength of an argument is biased by the believability of the conclusion. | - ask if a less likely scenario is still plausible given the evidence. |
| **Bias blind spot** | The tendency to see oneself as less biased than other people, or to be able to identify more cognitive biases in others than in oneself. | - intentionally and consciously mitigate your cognitive biases rather than ignoring them. |
| **Choice-supportive bias** | The tendency to remember one's choices (not options, but choices made) as better than they actually were. | - judge your choices the same way you would a stranger's choices. |
| **Confirmation bias** | The tendency to search for, interpret and remember information in a way that confirms one's preconceptions. | - pay extra attention to ideas that go against your way of seeing things. |
| **Conservatism or regressive bias** | The tendency to underestimate high values and high likelihoods while overestimating low ones. | - make a conscious choice not to allow a focus on the unexpected to derail you from preparing for the probable and expected; and<br><br>- assess whether you still have all of your bases covered, especially when trying to be predictive. |
| **Conservatism (Bayesian)** | The tendency to insufficiently revise one's belief when presented with new evidence. | - remind yourself to be open minded; and<br><br>- try to put yourself in someone else's position. |
| **Curse of knowledge** | When knowledge of a topic diminishes one's ability to think about it from a less-informed (but more neutral) perspective. | - be open minded and assess information critically, especially when you are an expert in the field. |
| **Empathy gap** | The tendency to underestimate the influence or strength of feelings, in either oneself or others. | - recognize the power of emotional intelligence in decision-making as well as influence. (Refer to the chapter on Emotional Intelligence in this volume.) |

| | | |
|---|---|---|
| **Endowment effect** | The fact that people often demand much more to give up an object than they would be willing to pay to acquire it. | - put yourself in the other person's position and recognize the delta between the two. |
| **False-consensus effect** | The tendency of a person to overestimate how much other people agree with him or her. | - assess why people may agree or disagree with you and seek and learn from disagreements. |
| **Focusing effect** | The tendency to place too much importance on one aspect of an event. | - Always try to see things in their entirety and take a macro-perspective of events before focusing on specifics. |
| **Framing effect** | Drawing different conclusions from the same information, depending on how or by whom that information is presented. | - Assess your sources critically and recognize that you are not immune to this bias. |
| **Gambler's fallacy** | The tendency to think that future probabilities are altered by past events, when in reality they are unchanged. For example, "I've flipped heads with this coin five times consecutively, so the chance of tails coming out on the sixth flip is much greater than heads." | - determine if events are in fact correlated to one another. If not, do not assume a connection between them. |
| **Halo effect** | The tendency to discount the flaws or errors of an admired person, institution, or idea. See Wikipedia article here. | - get to the root cause of why you believe certain things rather than taking them fore granted. |
| **Identifiable victim effect** | The tendency to respond more strongly to a single identified person at risk than to a large group of people at risk. | - remember that every individual within a group has a story. |
| **Illusion of control** | The tendency to overestimate one's degree of influence over other external events. | - be conscious of what you do and do not have control over; and<br><br>- Concentrate on what you have control over and let go of the stuff you have no control over. |
| **Illusory correlation** | Inaccurately perceiving a relationship between two unrelated events. | - be aware of the connections you draw and make sure that you can identify causal and / or correlational relationships. |
| **Impact bias** | The tendency to overestimate the length or the intensity of the impact of an emotional event. | - revisit emotionally charged events sooner that you think you should;<br><br>- avoid making long-term decisions based on current emotions. |

| | | |
|---|---|---|
| **Information bias** | The tendency to seek information even when it cannot affect action. | - make sure you know what information you require to make an informed decision and avoid being caught up in irrelevant data collection. |
| **Interpretation blindness** | The state in which a person is dogmatic about the meaning of a text while forgetting that his or her understanding of that text is the result of the process of interpretation. | - appreciate that there are very few firm "facts" and most of what we believe we know is based on perception / interpretation;<br><br>- remember to be open-minded. |
| **Irrational escalation** | The phenomenon where people justify increased investment in a decision, based on the cumulative prior investment, despite new evidence suggesting that the decision was probably wrong. | - do not worry about having wasted resources and instead focus on future cost / benefits rather than past investments. |
| **Just-world hypothesis** | The tendency for people to want to believe that the world is fundamentally just, causing them to rationalize an otherwise inexplicable injustice as deserved by the victim(s). | - recognize that at some level you likely do this type of justification and instead try to see a different perspective. |
| **Mere exposure effect** | The tendency to express undue liking for things merely because of familiarity with them. | - remember that familiarity is not a substitute for good or bad. |
| **Money illusion** | The tendency to concentrate on the nominal value (face value) of money rather than its value in terms of purchasing power. | - focus on current needs / resource exchanges rather than on past experiences of the cost of 'doing business'. |
| **Moral credential effect** | The tendency of a track record of non-prejudice to increase subsequent prejudice. | - evaluate instances individually rather than making assumptions based on past experiences. |
| **Negativity bias** | Psychological phenomenon by which humans have a greater recall of unpleasant memories compared with positive memories. | - do not allow a negative memory to derail a viable option. |
| **Neglect of probability** | The tendency to completely disregard probability when making a decision under uncertainty. | - recognize that not knowing everything is NOT the same as not knowing anything; and<br><br>- use the knowledge you have wisely even when faced with uncertainty. |

| | | |
|---|---|---|
| **Observation selection bias** | The effect of suddenly noticing things that were not noticed previously and, as a result, wrongly assuming that the frequency has increased. | - simply because you are more aware of something does not mean that it is more prominent;<br><br>- instead ask yourself if your lens / situation has changed to alter the frequency with which you notice the particular thing / event, etc. |
| **Observer-expectancy effect** | When a researcher expects a given result and therefore unconsciously manipulates an experiment or misinterprets data in order to find it. | - be especially vigilant of your research when you get the results you were looking for; and<br><br>- ask for a second opinion / oversight |
| **Omission bias** | The tendency to judge harmful actions as worse, or less moral, than equally harmful omissions (inactions). | - remind yourself that doing nothing is a choice. |
| **Optimism bias** | The tendency to be over-optimistic, overestimating favorable and pleasing outcomes. | - think of advice that you would provide a friend / colleague in your position; and<br><br>- add a buffer to your calculations to account for having potentially been overly optimistic. |
| **Ostrich effect** | Ignoring an obvious (negative) situation. | - when possible deal with uncomfortable / negative situations immediately. |
| **Outcome bias** | The tendency to judge a decision by its eventual outcome instead of based on the quality of the decision at the time it was made. | - remember that terrible decisions can lead to good outcomes and excellent decisions can have catastrophic consequences;<br><br>- focus on the quality of the decision given the factors at the time of the decision. |
| **Over-confidence effect** | Excessive confidence in one's own answers to questions. | - remember that every individual within a group has a story. |
| **Planning fallacy** | The tendency to underestimate task-completion times. | - if you notice that you are always "right", then re-evaluate the situation;<br><br>- pay particular attention to views that differ from your own. |

| | | |
|---|---|---|
| **Recency bias** | Results from disproportionate salience attributed to recent stimuli or observations – the tendency to weigh recent events more than earlier events. | - switch up the order in which you receive information; and<br><br>- revisit your options before making a decision |
| **Representative Heuristic** | Occurs when a strong image is formed based on descriptive evidence which allows you to ignore data in favour of an appealing story that your brain has in fact created. | - pay attention to data; and<br><br>- avoid the appeal of generalizing. |
| **Restraint bias** | The tendency to overestimate one's ability to show restraint in the face of temptation. | - recognize that you are no less subject to vices than the next person; and<br><br>- avoid being in situations that may end detrimentally. |
| **Risk compensation** | The tendency to take greater risks when perceived safety increases. | - be aware that risk is always risk. |
| **Selective perception** | The tendency for expectations to affect perception. | - be aware of your expectations; and<br><br>- evaluate information / situations, etc. objectively. |
| **Semmelweis reflex** | The tendency to reject new evidence that contradicts a paradigm. | - avoid being tied to your beliefs despite the evidence; and<br><br>- be open-minded. |
| **Social comparison bias** | The tendency to favour people who do not compete with one's own particular strengths. | - increase confidence in your strengths; and<br><br>- avoid seeing people with similar skill-sets as a threat. |
| **Status quo bias** | The tendency to like things to stay relatively the same. | - recognize that this state is a natural reaction; and<br><br>- practice change. |
| **Stereotyping** | Expecting a member of a group to have certain characteristics without having actual information about that individual. | - ask yourself how or why you belief what you do. |
| **Subjective validation** | Perception that something is true if a subject's belief demands it to be true. Also assigns perceived connections between coincidences. | - follow the evidence trail despite your beliefs. |

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|---|---|---|
| **Unit bias** | The tendency to want to finish a given unit of a task or an item. | - recognize that simply because you have invested in something does not mean that you should continue to do so;<br><br>- instead periodically re-assess the need / benefits of continuing with a task. |
| **Well-travelled road effect** | Underestimation of the duration taken to traverse oft-traveled routes and overestimation of the duration taken to traverse less familiar routes. | - account for this tendency in your planning. |
| **Zero-risk bias** | Preference for reducing a small risk to zero over a greater reduction in a larger risk. | - recognize that risk is risk and should be calculated against potential outcomes. |
| **Zero-sum heuristic** | Intuitively judging a situation to be zero-sum. | - focus on mutual gains. |

FIGURE 6. Cognitive Biases and Potential Mitigating Processes

While reviewing a list of cognitive biases can be insightful, the focus should be on the ones that will likely most apply to your circumstances. Having, at a minimum, skimmed through the above list, it is probable that many of you are thinking that cognitive biases may be interesting and can clearly impact your decision-making but thankfully they do not really apply to you. Perhaps you can see how some of these biases may affect your colleagues' decision-making but surely you are immune to their potentially negative impact. It is for this very reason that the bias blind spot should be underscored. While cognitive biases cannot predict individual behaviour, they are notable for being able to forecast group behaviour and nobody is immune to their influence. Consequently, if you have felt that this section of *Thinking for Impact* does not particularly apply to you and / or your circumstances, then you have in effect proven that it does apply to you and you are currently exhibiting the bias blind spot. Again, it bears repeating, no one can escape having cognitive biases as there is simply too much available information in the environment and your brain has developed shortcuts to deal with all of the data.

The optimism bias is another cognitive bias that is particularly important within a SOF environment.[76] Researchers led by Dr. Tali Sharot have discovered that approximately eighty per cent of people over estimate the

likelihood of good events happening to them. For this reason, few people stand at the alter thinking that their marriage will end in divorce, even though they know that roughly half of all marriages do. The cognitive bias is also why few people place themselves in the lowest quarter compared to their peers. People tend to default to thinking that good things will happen to them and bad things will happen to others, and this association often stands in the face of stark statistical evidence that suggests otherwise.

Sharot and her team have asked whether this "optimism" is a good thing. They hypothesized that some people might think that the secret to happiness is to have low expectations so you are rarely disappointed. While we can all likely picture someone with low expectations – somewhat of an Eyeore figure – thankfully, as Sharot has discovered, this type of person tends to be in the minority, residing in that approximately twenty per cent of the population who does not exhibit the optimism bias. Sharot's research has also shown that lowering your expectations does not necessarily make you happy. Instead, when you raise your expectations you tend to do better. In fact, as she and her team argue, optimism can essentially be a self-fulfilling prophecy and contribute to success. As they observe, you do not generally hear of very successful people being self-defeating (i.e. Olympic gold medalists, successful entrepreneurs, etc.). Instead, as they argue, it is the power of positive thinking – with hard work, training and ability, one should add – that often makes success possible. They thus conclude that the optimism bias is a good thing.

In general, what having the optimism bias means is that people are, for the most part, more optimistic than realistic. To illustrate this point, Sharot references a study in which seventy per cent of respondents thought that families overall were less successful than in their parents' generation. In the same study, however, seventy-six per cent of the same respondents were quite optimistic about the future of *their* families. Clearly, these two co-existing phenomenon defy mathematical possibility in the real world. As another example, Sharot remarks that when two smokers are out on the corner, each is not thinking, "Wow, I'm going to die of lung cancer if I don't quit." Instead, they are probably simply thinking "that poor sucker next to me is going to die of lung cancer if he doesn't quit."[77]

Interestingly, recent studies have been able to brain-map which centres of the brain are active when the optimism bias is being expressed, which suggests that are brains are actually hardwired to generally be optimistic. This finding has led some scientists to claim that optimism was selected by evolution precisely because, on balance, positive expectations enhance the odds of survival. These findings, however, are not as of yet conclusive.

Nonetheless, like all cognitive biases, the optimism bias can lead people to make poor judgements and decisions thereby leading to unwanted outcomes. For example, for SOF, the desire for mission success – that sense of being a no fail force and living up to that mantra – can potentially lead to irrational decisions that rely on hope and exceptional circumstances for success more so than on the actual information available in the environment and probabilities. For instance, Private Chris Cocks, a member of 3 Commando, Rhodesian Light Infantry, recalled, "We'd heard many stories of troops in the commandos being killed, but we could not relate it to ourselves." The rationale he provided: "It would never happen us."[78]

In her Ted Talk, Sharot discusses one Fire Chief who reached out to researchers after a fatality and wanted to know what drove his crew to go into a burning building despite the fact that all the evidence suggested they should not enter. In essence, he wanted to know why they had thought that they were exceptional. Why did they think that they could survive what was clearly an un-survivable state based on all of their training and experience. Additionally, the Fire Chief wanted to know how he could prevent this unfortunate event from re-occurring.

Essentially, the question is how do you benefit from the advantages of the optimism bias and at the same time avoid potential pitfalls? This question is particularly pertinent to SOF and to any organizations that operate in high-risk / high-cost scenarios, (such as high reliability organizations).

Sharot and her team suggested that the answer to this paradox is knowledge. In terms of cognitive biases, they argue that once we are aware of these biases, we can act to protect ourselves against their potentially negative side-effects, while simultaneously taking advantage of their benefits. Notably, as mentioned, being aware of your cognitive biases does not remove them.

What being aware of the optimism bias does is help you ensure that you strike a balance: that you remain optimistic but that you do not neglect evidence to the contrary. In the example of the firefighters, yes, they – much like SOF – have to consider themselves exceptional and also be optimistic about their success in order to continue in their profession. They cannot afford to be completely unrealistic, however.

Simply, realizing that you are prone to optimism and that your brain is actually sending out neurotransmitters encouraging you to think positively about the outcome can help you apply that cool sensibility to the situation without taking away your drive. For example, as Sharot noted, the British government, realizing that the optimism bias can make individuals underestimate the cost of projects, automatically adjusted 2012 Olympic budget in terms of cost and timings. By recognizing the bias, they were able to plan around it and take advantage of the benefits without succumbing to the pitfalls.

For SOF knowing about the optimism bias is important because this knowledge can be a powerful reminder not to discount evidence and probabilities even when the drive to succeed and the belief in one's exceptionalism is overwhelmingly strong. This knowledge is a reminder that optimism can be a good driver but it will only help lead to desired outcomes when other indicators of success also align.

Another bias that is worthy of further attention is the desire to see patterns and identify familiar objects, which often leads to the representative heuristic. The representative heuristic is when a strong image is formed based on descriptive evidence which allows you to ignore data in favour of an appealing story that your brain has in fact created. For example, given the subsequent description, "Sarah loves to listen to New Age music and faithfully reads her horoscope each day. In her spare time, she enjoys aromatherapy and attending a local spirituality group," what profession is Sarah more likely to be a part of: a school teacher or a holistic healer? Given the stereotypical image that comes to mind of a holistic healer, many people consider Sarah a holistic healer despite the fact that simply based on numbers she is much more likely to be a school teacher.[79] This is but one example of many. In fact it is quite fascinating how statistics, which in theory represent "reality," and "perception" are often misaligned.[80]

The representative heuristic is important for SOF to appreciate because generalizations and assumptions can often lead to errors in judgment. In particular, when working in novel environments with people from diverse backgrounds, ethnicities and cultures it is common to fill in gaps of knowledge / understanding with stereotypes and assumptions. Additionally, it is hard to resist the temptation to generalize individual qualities that you learn about one person to the whole group if you have limited exposure to other members of the group. These circumstances are coupled with the fact that your brain naturally wants to fill in the blanks and create a story that matches previously held beliefs. As such, you need to remind yourself of what you actually know and avoid the temptation to create a more complete picture than that which you have access to. Particularly when building relationships with members of local communities, learn the relevant statistical information about the population that you will be working with beforehand and do not neglect this information. Instead, if you are required to make assumptions, rely on the data rather than the imagery that you have created.

Your brain is also automatically drawn to vivid imagery and objects that grasp your attention, commonly referred to as the attention bias. This bias implies that most people place more weight on information that is provided in an appealing and memorable way. It is why people often agree with the views of a charismatic speaker over someone who is dull and monotone, regardless of reason or evidence. It is also why people tend to believe images over words, videos with sound clips over pages of typescript. Applying critical thinking and questioning why you believe what you do is a good way to mitigate this bias.

The comparative values bias also deserves further explanation for those who work in a SOF environment. This bias is why saving $100 is important sometimes but not others, based on a simple comparison to the total value of the object. Additionally, it helps to explain why we automatically place an economic value based on past experiences rather than the present context.

It is good to recognize these tendency, particularly for SOF, because as events escalate we tend to sometimes be more willing to take risk simply because we have seen the cost of the event already escalate, and therefore the risk may seem comparatively smaller even if it is not actually any less.

For instance, in a situation where a casualty has occurred, the price of the whole mission has already escalated so the individual costs – or savings – seem less important. It is important to be aware of this tendency so that you are making sure that you are making good, clear decisions and not simply willing to increase your risks based on the perceived rising cost of the situation.

The other element of the comparative values bias is that we tend to value items based on past experience. Instead, it is always good to consciously focus on the current demands and, when required, re-evaluate tactics, techniques and procedures (TTPs), standard operating procedures (SOPs), equipment, and quite probably mission-sets. In essence, it is vital to ask whether the comparative values bias is stalling the potential to adapt.

Remember though, as much as you want to make sure that cognitive biases do not cause errors in your judgment, do not forget to exploit them to your advantage when possible. For example, if you want to convince someone to go along with your plan or to believe a certain thing, you can make sure that you are visually persuasive, engaging and provide imagery and context to present your case in such a way that it already fits a pre-established pattern that appeals to your audience in order to maximize the potential of buy-in. If you create imagery where all the pieces seem to fit nicely together, people generally do not want challenge it.

Cognitive biases are not necessarily bad and they can actually be beneficial and help you make quick, often times accurate decisions. Nonetheless, they can also push you to make poor decisions too, often without even realizing it. Key to minimizing the potential negative impacts of cognitive biases is recognizing that you are prone to them. This recognition will not take the bias away but it is the first essential step in helping you mitigate potential pitfalls.

# CHAPTER 11

## Fear[81]

*Fear is the most significant common denominator for all soldiers.*

Elmar Dinter
Hero or Coward[82]

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*Anyone who says he is not scared is either a liar or mentally deficient.*

Andy McNab
*Bravo Two Zero*
Special Air Service
Iraqi War, 1991[83]

Generally speaking, nobody likes to admit when they are scared. This phenomenon is underscored for military members and even more so for Special Operations Forces (SOF). Professionalism, expectations, ego, perceptions of what a true warrior embodies all act as barriers to acknowledging fear. Nonetheless, everyone gets scared sometimes. While fear may not be all bad, it can cause people to make decisions that are based more on an imagined outcome that is derived by the fear than on a critical assessment of the evidence. For this reason, fear often leads to poor decision-making. Recognizing this connection will likely not diminish fear but it can help mitigate some of the negative consequences with regard to decision-making that fear can cause.

The true story of the Nineteenth Century sinking of the US whaleship *Essex*, as retold by Professor Karen Thompson Walker and which represented part of the inspiration for Herman Melville's epic tale *Moby Dick*, is an excellent example of how fear can lead to poor decision-making.[84] In 1819, the whaleship *Essex* found itself nearly 5,000 kilometers off the coast of Chile. There were twenty US sailors on board when the ship was struck by a sperm whale and sustained a massive leak. The twenty whalers huddled in three small whale-boats as the *Essex* flooded and sank. They were 16,000

kilometers from home and about 1,600 kilometers from the nearest landmass. They were floating in the middle of the Pacific with only rudimentary navigation equipment and limited food and water. There was no way to signal for help and there would be no search parties. Quite simply, they were left alone with their fears.

Twenty-four hours after the *Essex* had sunk the whalers came to the conclusion that they needed a plan. While they had options, none appeared to be good. They were just about as far from land as it was possible to be on earth. Their first option was to go to the nearest landmass, which were the Marquesas Islands, roughly 2,000 kilometers away. Even though they represented the closest landmass, there were rumours that the islands were inhabited by cannibals. Their second option was to sail to Hawaii. The danger with this option, however, was that given the season, they were likely to encounter potentially fatal storms along the way. Their third option was to go 2,500 kilometers South and then hope the winds would be favourable to get them to South America. The danger with this longest option was that they had limited food and water.

Essentially, they needed to choose between cannibals, storms and starvation. Their imaginations went wild in conjuring images of each of these possibilities. Not surprisingly, the most vivid image that they created was that of cannibals sinking their human teeth into human flesh and roasting live bodies or boiling them in water to later be devoured in some sort of ritualistic feast where limbs would be pulled off corpses and gnawed on like chicken bones.

While sailing to Tahiti represented the most logical choice, and likely best chance of survival, the imagery of cannibals elicited the most fear and this choice was rejected. The fear of being ripped apart by storms also proved too much to bear. The least gruesomely imagined death, that of starvation, evoked the least fear and, despite the fact that this option represented the furthest distance to travel and the most likely outcome of running out of water and food, it was chosen because it also evoked the least vivid imagery. Death by starvation and dehydration did not cause the same fear as being ripped to shreds by a storm or by human teeth.

Two months into their journey, somewhat predictably, they ran out of food. By the time, they were finally picked up by a passing boat over half of the

crew of the *Essex* were dead. Ironically, amongst the survivors some had resorted to their own form of cannibalism – the very thing that they had feared most.

Ultimately, the fear the crew of the *Essex* chose to listen to governed their fate. What they feared most – cannibals – was instantaneously rejected even though Tahiti represented the likeliest chance of survival. Conversely, the fear of dehydration and starvation did not elicit nearly as much detailed imagery and, consequently, fear, and was thus selected even though it represented the least probable chance of survival.

The ill-fated crew of the *Essex* had allowed their fears to guide their decision-making without also adding scientific rigour to their thought process and thereby applying the coolness of judgment, devoid of passion and imagination. Consequently they made a poor decision that was based on fear rather than reason. It was a bad choice that many of them paid for with their lives.

Nearly two-hundred years later, fear continues to sometimes govern the decision making of many bright individuals. After hearing the story of the *Essex* in a lecture, a SOF operator reflected that a similar incident had occurred during the recent war in Afghanistan (c.2001-2014). He recounted how during one combat engagement, close air support was called in to suppress heavy enemy fire. Shortly afterward, an Afghan man approached the convoy with what appeared to be a covered child cradled in his arms. He yelled at the foreigners and claimed that they had killed the infant. He warned that if they continued along their current trajectory, they would come across enraged villagers, including women and children, who were prepared to retaliate and avenge the infant's death.

The choice was clear. The convoy could either continue on their planned route or they could detour and go through an area that was a known ambush site. There was no third option. In discussing the alternatives, they graphically described the moral and ethical challenges that would face them if they continued on as planned. On a moral plane, they feared having to fight civilians, particularly women and children. This fear was heightened when they imagined how their actions – even in self-defence – might be viewed and judged back home. In fact, the imagined consequences were so awful that they quickly decided to go with a known high level threat – an ambush – rather than potentially face a mob of angry villagers.

Upon reflection, the operator acknowledged that their decision was based largely on imagined fear and that most probably the Afghan had been lying not only about the impending attack by villagers, but also about the dead infant, whom no one had actually seen. Thankfully the group fared far better than the crew of the *Essex*. Their decision processes bare remarkable resemblance, however.[85]

Canadian diplomat Robert Fowler who while acting as the United Nations (UN) Secretary General's Special Envoy to Niger was kidnapped by al Qaeda and held for five months along with his colleague Louis Guay was also quick to identify the negative impact of fear on their decision-making processes. As Fowler described, "Extreme fear and worry were the pervading themes of our Al Qaeda captivity: fear to the point of physical pain, fear that it would end suddenly with a sword, in a tent, on a video that would be seen by family and friends, and fear that it would go on and on and we would die of the heat, the food, the snakes, scorpions, or merely of broken wills and hearts."[86] Fowler acknowledged that "Extreme worry and fear were enormously debilitating and physically taxing (memory loss, diminished appetite, insomnia)."[87] In particular, however, it was how fear affected their moods and their thought processes that were most troubling to the diplomat. At one point, Fowler recalled watching his captors dig a deep pit which he and Guay took no time in concluding was surely going to be their final resting spots. With few options, they worked themselves into somewhat of a grim acceptance of their fate. As such, they were quite surprised when their captors placed long sticks over the hole, then stretched a poncho across it in order to create a shelter from the rain. Fowler revealed of himself and Guay after this discovery: "We were in shock. It took a while to reconcile ourselves to the fact that the whole near-death experience had been a fabrication of our own less that stable minds." He continued, "While we believed our captors were entirely capable of killing us, and it was all too clear some of them wanted to get on with doing just that, what had happened the previous day was only indirectly related to them and far more something we had done to ourselves." As he lamented, "that took some getting used to."[88]

While the negative effects of fear might be easy to identify post crisis, they are often ignored during the decision-making process, as the previous examples have illustrated. Importantly, recognizing the signs of fear can help you acknowledge your state of mind. Additionally understanding that fear is not

uncommon and appreciating how it might negatively impact your decision-making process can help you mitigate potential pitfalls.

Fear elicits both a physiological and psychological response in individuals. Essentially it is an emotion and has been described as "a state characterized by physiological arousal, changes in facial expression, gestures, posture, and subjective feeling."[89] Intense emotional experiences, such as fear, are usually accompanied by bodily changes due to the activation of the sympathetic division of the autonomic nervous system as it prepares the body for emergency action – the fight or flight reflex. These bodily changes generally include: blood pressure and heart rate increase; increased rate of respiration; dilated pupils; increased perspiration while secretion of saliva and mucous decrease; increase in blood sugar levels, which provides a boost in energy; faster clotting of blood; the diversion of blood from the stomach and intestines to the brain and skeletal muscles; and / or the hair on the skin stands up often resulting in goose-bumps.[90]

All of these bodily changes have a specific purpose in order to optimize the flight or fight response. Consequently, fear should not be viewed entirely in a negative light. Social anthropologist John Dollard was quite astute when he observed of men in combat, "it is not fear that matters, but what a man does when he is afraid."[91] Similarly in *Lone Survivor* Marcus Luttrell described how fear can empower individuals. While on a capture / kill mission in northern Afghanistan Luttrell's four-man SEAL team was compromised by two elderly Afghan shepherds and a teenager. They ultimately decided to abort the mission and let the shepherds go only to, somewhat predictably, have their location compromised and be targeted by the enemy. Luttrell observed during the firefight that later ensued "it's unbelievable what you can do when the threat to your own life is that bad." [92] He also directly acknowledged the benefits that fear provides in heightening senses. While escaping his Taliban pursuers, he had to make a steep climb to escape. He explained, "…before I made the first twenty feet … I slipped badly, which was a very scary experience. The gradient was almost sheer, straight down to the valley floor." He continued, "In my condition I probably would not have survived the fall, and I somehow saved myself from falling any more than about ten feet. … Then I picked it up again. You'd have needed a chain saw to pry me off that cliff face." Luttrell illustrated his motivation when he states, "All I

knew was, if I fell, I would probably plummet several hundred feet to my death. Which was good for the concentration. [sic]"[93]

Nonetheless, while fear often leads to enhanced physical performance, it can also impact decision-making in a non-optimal way. In fact, research has shown "that during stressful combat-like training, every aspect of cognitive function assessed was severely degraded, compared to the subjects' own baseline, pre-stress performance."[94] While simply recognizing this fact will likely not completely change the impact of fear and / or stress on decision-making, it can help to mitigate some of the negative effects. In fact, Fowler and Guay recognized this fact and used it to their advantage when held in captivity. As Fowler identified, "The constant stress caused in each of us a startling and disturbing loss of short-term memory to a point at which I seriously wondered if I was losing my mind." When Guay acknowledged the same symptoms, Fowler became less concerned. In fact, he remembered, "In the dead recesses of what memory remained, I vaguely recalled reading something about this phenomenon in victims of post-traumatic stress disorder." Having discovered the problem, they then sought – albeit halfheartedly – to find a solution.[95]

Indeed, one should always question what is driving decision-making and, if it is fear, you should ask yourself if it is a legitimate fear and make sure that you are still making the best decision in the actual context that you are in. While there are many causes of fear, there are three principle reasons for fear that can negatively impact decision making, particularly in stressful situations. They are: fear of the unknown; fear of being judged; and fear of mission failure.

Fear of the unknown is arguably the most significant fear to be aware of because your imagination is free to run rampant, often unchecked by reality. Before even realizing that you are running from your imagination – and your imagination alone – it can be too late as it was for many of the crew from the *Essex*. For instance, Pete Blaber, a former Delta Force commander, describes running for his life from a bear during the final Delta Force selection process. In fact, when it came down to deciding whether to follow a trail or hurl himself off the edge of an unknown cliff, he wasted little time in deciding, noting "I'm going for the cliff. No bear is gonna catch me, I'm gonna jump."[96] And jump he did, miraculously sustaining no injuries.

He was later horrified and ashamed to realize that he had not been running from a bear after all. In reality, he had been chased by a pig. Blaber explained, "When I saw the little black creature through the corner of my eye, my tired and frustrated mind took a shortcut. I decided it must have been a baby bear with a mother not too far behind. When I heard the spastic scream of the animal in the bushes, I decided it had to be the vicious growl of a mother bear instead of what it actually was – the vicious oink of a mother pig." Blaber continued, "My contextless [sic] response was to run for my life and jump off a cliff." As he put it, "I got treed by a Chihuahua," a phrase he uses to explain poor decisions which are made without proper context.[97]

Certainly when you do not have all the information, your mind tries to fill the gaps and fear is a very powerful replacement for proper context. As Andy McNab, a member of the eight man Special Air Service (SAS) team that infiltrated Iraq in January 1991, resulting in three members being killed, four being captured and one escaping, revealed shortly after his capture, "I was scared: the fear of the unknown." Additionally, on a previous encounter with the enemy he had learned, "the earlier you can see it the better, then that awful dread of the unknown evaporates."[98] Indeed, making the unknown known is a great way to distil this type of fear.[99]

Fear of being judged is also an important fear to recognize because, like fear of the unknown, it pushes you to make decisions beyond their proper context. Unlike simply recognizing that different groups will interpret your behaviours according to their own cultural views, fear of being judged gives heightened importance to how you perceive others will judge you and thus affects your decision-making, with potentially negative consequences. In *Lone Survivor*, Luttrell described the decision process that ultimately led to the loss of his three SEAL teammates, as well as the helicopter full of SEALs that went to rescue them, as "the stupidest, most southern-fried, lame-brained decision I ever made in my life." Not surprisingly, shortly after they had let the shepherds go, their position was compromised and the team was ruthlessly hunted by approximately 100 Taliban. Luttrell was clear when he described the fears at play during their decision process: "Was I afraid of these guys [shepherds]? No. Was I afraid of their possible buddies in the Taliban? No. Was I afraid of the liberal media back in the U.S.A.? Yes. And I suddenly flashed on the prospect of many, many years in a U.S. civilian jail alongside murderers and rapists."

The fear of being judged and the potential consequences of judgment gave priority to that viewpoint during Luttrell's decision-making process, resulting in a decision that he later fully regretted and that many paid for with their lives. As Luttrell recounted, "…I cursed those fucking goatherders to hell, and myself for not executing them when every military codebook ever written had taught me otherwise. Not to mention my own raging instincts, which had told me to go with Axe [teammate] and execute them." He added, "And let the liberals go to hell in a mule cart, and take with them all of their fucking know-nothing rules of etiquette in war and human rights and whatever other bullshit makes 'em happy." He asks, "You want to charge us with murder?" And then retorts, "Well, fucking do it. But at least we'll be alive to answer it."

Later, Luttrell provided a good summation of his decision-making process in recapping his experience: "Helpless, tortured, shot, blown-up, my best buddies all dead, and all because we were afraid of the liberals back home, afraid to do what was necessary to save our own lives. Afraid of American civilian lawyers."[100] Considering multiple perspectives prior to making a decision is essential, but allowing the fear of being judged to overshadow your thought process can, as in the case described in the *Lone Survivor*, have dire consequences.

Fear of mission failure is also a crucial fear to recognize because it can cause you to have tunnel vision and essentially not see the forest for the trees. SOF has been called a "no fail" force which implies that SOF missions are such that failure is not an option and that the strategic importance of success justifies all means necessary to achieve the mission at any cost. The truth is, however, that while SOF tactical actions may have direct strategic and / or political consequences, many SOF missions, while important, do not directly change the course of a conflict or war. Moreover, in some cases, continuing on with a mission, despite a change of circumstance, might be even more detrimental than aborting the mission.

For example, on 30 July 1997, Hamas deployed two suicide bombers who detonated their bombs in the crowded Mahane-Yehude market in Jerusalem killing sixteen and wounding 169 people. As a result, the Israeli government decided to assassinate a high ranking Hamas leader. Their target was in Amman, Jordan. Complicating this issue was the fact that Israel had signed a

peace agreement with Jordan three years prior and they presently had good relations. Nonetheless, the government chose to pursue the assassination.

The mission was assigned to Mossad. Once the Mossad operators ascertained the target's routine, a plan was derived. The plan called for one operator to open a can of soda pop near the target. The popping noise and spray of the shaken soda was intended to distract the target while a second agent applied a few drops of poison on the back of the target's neck. The intent was that the target would get violently ill and pass away, without any outward sign of violence or foul play.

While the plan appeared to be sound, the actual mission was a disaster. Although told to abort if there were any complications, the agents failed to do so. On the day of the "attack" the agents apparently failed to see – or acknowledge – the target's young daughter run out of the car after her father, the driver get out of the car or the Hamas militant delivering a document to the same building. In addition, the tab on the soda can tore off so there was no diversion. Nonetheless, the operators went forward with the mission. In the confusion, the target was sprayed with the poison. Not before a scuffle broke-out, however, and the police, attracted to the commotion on the street, arrested the agents, who were using fake Canadian passports.

The event became a diplomatic nightmare. The Israelis, in an attempt to repair relations, offered to provide the antidote to cure the target who had quickly become deathly ill. However, in order to do so, they were also forced to provide the chemical make-up of the poison and the antidote as the Jordanian physician would not otherwise administer the drug. Additionally, they were required to release twenty Jordanian prisoners held in Israel for the return of the two Mossad agents. Not surprisingly, political relations also soured between Jordan and Israel as a result.[101]

Clearly, poor decisions resulting from a singular focus on mission accomplishment, heightened by the fear of mission failure, can have even more dire consequences. In the case of the "Triple Agent" it cost seven Central Intelligence Agency (CIA) operatives, among others, their lives. In Pulitzer Prize winner Joby Warrick's national best seller, *The Triple Agent*, the author recounts the events that preceded the 30 December 2009 suicide bomb inside the CIA compound in Khost, Afghanistan. Interestingly, in retrospect,

it appears that many of the key individuals had serious doubts about the Jordanian al Qaeda propagandist who, once captured by the Jordanians, agreed to act as a "double" agent for the West. While many had their doubts as to whether or not this rising superspy was trustworthy or in fact acting more as a "triple" agent sill committed to al Qaeda and playing the West, fear of losing the best opportunity to locate top al Qaeda leaders mitigated this doubt and even allowed them to ignore standing operating procedures (SOPs) when the Jordanian entered the CIA base. Had they followed the SOPs, then the bomb strapped to the Triple Agent's chest would have been discovered before he had gained access to the inner echelons of the compound. Even immediately preceding the detonation, doubts remained but fear restrained action. According to Warrick, one of the guards, a former Green Beret, "watched with growing alarm as Balawi [Triple Agent]" having refused to exit on the guard's side of the car as proper protocol dictated, "hobbled around the vehicle, one hand grasping the crutch and the other hidden ominously under his shawl." Warrick continues explaining that the guard "tensed, finger on the trigger, eyes fixed on the shawl with instincts honed in dozens of firefights and close scrapes. One shot would drop the man. But if he was wrong – if there was no bomb – it would be the worst mistake of his life." In this case, the worst and last mistake of his life ended up being not taking that shot. Notably, this decision was simply the last of many with regard to this event that was guided more by the fear of mission failure than by sound reason and logical thinking.[102]

Thankfully, common sense often prevails over mission accomplishment at a tactical level in the decision making process. For instance, in *Lone Survivor*, Luttrell recounts how several days after his teammates were killed he came face-to-face with his team's target. He remembered, "I seem to recall that he had green eyes and that they were filled with hatred which would have melted a U.S. Army tank. He stared right through me and spoke not one word." He added, "I noticed he was unarmed, and I tightened my grip on the Mark 12 and very slowly turned it on him until the barrel was aimed right between his eyes. … After all, it was what I had come for; that or capture him, and that last part wasn't going to happen at all." Nonetheless, realizing that there was no danger to his life, and that shooting the target could cause harm to the villagers who had protected him and undoubtedly hinder the Coalition's efforts in the counterinsurgency, Luttrell wisely lowered his weapon.[103] By not allowing the fear of mission failure to cloud his judgment, Luttrell quite

probably contributed more to the Coalition's campaign than proceeding with his mission could have accomplished. While SOF should be considered a no-fail force in the sense that they are assigned high value tasks and targets, they should not be driven by the fear of mission failure, but rather by the importance of their roles within the wider political / military context.

In summation, fear is common and only a fool will never be afraid. Fear of the unknown, fear of being judged and fear of mission failure are three of the most common fears that may cause SOF members to make poor decisions. As such, it is critically important to understand the impact fear may have on you or your team during operations. This knowledge can help enable you and your teammates to take the necessary actions to recognize and mitigate some potential pitfalls caused by fear and thereby avoid them or compensate for them.

Specifically, what is required to mitigate the negative effects of fear are:

1. Learning to recognize the signs of fear so you can acknowledge whether or not you or your teammates are afraid and allow you to take the necessary actions to mitigate the potential negative side-effects;

2. Removing the negative stigma associated with fear. Everyone gets scared sometimes and fear is not necessarily a bad thing. In fact, there are some positive physiological responses that come with heightened fear. Importantly, acknowledging fear can help you determine if you are making a decision based on fear or logic; and

3. Identifying the source of fear. If the source is a fear of the unknown, try to gain knowledge to make the unknown, known. Endeavour to acquaint individuals with all the possible pitfalls / threats they may encounter, even if only in briefing. Try to avoid individuals facing a threat / situation for the first time on the actual operation so they are not totally surprised. In the end, always ensure that you are making decisions based on a real threat and not a threat that exists only in your imagination.

Fear is universal. Controlling your fears so that they empower you and do not impede your decision-making is the ultimate goal.

# CHAPTER 12

## Lack of Energy Control

*The fundamentals of war – soldiers must be trained before they can fight, fed before they can march, and relieved before they are worn out.*

Field Marshal William Slim
Commander British 14th Army in WWII[104]

*Lack of fitness, sleep and/or food can significantly degrade judgment. A fit well-nourished and well-rested brain is considerably more effective than a tired one.*

*Developing Leaders: A British Army Guide*[105]

Making good decisions requires good mental judgement, something that strategic thinking facilitates. While decision-making resides within the cognitive realm, the ability to make good decisions is directly affected by physiological states, such as fatigue, hunger and cold, as well as psychological states, such as anger, sadness, boredom and fear for example. As demonstrated in the previous chapter on fear, these "distractions" can greatly diminish your ability to make good decisions.

One way to explore the effects of these so called distractions on your decision-making is to imagine that you have a peak energy level at which you make good decisions.[106] Distractions can increase your energy level, such as in the case of anger, fear and intense arousal, to the point that the physiological and / or psychological state is controlling your actions and you are making decisions based on anger, fear or intense arousal rather than sound judgement, for instance. Alternatively, your energy levels can be depleted when distractions such as hunger, cold, sadness, amongst others, remove your focus from your specific goal.

In order to make good decisions, you need to maintain your optimum energy level in the midst of potential distractions. The first step in being able to do so is to acknowledge that there are factors that can and will affect your

energy level. The next step is to find a solution and / or mitigate their potentially negative consequences.

For many high-level performers, and Special Operations Forces (SOF) in particular, pushing through physical pain, lack of sleep, and mental duress, while enduring other operational hardships is considered as the price of admission to these selective organization and often worn as a badge of courage and discussed with pride. For instance, it is likely difficult for anyone immersed in the SOF community to imagine a morning conversation along the lines of: "how are you?" "I'm well, thanks. I had nine hours of sleep last night. I skipped my workout this morning as my leg was bothering me and instead, after my regular thirty minute mediation, I had a relaxed and healthy breakfast, followed by deep-tissue massage. I am now ready to fully engage in the day." Even when not deployed, the SOF culture tends to favour pushing through pain, and working and playing hard and long-hours. Notably, this is an extreme stereotype about SOF culture yet it is still probably recognizable to many within the community.

Importantly, the culture is shifting and SOF personnel are recognizing the influence of physiological and psychological distractions on their mental acuity. This section is thus not intended to change SOF culture but simply to help nudge it in a direction that it is already moving. Below are some common physiological and psychological distractions and potential ways to limit their negative influence.

## THINKING THROUGH FATIGUE

Simply put, lack of sleep makes you stupid. It also heightens your willingness to take risks and lowers your reaction time, as well as causes poor memory and diminishes creative thinking skills. Clearly, fatigue is not an optimal state for performance. Importantly, when you are tired and making poor decisions, you do not realize that you are making poor choices.

Regardless of the negative effects of fatigue on your thinking, the common assumption is that when in combat, you will have to fight through fatigue. As a British Army guide advises "people should prepare for and become accustomed to the effects of fatigue."[107] The challenge is that when in a state of fatigue, you have an inability to access the cognitive difficulties that this state is causing you. In brief, when you are exhausted and acting like you

are drunk because of the effects of fatigue, you will be unaware of these effects. You can practice training through fatigue in order to maximize your response to specific tasks in this state, as well as to later evaluate your performance, but, contrary to wishful thinking, you cannot condition yourself to think through fatigue.

Thankfully, you can learn to recognize the cognitive detriments of sleep deprivation and, when possible, organize a system in which everyone can receive sufficient amounts of rest. If the ideal seven to nine hours of sleep per twenty-four hour cycle is not possible, napping for twenty-minute periods can help to mitigate the cognitive deficiencies caused by fatigue. Another solution is to rely on your teammates, both for down periods and also to recognize the effects of sleep deprivation in members and to help lessen the load for these individuals. Fitness also helps to waylay the effects of fatigue and physically fit people are less susceptible to the effects of fatigue than are their less toned counterparts.

Additionally, you can learn to pay attention to how much sleep you receive and to be able to calculate when fatigue might be setting in and causing detriments to your decision-making abilities. In this manner, while you may never consciously feel like your cognitive ability has been compromised because of lack of sleep, you can nonetheless acknowledge that you are in a state of fatigue and that you will take more risks, have slower reaction time, have an impaired ability to reason, as well as poor memory and creative thinking skills. With this understanding, you can proceed while trying to mitigate for any of these potential pitfalls and perhaps leaving complex decisions for after you have had some rest.

Fatigue is not an ideal state. It is, however, a reality that will face those in combat. Steps should be taken to minimize its occurrence. When these alternatives are not available, you should recognize that your decision-making and thinking will be influenced in a negative manner because of fatigue.

## THINKING THROUGH PHYSIOLOGICAL DISTRESS

Often pain, hunger, and thirst for example can hijack our thinking. When you are in an environment in which you can control your eating and drinking it goes without saying that you should be well hydrated and nourished.

Unfortunately, regular access to food and water is not always possible. Beyond simply being thirsty and / or hungry, the effects of dehydration and starvation can impact how your brain functions. In particular, dehydration can greatly diminish your cognitive abilities. As such, prior to entering a situation where you may have little access to fluids, make sure that you are well hydrated. In periods of intense stress, your body may not be signaling that you are thirsty but this lack of indicator does not mean that you are not in need of water. Hunger and pain will also affect your ability to reason but their effects are more easily masked by adrenalin.

In brief, there are three steps to making good-decisions under austere conditions:

1. Recognize psychological and physiological stressors;
2. Control your energy through your breath and heart rate; and
3. Maximize combat effectiveness through energy control.

While this list may seem simplistic in theory, it is anything but in practice. Importantly, these issues should not be faced for the first time in combat. Instead, attention should be paid to them in training and solutions should be found before they are required.

# PART V

# SUCCESS

# PREFACE
## PART V

Making good decisions under the most austere of circumstances is no easy task. It is what is expected of Special Operations Forces on a regular basis, however. Not only do their lives depend on it but fates of nations may hang in the balance. As such, it is imperative to prepare for success in this arena. Indeed, that is the true purpose of *Thinking for Impact*.

# CHAPTER 13

## Shortcuts to Success

Strategic thinking and making the best decisions possible even in the worst of circumstances is never easy. *Thinking for Impact* has outlined several strategies to maximize your ability to make good decisions under these conditions. Importantly, while chapters have been divided by topic, thinking is a holistic function that is rarely compartmentalized or intentionally deconstructed, especially in the heat of battle. Instead, it is often done automatically, unconsciously and quickly. Nonetheless, as outlined throughout this volume, thinking, and the processes of thinking, can be improved. Importantly, to do so, it is beneficial to think of these ten steps for improving strategic thinking in a holistic manner.

### TEN STEPS FOR IMPROVING YOUR STRATEGIC THINKING

1. Appreciate that a healthy body facilitates a healthy mind. As highlighted throughout this volume, your mind and your body are connected. In order to ensure that you are able to think well, you also need to make sure that you are well rested, hydrated and nourished. Failure to do so will directly impact your ability to think effectively.

2. Know yourself, especially in terms of emotional intelligence. Knowing yourself is vital because you will always be biased to your own views so it is important to appreciate where they are coming from. By recognizing your natural inclinations, and knowing your strengths and weaknesses, you will be able maximize your strengths while mitigating potential weaknesses.

3. Mitigate cognitive biases. Accept that you are subject to cognitive biases. Your mind will play tricks on you. Knowing this fact will not remove the biases but this knowledge will allow you to put steps in place that minimize the potential of negative effects occurring from these biases and allow you to make good decisions even if your mind will still play tricks on you.

4. Practice to failure so you know what it is like to fail and how much your body and mind can really take. We often train our bodies to failure but we do not often combine this physical stress with demands on the brain. In training environment, thinking should be done in non-optimal conditions and the quality of decisions made during these periods should be debriefed. Knowing that you may make less than optimal decisions under stress and / or are more risk accepting with the rush of combat can help you employ things like breathing techniques to calm your heart rate and encourage more effective thinking in the moment. Decision-making and thinking should be trained and tested in the same type of environment in which during operations decisions will need to be made. "Book-smarts" may not directly transfer to combat effectiveness and the environment of learning needs to be representative of the environment in which decisions will need to be made. Brain function can be momentarily diminished even through simple things like a physical workout that pushes you to your limit. After such a workout, test your ability to do, for example, math problems. If your performance is worse that when relaxed even with these relatively simple tasks, do not kid yourself into thinking that this deficiency is any less apparent with more complex tasks. Training yourself to think under these conditions will help you think more effectively under stress.

5. Expand your comfort zone by doing new things on a regular basis. Doing so will help you face a potential fear of failure as well as a potential fear of the unknown, amongst other things. Routines are excellent because they provide people with comfort and minimize the number of small decisions that you have to make. They can also become security blankets, however. The less you try new things, the harder it becomes and vice versa. For example, driving a new route to work may not be optimal (as surely your regular route is the most efficient) but it will force you to think slightly differently and may even help you see other things in your life in a different light.

6. Embrace curiosity and learning and learn to appreciate that you will never know everything. In general, the more you learn, the more you realize how much you do not know. This gap can become paralyzing for some as it underscores the reality that no single person will ever be able to know all there is to know. Nonetheless, in these instances, you should explore how far you have come in your knowledge rather

than how far you may still need to travel. Being curious and learning will simply keep filling you with potential regardless of how big the knowledge container becomes.

7. Assess and re-evaluate the status quo to make sure that it is still optimal for the situation and not just an expression of your preferences. The following joke helps to illustrate this important point: a new monk arrives at a monastery. He is assigned to help the other monks in copying the old texts by hand. He notices, however, that they are copying copies, and not the original books. As a result, he goes to the head monk to ask him about this process. He points out that if there was an error in the first copy, that error would be continued in all of the other copies. The head monk takes his concerns seriously and goes down into the cellar with one of the copies to check it against the original. Hours later, nobody has seen him. Eventually, one of the monks goes downstairs to look for him. He hears sobbing coming from the back of the cellar and finds the old monk leaning over one of the original books crying. "The word is celebrate not celibate," says the old monk with tears in his eyes.[108] Not only should you check your sources, you should also periodically reflect on why you do what you do.

8. Engage in arguments and debates, particularly from a position that you do not naturally agree with. This process will help you to practice your skills at defending arguments with sound evidence. Also, defending a point that you do not naturally agree with will help you to broaden your perspective.

9. Create opportunities and find solutions. Growth requires change and begins internally. By practicing creating opportunities and finding solutions on a regular basis, these skills will emerge under duress. Not only will your mental toughness be improved upon, your cognitive flexibility will also be enhanced.

10. Never allow yourself to be limited by your current perspective. The biggest limiting factor in our thinking is that we are trapped within ourselves. By continuously growing your perspective you will not just broaden your scope of knowledge, more importantly, you will expand your realm of possible. As such, your perspective should be continuously evolving.

Ultimately, the goal of thinking effectively should be to learn from the past in order to create a desired future. Applying these shortcuts to your thinking will help you make better decisions on a regular basis. It should never be forgotten that the brain, like the body, can be optimized for success. Consequently, the concept of "train like you fight" should not be ignored when it comes to training your mind for peak performance in combat.

| Ten Steps for Improving your Strategic Thinking | |
|---|---|
| 1 | Appreciate that a healthy body facilitates a healthy mind; |
| 2 | Know yourself, especially in terms of emotional intelligence; |
| 3 | Mitigate cognitive biases; |
| 4 | Practice to failure so you know what it is like to fail and how much your body and mind can really take; |
| 5 | Expand your comfort zone by doing new things on a regular basis; |
| 6 | Embrace curiosity and learning and learn to appreciate that you will never know everything; |
| 7 | Assess and re-evaluate the status quo to make sure that it is still optimal for the situation and not just an expression of your preferences; |
| 8 | Engage in arguments and debates, particularly from a position that you do not naturally agree with; |
| 9 | Create opportunities and find solutions; and |
| 10 | Never allow yourself to be limited by your current perspective. |

## The Titanic of Forts[109]

There is perhaps no better example of success than the efficacious assault on the "Titanic of Forts," the capture of the Belgian fortress Eben Emael by the Germans on 10 May 1940. Devastated by the experience of the First World War when the German offensive cut through and then stalled in Belgium, the Belgians were adamant that this type of occurrence would never happen again. As a result, they utilized the inter-war period to build defences designed to halt any future German attack.

A key element of their defence was based on the Albert Canal. The Albert Canal represented in itself a formidable obstacle. It was cut deep and was approximately 107 metres wide. Moreover, it had only three bridges that spanned its girth and the sector was defended by the 7th Infantry Division with three brigades deployed forward in brigade sectors. The crown jewel, however, was the Fortress Eben Emael, which dominated the entire area with its deadly artillery.

The Belgians, as well as their allies, perceived the fortress, which was built in 1934, to be state-of-the-art and totally impregnable – much like the famed ship The *Titanic* had appeared decades earlier. The Fort boasted a garrison of 1,322 personnel and it was constructed by tunneling into a rocky hill with the living quarters, workshops and magazines all located deep in the heart of the terrain feature. Shafts housing ammunition lifts and a spiral staircases ran up through the rock to the heavy concrete gun emplacements on the surface. The gun emplacements themselves had reinforced concrete walls and ceilings that were approximately 1.2 metres thick. The fortress armament consisted of twelve 75mm guns in casements, as well as four 75mm and two 120mm guns in revolving armoured cupolas that were made of 15 centimetres thick steel. Many of the casemates and cupolas also housed machine guns that provided anti-infantry fire on the surface. The artillery pieces covered the bridges and the outlying towns.

In addition there were five 60mm antiaircraft batteries situated at the south-east corner of the fort. The approaches to the fortress were equally impressive. The side of the Fort closest to a predicted German assault was a steep 61 metre cliff that dropped into the canal. The other three sides were protected by deep entrenchments, barbed wire, and anti-tank ditches, all of which were covered by protective fire from dominating concrete bunkers. The only weakness, one that was not realized by the Belgians at the time, was the absence of infantry fighting positions on the surface. Although the external approaches to the Fort were covered by anti-tank obstacles and belts of barbed wire and minefields, with the exception of five rows of barbed wire constructed in strategic locations, the top of the Fort was left as a grassy field.

Needless to say, the fortress was not an easy obstacle to overcome and, to succeed, the Germans utilized both critical and creative thinking. Moreover, they demonstrated many other attributes of success – confidence, healthy discussion and debate, and an understanding of their own strengths and weaknesses. Furthermore, they stepped out of their comfort zone and explored new opportunities that provided potential solutions.

For the German planners the problem, as well as Hitler's intent, was clear: How do you enable the German 6th Army to pass the Dutch and Belgian border defences "without delay." But the major issue was how to deal with

Fort Eben Emael and the bridges crossing the Albert Canal and Meuse River. A careful study of the problem revealed that the Fort and bridges were well defended against ground attack but not against a direct assault from the air. In fact, the Fort had a flat surface and apart from artillery it had only two to three medium machine guns capable of firing on the surface of the Fort, or in an anti-aircraft role. This revelation now opened the door to a solution.

The use of gliders was a function of pure chance. In casual conversation with Hanna Reisch, a glider pilot, Hitler had learned that gliders were practically noiseless in flight. He seized on the point and directed that a study on the use of gliders for the invasion of France, specifically the break-in through in Belgium, be made. Germany had a number of large freight gliders that had been developed in 1938 as cargo-carriers. The most recent trials demonstrated that these gliders could carry nine armed men and if released at approximately 2,400 metres they could easily glide the 32 kilometres to their objective. Importantly, in 1940, Belgian anti-aircraft defences used sound-location not radar. Therefore, if the gliders were released in the dark over Germany, then they could potentially reach Belgium unseen and unheard. "So the German command decided," First-Lieutenant Rudolf Witzig, one of the detachment commanders to participate in the assault on Fort Eben Emael, revealed "to use freight gliders, which could approach silently and invisibly in the half-light and which would moreover, possess a high 'surprise potential,' as they had never been used on such a scale as a weapon of war."[110]

German innovation went a step further. To deal with the formidable reinforced concrete bunkers, the Germans specifically developed a state-of-the-art demolition charge, the *Hohlladung*, which was considered a secret weapon. It was a hollow-charge, also known as a shaped charge, which was designed in its largest form as a 50 kilogram demolition capable of punching a hole of about 31 centimetres diameter through approximately two metres of concrete.

As a result of a series of studies, the German airborne Commander, General Kurt Student accepted that airborne forces could carry out the missions. For the critical task of capturing the bridges across the Albert Canal and the impregnable Fort Eben Emael, Student began to assemble a task force consisting of parachute infantry, parachute engineers, tug aircraft and gliders. The total strength of the task force given the mission to capture the fort was a mere 85 men.

The overall assault had two major phases. The first phase consisted of capturing Fort Eben Emael and seizure of the bridges across the Albert Canal to prevent the Belgians from blowing them, as well as neutralizing the bunkers and securing bridgeheads of 300 metre radius at each objective. The Germans estimated that the shock of surprise would be fleeting, approximately lasting 10-15 minutes. After that point, they realized resistance would build. Therefore, they planned to achieve the first phase by H+45 minutes. The second phase was purely defensive, to simply hang on to all of their objectives.

To add to the shock and dislocation of the Belgians, ten minutes prior to the real drop, dummy parachutists were to be dropped in the rear of the Belgian 7th Division to cause confusion and delay deployment of reserves. Finally, in order to achieve complete surprise, based on an understanding of the Belgian military psyche, no German air or ground forces were to cross the Dutch frontier prior to the landings. However, during this period, 330 light bombers and Ju-87 Stuka dive-bombers were assigned to conduct supporting attacks against Belgian headquarters, reserves, and gun positions. German planners assessed that if all went well, then the main German invasion force would link-up with task force assigned to capture the fort within four hours.

Success depended on speed and violence of action to induce shock in the enemy. With only 85 men assigned to this task, their chances of survival against a spirited counter-attack were slim. At best, the Ground Force Commander calculated that he would have no more than an hour before the enemy began to counter-attack. He did have one great advantage nonetheless. The planners were able to attain blueprints of the Fort from a German subcontractor who had assisted in the construction of the fortification. As such, the Ground Force Commander knew exactly where all the large guns were located. As a result, he broke his task force into eleven detachments each able to focus on a specific target. However, realizing that reality has a way of messing with plans, he also assigned secondary targets to each detachment in the event that something went wrong and not all gliders reached the objective. This was a fortuitous plan as two gliders, including the Task Force Commander's, failed to arrive on the target.

The assault force gliders began to land shortly after 0410 hours, much earlier than planned due to a strong tail wind. They had achieved complete

surprise. Tragically for the Belgians, the three bridges were not yet blown and the German *Fallschirmjägers* who had landed behind them quickly swept through the relatively undefended rear of the Belgian defences and captured the bridges.

In the end, many of the defenders had not even realized the threat. They had believed the aircraft to be disabled light reconnaissance aircraft. Some thought they were English as they could not see the German Swastika insignia. Only at Canne were the Belgians able to blow the bridge in time. The great impregnable fortress fell to only 55 airborne raiders who had actually landed on their objective. The German 7th Infantry Division poured across the frontier, and although just a deception, was able to draw in the Allied reserves, which set the scene for the debacle of the collapse of the Allied effort in Western Europe leading to the withdrawal of Allied forces at Dunkirk between 26 May and 4 June 1940.

As is evident in this recounting of the defeat of what could be aptly labeled the Titanic of Forts, strategic thinking – the art of applying critical and creative thinking, and emotional intelligence in a holistic manner in order to achieve sustainable success within complex, dynamic and multi-player environments – was at the forefront of the German success. Certainly other factors were at play but without being able to identify root concerns, find creative potential solutions, and apply human psychology and emotional intelligence to the issue, quite arguably things would have turned out differently. This example should simply underscore the importance of strategic thinking to success in the contemporary operating environment, as well as stress the necessity to continuously strive to improve this capability.

# CONCLUDING REMARKS

***Think to the finish.***

General Edmund Allenby
Cited in *Developing Leader: A British Army Guide*[111]

***It's not the will to win that matters...***
***Everyone has that. It's the will to prepare to win that matters.***

Paul "Bear" Bryant
Athlete and Coach[112]

It is important to note that in environments such as those in which Special Operations Forces (SOF) operate, education is sometimes neither prioritized, nor highly valued. What should also be recognized, however, is that while education and training require many resources, including time, they pay dividends in the field, even when decisions are made seemingly unconsciously. A good example occurred during "Millennium Challenge '02", a large American war game. In this scenario, the Americans represented the Blue Team and were given enormous resources to combat their opponent the Red Team led by retired US Marine Corps (USMC) Lieutenant General Paul van Riper. In the early stages of the game, the Blue Team dedicated much time to careful and thorough analysis of each option that was presented to them in an attempt to limit what is often referred to as the fog of war. While van Riper was not opposed to rational analysis, "he thought that it was inappropriate in the midst of battle, where the uncertainties of war and the pressures of time made it impossible to compare options carefully and calmly."[113] His more esoteric approach to the scenario caught the Blue Team off-guard and led to several serious initial set-backs. As author Malcolm Gladwell comments regarding the decision-making process during the exercise, Blue Team "had conducted a thoroughly rational and rigorous analysis that covered every single contingency, yet that analysis somehow missed a truth that should have been picked up instinctively."[114] The Blue

Team essentially exhibited "paralysis through analysis."[115] While the Red Team, as noted, also valued analysis, they had conducted their detailed analysis prior to the battle. Once the belligerence had begun, they behaved more instinctively. Most importantly, however, as Gladwell remarks, "being able to act intelligently and instinctively in the moment is possible only after a long and rigorous course of education and experience."[116]

Ultimately, strategic thinking is about trying to optimize the decision-making process, whether by applying logic, creativity and / or intuition. Moreover, the strategic thinker should recognize that too many variables exist within the human domain to even understand, let alone control, for all of them. Nonetheless, it would be unconscionable for those in high reliability organizations (HROs) such as SOF to not try to understand and perfect the decision-making process. As former Delta Force Commander, Pete Blaber observes, "History has proven that it's not the quality of men or the quality of weapons that makes the ultimate difference; it's the ability to out-think and out-imagine the enemy that always has, and always will, determine the ultimate victor."[117] In the end, whether decisions are made consciously or unconsciously, through logical analysis, creative insight or difficult to identify emotional cues, good decisions are born of education and experience.

As has been demonstrated through the use of argument and examples throughout *Thinking for Impact*, strategic thinking is a skill that no commander should be without and, in the case of SOF, no individual should be lacking either. While this is perhaps an easier statement to espouse than to do, strategic thinking can be improved. More importantly, in can be embodied prior to battle thereby allowing good decisions to be able to emerge in the heat of the moment when they are most needed. In this case theory is certainly more straightforward that practice, but this delta is no excuse for not developing this capability amongst SOF as failure to do so can have negative strategic consequences. As one former Rhodesian SAS operator insisted, "we looked for chaps who could think fast on their feet, no matter how exhausted. A junior leader might have to make instant decisions under severe pressure which in some cases might lead to the fall of a government should things go wrong."[118]

# ENDNOTES

## INTRODUCTION

1 James G. Stavridis, "Read, Think, Write," *Joint Forces Quarterly*, Issue 63, 4th Quarter 2011, 110.

## CHAPTER 1

2 Ray Smith cited in Susan L. Marquis, *Unconventional Warfare. Rebuilding US Special Operations Forces* (Washington D.C.: Brookings Institution Press, 1997), 47.

3 Canada, *Canadian Special Operations. An Overview* (DND: Ottawa, 2008), 7.

4 Joint Special Operations University, *Special Operations Forces Reference Manual, Second Edition* (Hurlburt Field, FL: The JSOU Press, August 2008), A8. The NATO definition of SO is: "Military activities conducted by specially designated, organized, trained and equipped forces using operational techniques and modes of employment not standard to conventional forces. These activities are conducted across the full range of military operations independently or in coordination with operations of conventional forces to achieve political, military, psychological and economic objectives. Politico-military considerations may require clandestine, covert or discreet techniques and the acceptance of a degree of physical and political risk not associated with conventional operations." North Atlantic Treaty Organization Special Operations Coordination Centre, *North Atlantic Treaty Organization Special Operations Study* (Brussels: NATO, 4 December 2008), 5.

5 Canada, *CANSOFCOM Capstone Concept for Special Operations* (DND: Ottawa, 2009), 7.

6 Selection processes for SOF have been scientifically derived and are based on job analyses that identify specific attributes required of personnel in order to be successful depending on the respective employment field within the SOF environment. For some employment, the screening and selection processes are fairly straightforward, comprised of a file review, a background check, an interview, and psychological screening. More elaborate selection processes (i.e., assessment centres) exist for the more specialized and higher demanding SOF roles. The assessment centre employs a process that is used to measure a pre-determined set of job-related competencies in groups of individuals and is typically comprised of a collection of structured assessment instruments such as interviews, simulation exercises, and teamwork events, all of which are measured using multiple trained assessors. However, the actual construction and content of the respective assessment centre varies depending on organizational mandate, hence, the requirement for separate and distinct assessment centres for different SOF organizations. See Tony Balasevicius, "Thinking Outside the Box: Understanding SOF Leadership," in Bernd Horn and Tony Balasevicius (eds), *Casting Light on the Shadows: Canadian Perspectives on Special Operations Forces* (Toronto: The Dundurn Group, 2007), 87-114.

7 *CANSOFCOM Capstone Concept*, 4-5.

8 Ibid., 6.

9 Notably, NATO doctrine lists only three SOF core tasks, i.e. Direct Action, Special Reconnaissance and Military Assistance. Sub-tasks under the three core tasks capture activities from the larger list, however.

10 Adapted from Colonel Bernd Horn, "The Global SOF Network as an Enabler and Weapon System," in Emily Spencer (Ed.) *"By, With, Through": A SOF Global Engagement Strategy* (Kingston: CDA Press, 2014), 47-48.

11 Developed in collaboration with Dr. Bernd Horn.

## CHAPTER 2

12 Manu Amitabh and Arun Sahay, "Strategic Thinking: is Leadership the Missing Link, An Exploratory Strategy," 2007 http://www.iitk.ac.in/infocell/announce/convention/papers/Strategy-01-Manu%20Amitabh%20final.pdf. Accessed 4 February 2015, 5.

13 HROs are organizations that exist in hazardous environments where the consequences of errors / failure are costly but the occurrence of such is extremely low due high levels of training and education, as well the ability to mitigate risk factors.

14 *Levels of War: Just a Set of Labels?* http://www.clausewitz.com/readings/Dunn.htm accessed 9 February 2015.

15 Henry Mintzberg, "The Fall and Rise of Strategic Planning" *Harvard Business Review* (January 1994), https://hbr.org/1994/01/the-fall-and-rise-of-strategic-planning Accessed 9 February 2015. Put a different way, "There is an important difference between strategic planning and strategic thought. Strategic planning is the prerequisite of a certain activity, while strategic thought is the preparation of all activities. Strategic plan determines specific targets for a certain group of activities in a certain period. Strategic thought, on the other hand, is a general preparation for any activity carried out by perceiving the content of that activity, comprehending the activity types, and carrying out preparation and training for it." Academia.edu, "Philosophical Foundations of Strategic Thinking and Organizational Intelligence" Http://www.Academia.Edu/843119/Philosophical_Foundations_Of_Strategic_Thinking_And_Organizational_Intelligence. Accessed on 3 February 2015.

16 Indeed, viewed in this manner, strategic thinking is a type of thought process and is thus different than thinking strategically. Thinking strategically does not imply a distinctive thought process but rather thinking at a certain level of engagement. Notably, as mentioned, the terms have been used interchangeably. For example, as Stephen Gerras notes, strategic thinking, "requires feedback to adapt or learn from the interaction with the internal and external environment. It also requires one to be self aware [sic] of biases, tendencies, ethical influences, and assumptions that are often mental road blocks to thinking strategically and building an effective vision or strategy." Stephen Gerras, "Thinking Critically about Critical thinking," in *Strategic Leadership The Generals Art*,

eds. Mark Grandstaff and Georgia Sorenson (Vienna; VA, Management Concepts, Inc., 2009), 50-51, cited in Eifler, *Developing Strategic Thinking Leaders in the U.S. Army*, 4; Moreover, as Paul Schoemaker, Steve Krupp and Samantha Howland explain: "Through research at the Wharton School and at our consulting firm involving more than 20,000 executives to date, we have identified six skills that, when mastered and used in concert, allow leaders to think strategically and navigate the unknown effectively: the abilities to anticipate, challenge, interpret, decide, align, and learn. Each has received attention in the leadership literature, but usually in isolation and seldom in the special context of high stakes and deep uncertainty that can make or break both companies and careers. … An adaptive strategic leader—someone who is both resolute and flexible, persistent in the face of setbacks but also able to react strategically to environmental shifts—has learned to apply all six at once." Paul J.H. Schoemaker, Steve Krupp and Samantha Howland, "Strategic Leadership: the Essential Skills," *Harvard Business Review,* January/February 2013, 2. Additionally, much military literature that deals with the topic of strategic thinking is clearly focused on decision-making at the strategic level of war. See for example, Lieutenant-General K.R. Pennie, "Strategic Thinking in Defence" *Canadian Military Journal*, Autumn 2001, 21-28.

17 For example, definitions include: "Strategic thinking is defined as the individual's capacity for thinking conceptually, imaginatively, systematically, and opportunistically with regard to the attainment of success in the future." Greg Githens "Strategic Thinking Defined," https://strategicthinkingcoach.wordpress.com/2013/01/28/strategic-thinking-defined/ Accessed 3 February 2015; "Strategic thinking is the ability to make a creative and holistic synthesis of key factors affecting an organization and its environment in order to obtain sustainable competitive advantage and long-term success." Charles Allen and Stephen Gerras, "Developing Creative and Critical Thinkers," in Military Review, (November-December 2009), 77, cited in Colonel Brian S. Eifler, *Developing Strategic Thinking Leaders in the U.S. Army* (United States Army War College, Strategy Research Project, 2012), 3; "Strategic thinking is the synthesis of thinking critically, systemically, creatively, and requires historical analysis." *Strategic Leadership: The Generals Art*, eds Mark Grandstaff and Georgia Sorenson Vienna; VA, Management Concepts, Inc., 2009), xxiv, cited in Ibid., 4; "The purpose of strategic thinking is 'to discover novel, imaginative strategies which can rewrite the rules of the competitive game, and to envision potential futures significantly different from the present.'" Heracleous, "Strategic Thinking or Strategic Planning?" 485, cited in Ken Haycock, Anne Cheadle and Karla Spence Bluestone, "Strategic Thinking: Lessons for Leadership from the Litterature," *Library Leadership and Management,* volume 26, number 3/4 (2012), 3; "strategic thinking – thinking in an innovative, creative, and right-brained process that encourages an open exchange of ideas and solutions to meet the dynamic, often unpredictable challenges faced in today's economy." Ken Haycock, Anne Cheadle and Karla Spence Bluestone, "Strategic Thinking: Lessons for Leadership from the Litterature," *Library Leadership and Management*, volume 26, number 3/4 (2012), 1; Strategic thinking is "a particular way of thinking, with specific attributes." Jeanne M. Liedtka, "Strategic Thinking: Can it be Taught?" *Long Range Planning*, v. 31, n. 1 (1998), 122-124; and it has been explained that "…strategic thinking requires creativity and innovation in generating alternative strategic choices. But more importantly, it also requires

exercising a choice from amongst alternatives keeping in view the choices that are going to be exercised by all the other players in the business situation." Manu Amitabh and Arun Sahay, "Strategic Thinking: is Leadership the Missing Link, An Exploratory Strategy," 5.

18 This definition was created by the author as a means to synthesize a variety of current ideas about the concept and to encapsulate the essence of the skill in one clean definition.

19 General Dempsey, "Building Critical Thinkers: Leader Development Must Be The Leader's Army's Top Priority," 1, cited in Eifler, *Developing Strategic Thinking Leaders in the U.S. Army,* 7.

20 Michael J. Durant and Steven Hartov with Lt. Col. (Ret) Robert L. Johnson, *Night Stalkers* (New York: NAL Caliber, 2006), 277.

21 Notably, there are many ways to conceptualize strategic thinking. Another useful model is provided within a business context by Professor Jeane M. Liedtka. Liedtka identified five elements of strategic thinking: a systems perspective; intent-focused; intelligent opportunism; thinking in time; and hypothesis driven. Liedtka explains that a system perspective enables one to appreciate the multiple perspectives of the various players with stakes in the game and how decisions affect a company's position within this ecosystem. She also argues that strategic thinking needs to be goal orientated or, as she describes, remain intent-focused. By intelligent opportunism, Liedtka is referring to the ability to adapt to a changing environment, particularly from a grassroots level. Thinking in time, according to Liedtka, allows companies to use their past to help formulate their future plans, thereby connecting the past, present and future. Liedtka's final element of strategic thinking acknowledges it as a hypothesis-driven process. As she explains, "in an environment of ever-increasing information availability and decreasing time to think, the ability to develop good hypotheses and to test them efficiently is critical." Liedtka, "Strategic Thinking: Can it be Taught?" 122-123. Liedtka's model is also worth examining because each element can be directly applied to the special operations environment. In terms of a systems perspective, SOF need to recognize that they work in an integrated network which may include general purpose forces, SOF from various nations, other governmental departments and agencies, and local nationals to mention a few. Each action may be judged differently by each group and affect how the ecosystem works together. Liedtka's description of strategic thinking needing to be intent focused is easy to translate to SOF's mission focused structure as well. Intelligent opportunism as described by Liedtka is also easy to apply to the SOF key attributes of being adaptive and speaking truth to power thereby allowing innovation to be driven from the bottom-up. Thinking in time is something that SOF must also do and which is generally undertaken as lessons learned projects. Moreover, connecting the past, present and future helps to identify potential second and third order effects, which is a necessary component for working effectively in an integrated network. Finally, SOF decision-making also needs to be hypothesis driven, thereby synthesizing one's ability to holistically think critically and creatively while recognizing that emotional thinking will always be present. Importantly, Liedtka's model was used to inform the model put forward in this chapter.

22 Marcus Luttrell with Patrick Robinson, *Lone Survivor: The Eyewitness Account of Operation Redwing and the Lost Heroes of SEAL Team 10* (New York: Little, Brown and Company, 2007), 396.

23 Afterward, the team struck out to travel 50 kilometres to the coast to meet their submarine extraction at the mouth of the Sele River. In a further turn of bad luck, in a diversionary attack that had planned to cover the aerial insertion, one of the bombers attacking Foggio had mechanical problems on the return journey and crashed at the mouth of the Sele River. Before crashing, the pilot was able to send his coordinates. Fearing that the enemy had been able to intercept the message and break the code, however, the Admiralty cancelled a submarine extraction for the raiding party, a decision which was unknown to the pilot who remained at the mouth of the Sele River. Subsequently, all members of the raid were captured. Some were tortured by the Gestapo but all ended the war in a prisoner of war camp with the exception of one Italian ex-patriot who was tried for treason and executed. Niall Cherry *"Striking Back. Britain's Airborne and Commando Raids, 1940-42* (West Midlands, UK: Helion and Company Ltd., 2009 ), 56-106; Bernd Horn, *"The Wrecking Crew": Operation Colossus, 10 February 1941* (Toronto: Dundurn Press, 2018); and Julian Thompson, War Behind Lines (London: Sidgwick and Jackson, 1998), 340-342.

24 Michael Howard cited in United Kingdom, *Strategic Trends Programme. Future Character of Conflict* (London: MoD, ND), 2.

## CHAPTER 3

25 This example is derived from a workshop on Strategic Thinking that was co-created and is often co-taught with Colonel (Retired) Bernd Horn, PhD.

26 Alina Bradford, "Deductive reasoning vs inductive reasoning," 23 March 2015. http://www.livescience.com/21569-deduction-vs-induction.html. Accessed 11 January 2017.

27 David C. Ellis, "'Home by a Certain Time': Ontology We do Not Know but Must" draft paper distributed to the author.

28 This account was discussed during a course with the author in the spring of 2012.

29 This example is also derived from a workshop on Strategic Thinking that was co-created and is often co-taught with Colonel (Retired) Bernd Horn, PhD.

## CHAPTER 4

30 This example is derived from a joke and it remains debatable as to whether or not it is fact of fiction.

31 Ibid.

32 Michael Bar-Zohar and Nissim Mishal, *Mossad* (New York: Harper Collins, 2012), 1-3.

33 Pete Blaber, *The Mission, The Men and Me: Lessons from a Former Delta Force Commander* (New York: The Berkley Publishing Group, 2008).

34 Ben Macintyre, *Rogue Warriors* (New York: Viking Press, 2016), 168-169.

## CHAPTER 5

35 MHS Staff, cited in Steven J. Stein and Howard E. Book, *The EQ Edge: Emotional Intelligence and your Success.* Third Edition. (Mississauga: John Wiley & Sons Canada, Ltd.: 2011), 13.

36 As retold by Daniel Goleman on "Focus: The Secret to High Performance and Fulfillment", Published 2 November 2013, https://www.youtube.com/watch?v=HTfYv3IEOqM. Accessed on 10 September 2015.

37 Hard Feelings: "Science's Struggle to Define Emotions," *The Atlantic* http://www.theatlantic.com/health/archive/2015/02/hard-feelings-sciences-struggle-to-define-emotions/385711/. Accessed on 15 September 2015.

38 "How many human emotions are there?" https://www.verywell.com/how-many-emotions-are-there-2795179 Accessed on 31 May 2017.

39 Nassim Nicholas Taleb, *The Black Swan* (New York: Random House Trade Paperback Edition, 2010), xxxi.

40 Dan Gardner, *Risk* (Toronto: McClelland and Steward, 2008), 108.

41 Ibid.

42 This comment is not to imply that the CAF favours males over females. Rather, traits often associated with masculinity (i.e. aggression, decisiveness and individualism for instance) are generally favoured over traits often associated with feminism (i.e. intuition, empathy and collaboration for example).

43 Interestingly, former Navy SEAL Mark Divine advocates for the benefits of a regular practice of yoga for combat effectiveness. See for example, Mark Divine and Catherine Divine, *Kokoro Yoga: Maximizing your Human Potential and Develop the Spirit of a Warrior* (New York: St. Martin's Griffin, 2016).

44 Pico Iyer, "The Art of Stillness," http://www.dailygood.org/pdf/dg.php?sid=936. Accessed 8 June 2017, 2.

## CHAPTER 6

45 General Giulio Douhet cited in Director General Leadership, *Developing Leader: A British Army Guide* (Camberley: The Royal Military Academy Sandhurst, 2014), Edition 1, 67.

46 Marquis, *Unconventional Warfare*, 68.

47 Mary Bloodworth, "Intelligence Lessons," *Vanguard*, February / March 2006, 13.

48 Charles "Sandy" Cotton in John Wood (ed.), *Talking Heads Talking Arms: No Life Jackets* (Toronto: Breakout Educational Network, 2003), 172.

49 These reasons were informed by the article "The 12 Reasons Why People Resist Change" https://www.torbenrick.eu/blog/change-management/12-reasons-why-people-resist-change/. Accessed on 4 October 2017.

50 Ben McIntyre, *Rogue Heroes* (New York: Signal, 2016), 204-205.

## CHAPTER 7

51 Mick Ryan, "Mastering the Profession of Arms, Part III: Competencies Today and into the Future." https://warontherocks.com/2017/03/mastering-the-profession-of-arms-part-iii-competencies-today-and-into-the-future/. Accessed 6 April 2017.

52 Clay Shirky, "How Cognitive Surplus will Change the World," Ted Talk, 2010 https://www.ted.com/talks/clay_shirky_how_cognitive_surplus_will_change_the_world/transcript?language=en. Accessed 24 July 2017.

53 Shirky recounts an interesting study in which daycare centers in Israel started to charge parents for late pick-ups in the hopes of making sure all children were picked up on time. The results were the opposite. An increasing number of parents picked up their children late. The hypothesis put forward was that these parents now no longer felt that they had a social responsibility to be on time since they had paid a fee that replaced, in their view, this requirement. Ibid.

54 Margaret Heffernan, "Forget the Pecking Order at Work," Ted Talk, May 2015 https://www.ted.com/talks/margaret_heffernan_why_it_s_time_to_forget_the_pecking_order_at_work/transcript. Accessed 24 July 2017.

55 Taleb, *The Black Swan*, 14.

## CHAPTER 8

56 Taleb, *The Black Swan*, xxvi.

57 Both Daniel Kahneman and Malcom Gladwell have published widely on these issues, and have several web-talks that are readily available as well. This section relies heavily on their works and provides a very abridged overview of the basic arguments. For more detail, it is recommended that you read works by each.

58 Gardner, *Risk*, 80.

59 Taleb, *The Black Swan*, 10.

60 Malcolm Gladwell, *Blink* (New York: Back Bay Books, 2005).

61 Taleb, *The Black Swan*, xxxi.

## CHAPTER 9

62 Company Commander, Afghanistan cited in Director General Leadership, *Developing Leader: A British Army Guide* (Camberley: The Royal Military Academy Sandhurst, 2014), Edition 1, 73.

63 Justin M. Cobb, Damon B. Loveless and Angela M. Lewis, "Joint Regional Experts: We Can Do Better" *Small Wars Journal*, 7 April 2017, 2. http://smallwarsjournal.com/jrnl/art/joint-regional-experts-we-can-do-better. Accessed on 11 April 2017.

64 There are several different terminologies used to express the advantageous use of cultural knowledge. These terms include, but are not limited to, cultural savvy, cultural astuteness, cultural literacy, cultural appreciation, cultural expertise, human terrain, cultural awareness, cultural competency, and cross-cultural competence. There are also many different proposed acronyms for cultural intelligence, for example, CI, CULTINT, and CQ.

65 For a review of a summary of some contemporary views on the cultural intelligence within the business world, as well as Western militaries see: Emily Spencer, *Solving the People Puzzle: Cultural Intelligence and Special Operations Forces* (Toronto: Dundurn Press, 2010), Chapter 5.

66 Allan D. English, *Understanding Military Culture: A Canadian Perspective* (Montreal: McGill-Queen's University Press, 2004), 12. Of interest, there is long-standing debate about the nature and definition of culture. The 2006 American counter-insurgency manual, for example, contrasts cultural and social structures. It explains: "Social structure comprises the relationships among groups, institutions, and individuals within a society; in contrast, culture (ideas, norms, rituals, codes of behavior) provide meaning to individuals within the society." It defines culture as a "'web of meaning' shared by members of a particular society or group within a society." The manual explains this definition in terms of people's identity, beliefs, values, attitudes, perceptions and belief systems. It also emphasizes that cultural knowledge about insurgents, as far as the military is concerned, should be exploited to be used to further US national objectives. *Counterinsurgency*, 3–6, 3–8. Similarly, scholar Adam Bozeman, defines culture as "Those norms, values, institutions and modes of thinking in a given society that survive change and remain meaningful to successive generations." Adda Bozeman, cited in Montgomery McFate, "The Military Utility of Understanding Adversary Culture," *Joint Force Quarterly*, 38, 2005, 48, note 4. While all these definitions (as well as most of the available definitions of culture) are complementary, English's does an exceptional job of breaking culture down into its component parts and thereby making the concept of culture more understandable at a structural level.

67 It should be recognized that individuals may be part of many cultural groupings at once. Those that are considered sub-sets of a larger cultural grouping yet complement each other are considered to be sub-cultures. Those that exist as sub-sets of a larger culture but whose beliefs and values contradict and try to erode those of the larger cultural group are considered counter-cultures. This chapter does not provide a detailed discussion of sub-cultures or counter-cultures.

68 Conversation with the author while living on Saipan in 1998.

69 Interview with the author, November 2012.

70 For a more detailed account of the Four Domains see Spencer, *Solving the People Puzzle*, 87-102.

71 As Sun Tzu noted in the *Art of War*, "If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself but not the enemy, for every victory gained you will also suffer a defeat. If you know neither the enemy nor yourself, you will succumb in every battle." Sun Tzu, the *Art of War*, ed. and trans. Lionel Giles (London: Luzac and Co., 1910), web version: http://www.artofwarsuntzu.com/Art%20of%20War%20PDF.pdf. Accessed 10 January 2014, 6.

72 Anna Simons, *21st Century Challenges of Command* (Carlisle, PA: Strategic Studies Institute, US Army War College, May, 2017), 59.

73 Mick Ryan, "Mastering the Profession of Arms, Part III: Competencies Today and into the Future." https://warontherocks.com/2017/03/mastering-the-profession-of-arms-part-iii-competencies-today-and-into-the-future/. Accessed 6 April 2017.

## CHAPTER 10

74 Robert S. Sinclair, *Thinking and Writing* (Center for the Study of Intelligence Washington, DC, February 2010, originally published in January 1984), 29.

75 This list of cognitive biases as well as the description of the biases is, in many cases, verbatim from: *List of Cognitive Biases (Alphabetical)* http://realitybasedthinking.org/list-of-cognitive-biases-alphabetical/ Accessed on 13 July 2017. Of note, some biases from the list were not included and some of the descriptions have been edited but the majority of the list is from the above mentioned source. Importantly, the mitigating processes are new to this work and, as noted, should be considered as a start point for individuals to develop their own mitigating processes.

76 Tali Sharot and her research team have published a number of excellent articles and books on the optimism bias. Additionally, she has a very impactful Ted Talk on the subject which is worthy of attention: https://www.ted.com/talks/tali_sharot_the_optimism_bias (Accessed 17 July 2017.) The following section on the optimism bias draws heavily form Dr. Sharot's Ted Talk as well as her other works. This discussion is based on her work.

77 Interestingly, the minority of people who do not have the optimism bias, meaning those who are pessimistic, tend to be severely depressed and those who are arguably realistic – who acknowledge that there is a forty per cent chance that they might end up divorced, for example – tend to be considered mildly depressed.

78 Chris Cocks, *Fireforce. One Man's War in the Rhodesian Light Infantry* (Pine Town, South Africa: 30 Degrees Publishers, eBook 2012), loc 450.

79 Kendra Cherry, "What is the Representativeness Heuristic?" https://www.verywell.com/representativeness-heuristic-2795805. Accessed on 17 July 2017. Notably, Amos Tversky and Daniel Kahneman are leading researchers in the field of heuristics and their articles and books provide huge insights on the topic.

80 For an interesting discussion on the common misalignment of perception and reality listen to Alan Smith's Ted Talk "Why you should Love Statistics" https://www.ted.com/talks/alan_smith_why_we_re_so_bad_at_statistics/transcript?language=en#t-757637. Accessed on 17 July 2017.

## CHAPTER 11

81 Much of this chapter is derived from Emily Spencer and Bernd Horn, *Fear: Dare Not Speak Thy Name* (Kingston: Professional Development Centre Monograph Series, 2015).

82 Elmar Dinter, *Hero or Coward: Pressure Facing the Soldier in Battle* (London: Franck Cass and Company, 1985), 12.

83 Andy McNab, *Bravo Two Zero* (New York: Dale Publishing, 1993), 118.

84 This story is derived from an excellent Ted Talk by Karen Thompson Walker. While the analysis is unique for this chapter, the story, including much of the vocabulary, is entirely that of Karen Thompson Walker and I recommend watching her Ted Talk. Karen Thompson Walker, "What Fear can Teach Us" TedGlobal 2012 http://www.ted.com/talks/karen_thompson_walker_what_fear_can_teach_us. Accessed on 14 May 2014.

85 In class discussion between the author and a SOF operator.

86 Robert R. Fowler, *A Season in Hell* (Toronto: HarperCollins Publishers, 2011), 161.

87 Ibid., 116.

88 Ibid., 169.

89 Dennis Coon, *Introduction to Psychology*, *8th Edition* (New York: Brooks / Cole Publishing Company, 1998), 429.

90 Rita Atkinson, Richard Atkinson, Edward Smith, Daryl Bem and Susan Nolen-Hoeksema (Eds.), *Hilgard's Introduction to Psychology, 12th Edition* (New York: Harcourt Brace College Publishers, 1996). 379-380.

91 John Dollard, *Fear in Battle* (Westport, Connecticut: Greenwood Press, Publishers, 1944).

92 Luttrell, *Lone Survivor*, 250, 296.

93 Ibid., 295-296.

94 H.R. Lieberman, G.P. Bathalon, C.M. Falco, J.H. Georgelis, C.A. Morgan III, P.Niro and W.J. THarion, "The Fog of War: Documenting Cognitive Decrements Associated with the Stress of Combat," *Proceedings of the 23rd Army Science Conference*, December 2002.

95 Fowler, *A Season in Hell*, 165.

96 Blaber, *The Mission, The Men and Me*, 30-39, citation 35.

97 Ibid., 38.

98 McNab, *Bravo Two Zero,* 196 and 111.

99 Blaber, *The Mission, The Men and Me*, 105.

100 Luttrell, *Lone Survivor*, citations 236, 232, 241-42, 359.

101 Bar-Zohar and Mishal, *Mossad*, 268-278.

102 Joby Warrick, *The Triple Agent: the al-Qaeda Mole Who Infiltrated the CIA* (New York: First Vintage Books Edition, 2012), citation, 8.

103 Luttrell, *Lone Survivor*, 396.

## CHAPTER 12

104 Field Marshal Slim cited in Director General Leadership, *Developing Leader: A British Army Guide* (Camberley: The Royal Military Academy Sandhurst, 2014), Edition 1, 65.

105 Director General Leadership, *Developing Leaders*, 34.

106 For an interesting discussion on regulating your energy levels see: Peter Jensen, *Thriving in a 24-7 World* (Bloomington: iUniverse, 2015).

107 Director General Leadership, 34.

## CHAPTER 13

108 This joke was taken with minimal edits done directly from: http://www.orcca.on.ca/~elena/site/DidacticJokes.html. Accessed on 3 October 2017.

109 For a detailed account of the operation see Colonel Bernd Horn, *Innovation and Daring. The Capture of Fort Eben Emael*, 10 May 1940 (Kingston, ON: CANSOF Professional Development Centre, 2014). Much of this section is derived from *Innovation and Daring* with the author, Bernd Horn's, consent.

110 Ibid.

## CONCLUDING REMARKS

111 General Allenby cited in Director General Leadership, *Developing Leader*, 72.

112 Paul "Bear" Bryant, Quote of the Day, https://www.forbes.com/sites/alicegwalton/2016/12/09/7-ways-sleep-affects-the-brain-and-what-happens-if-it-doesnt-get-enough/#7dd1dc31753c. Accessed on 31 July 2017.

113 Gladwell, *Blink*, 107.

114 Ibid.,111.

115 "Paralysis through analysis" is term that Gladwell uses in a different context but is equally applicable to this example. Ibid., 121.

116 Ibid.,259.

117 Blaber, *The Mission, The Men and Me*, 59.

118 Hannes Wessel, *A Handful of Hard Men. The SAS and the Battle for Rhodesia* (Oxford, UK: Casemate - Kindle Edition), Loc 491.

# GLOSSARY OF ABBREVIATIONS

| | |
|---|---|
| CAF | Canadian Armed Forces |
| CAG | Combat Applications Group |
| CANSOF | Canadian Special Operations Forces |
| CANSOFCOM | Canadian Special Operations Forces Command |
| CBRN | Chemical, Biological, Radiological, Nuclear |
| CEO | Chief Executive Officer |
| CIA | Central Intelligence Agency |
| COA | Course of action |
| CQB | Close quarter battle |
| DA | Direct Action |
| DDMA | Defence, Diplomacy and Military Assistance |
| GSG 9 | *Grenzschutzgruppe* 9 |
| HRO | High reliability organization |
| IDF | Israeli Defence Force |
| LEA | Law Enforcement Agency |
| LRDG | Long Range Desert Group |
| MA | Military Assistance |
| NATO | North Atlantic Treaty Organization |
| NCO | Non-commissioned officer |
| NGO | Non-Governmental Organization |

| | |
|---|---|
| OGD | Other Government Department |
| OPSEC | Operational Security |
| PIFWC | Person indicted for war crimes |
| RAF | Red Army Faction |
| SAS | Special Air Service |
| SEAL | Sea, Air, Land |
| SF | Special Forces |
| SFA | Security Force Assistance |
| SO | Special Operations |
| SOE | Special Operations Executive |
| SOF | Special Operations Forces |
| SOP | Standard Operating Procedure |
| SOTF | Special Operations Task Force |
| TTP | Tactics, techniques and procedures |
| UN | United Nations |
| US | United States |
| USA | United States of America |
| USMC | United States Marine Corps |
| USSOCOM | United States Special Operations Command |
| UW | Unconventional Warfare |
| WWII | World War II |

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# THE CANSOFCOM EDUCATION & RESEARCH CENTRE

## MISSION

The mission of the Canadian Forces Special Operations Forces (CANSOFCOM) Education and Research Centre (ERC) is to support the professional development framework within the Command in order to continually develop and enhance the cognitive capacity of CANSOFCOM personnel.

## VISION

The vision of the CANSOFCOM ERC is to be a key enabler to CANSOFCOM as an intellectual centre of excellence.

## ROLES

The CANSOFCOM ERC is designed to:

1. Develop educational opportunities and SOF specific courses and material to enable CANSOFCOM professional development (PD);

2. Provide and / or assist in accessing academic advice on diverse subjects to support CANSOFCOM personnel undergoing professional military education (PME) and PD;

3. Conduct focused research and provide advice on seeking additional research capacity for CANSOFCOM best practices and force development;

4. Record CANSOFCOM's classified history;

5. Coordinate the publication of CANSOF educational material; and

6. Support CANSOFCOM's "up and out" Communication Strategy.

Thinking is a process that we do every day and, like breathing, we are sometimes conscious of it and more often than not we take it for granted. Often when you behave in a careless or inappropriate way, the reasoning, or more appropriately the excuse, is that you were "not thinking". The reality is, however, that you were thinking, you simply were not doing so effectively. Like an elite athlete who learns how to control his or her breathing in order to maximize output, your ability to think more effectively can be practiced and improved upon. *Thinking for Impact* provides a practical guide for how to do so. Through the use of case studies, hypothetical situations and academic studies, this book highlights ways in which you can improve your thinking and decision-making processes. Everyone can surely benefit from enhanced decision-making and, consequently, this book should appeal to a wide variety of audiences. Nonetheless, this book is specifically designed to help Special Operations Forces (SOF) personnel be better able to determine the best course of action under potentially dynamic, complex and / or stressful situations. Consequently, examples tend to focus on SOF roles, tasks and missions. Ultimately, *Thinking for Impact* should be considered as a practical guide for improving the cognitive elements associated with decision-making.

VIAM INVENIEMUS
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