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BREAKAWAY: Reframing to Prevail

AOD Handbook

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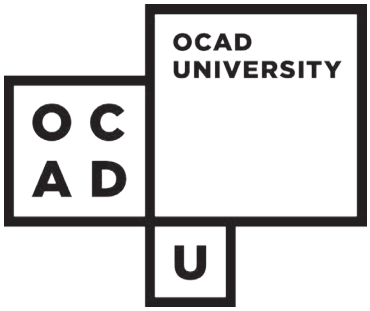

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Foreword by MGen Bernard

Chief of Staff, Canadian Joint Operations Command
Ambassador to the Archipelago of Design

Major-General Simon Bernard, OMM, CD

The Defence & Security Team must increasingly operate in the milieu of wicked problems. Traditional linear methodologies such as the combat estimate or the operational planning process more often limit our ability to navigate and address such problems than they enhance it. Likewise, a lack of diversity, compounded by having only military planners at the table, may stifle our agility of thought, because we've all been exposed to the same culture and training.

While there is consensus on the current challenges and the need to modernize our methods and approaches, before today, no alternative framework had been developed to support CAF planners and decision makers. To compensate for this absence, some found inspiration in Design Thinking for strategic and operational planning purposes. They adapted methods documented by our allies, academia and the private sector as add-ons to the planning process. Yet these external methods required significant adaptation for CAF officers to fit them for the CAF context. In the meantime, other CAF leaders developed innovative ways to address wicked problems with their teams, using implicit, bottom-up approaches. However, these leaders largely did not document their best practices or lessons learned to advise those who followed after them.

BREAKAWAY: Reframing to Prevail fills this significant gap by providing the first framework tailored for the CAF, one informed by the best practices, lessons learned and advice of 32 innovative leaders of our Canadian Profession of Arms, from

lieutenants to generals. Breakaway confirms that our generation of planners, decision makers and project managers must be able to incorporate streams of data and inputs from a variety of sources, both anticipated and unanticipated, to succeed. Looking at issues through a military lens alone is no longer enough to address the complex problems we face. These problems require more than a military solution – calling for a whole of government, if not a whole of society, approach. Likewise, Breakaway celebrates a diversity of innovative leadership attitudes, as well as the diversity of thought required for understanding and addressing wicked problems. Having diverse stakeholders involved in planning and problem framing provides the richness of divergent thought that is needed to succeed when addressing wicked problems.

If Canada is going to participate with allies in foreign interventions, it is reassuring to know that CAF leadership is aware of, and values, the need to examine hundreds of inputs before troops are committed to battle on the one hand. On the other hand, it is important to be able to critically assess those inputs to avoid "planning paralysis." Overall, the content of Breakaway should be considered with professional judgement and critical thinking, and carefully adapted for its intended context to make the most of its insights.

Undoubtedly, our political/civilian/military/academia consortia of the future will include "*BREAKAWAY*" as a required reference. I would like to thank the Archipelago of Design team and network and our 32 innovative leaders for their contribution to "*BREAKAWAY: Reframing to Prevail*". Our Profession of Arms and the greater Defence and Security Community will benefit from this framework in today's complex security environment.

Foreword by AOD Co-presidents

Philippe Beaulieu-Brossard, Co-President

Michele Mastroeni, Co-President

With *BREAKAWAY: Reframing to Prevail*, the Archipelago of Design (AOD) attempted to be the change we want to see in the Canadian Armed Forces (CAF) and across NATO members and partners. This change is embodied in an audacious culture of innovation expressed by audacious leadership, audacious perspectives and audacious moves. Despite the risk, the barriers and the tremendous efforts required, AOD practices what it preaches. With BREAKAWAY, AOD created something that was needed but did not yet exist: a CAF framework for innovative thinking built from three years of research and development. AOD developed this, the CAF's first design and innovation framework, from the bottom up by actively listening to 32 CAF officers identified as innovators in their leadership practices. Prior to this milestone, the CAF applied an agnostic approach to design and innovation by building on the frameworks of allies, partners and civilian organizations at Canadian Forces College (CFC).

We hope this work will serve as a stepping stone that empowers leaders like yourself to shift the attitudes of your team and organization. Shifting attitudes is not only required to set conditions for organizational evolution, but to better seize opportunities and address problems in the complex environments of the 21st century. We also hope to inspire our allies and partners in taking the wealth of the innovative

thinking experiences of their members seriously to the point of shaping doctrine development. To this end, AOD is proud to present BREAKAWAY, a framework that not only foregrounds innovative thinking experiences to build on, but that we hope will also reinforce an aspiration for excellence in developing innovative thinking capabilities in the CAF.

We invite readers to find inspiration in this framework based on innovative thinking approaches that have proved successful in the CAF over the last two decades. This framework mobilizes the ethnographic research expertise of Dr. Michele Mastroeni, Dr. Philippe Beaulieu-Brossard and Dr. Philippe Dufort, supported by a dedicated research team between 2020-2023. To ensure accuracy, this framework builds upon the feedback of more than a dozen CAF members, reinforced by the feedback of experts composing the membership of AOD: the leading independent global network on design and innovative thinking across NATO members and partners. Nonetheless, readers should exercise professional judgement and critical thinking when building on this framework since lessons learned are always learned in context. And in the end, this framework privileges unlocking the innovative potential of your team above any other adaptation and application (including this framework). We hope that this framework will provide inspiration and insight to do so.

This effort would not have been possible without the vision of AOD's co-founders, Dr. Philippe Dufort, Dr. Philippe Beaulieu Brossard and the leadership of Dr. Michele Mastroeni as director of the project from 2020. This project benefited immensely from the unwavering support of MGen. Simon Bernard as the CAF ambassador to the AOD Network. Without the trust, time and dedication of 32 CAF officers across all ranks and services, our primary sources, this project would never have become reality. Their contribution was reinforced by their peers and the CFC 521 brigade in providing feedback. The efforts of this project reflect the dedication of the AOD research team who were energized by the mission of empowering leaders with innovative ways of thinking that originate from the CAF. While focused on the CAF, AOD also benefited from its global network for feedback from members representing several NATO allies and partners. Finally, financial support from the Mobilizing Insights in Defence and Security (MINDS) Program since 2020 made this project possible, as well as OCAD University's in kind support of AOD since 2021.

Disclaimer

The views and perspectives expressed in this handbook represent the research results of the metaphorical Canadian islands of the Archipelago of Design, an independent non-profit organization. Developing a framework from the bottom-up does not make BREAKAWAY the official CAF framework for innovative thinking. The views and perspectives expressed in this handbook do not represent those of the Government of Canada, the Canadian Department of National Defence, the Canadian Armed Forces or the Canadian Forces College. For this reason the content should be taken as any research result, where the application of the information contained herein requires professional judgement, critical thinking and adaptation for its intended context. AOD does not subscribe to an official framework and encourages the widest diversity of frameworks possible, mirroring its own diversity. However, the authors of this document hope that this framework will serve as a stepping stone for several official frameworks that will equally celebrate the diversity of innovative ways of thinking in the CAF, the national security team, and Canada's allies and partners more broadly.

Who should use BREAKAWAY?

BREAKAWAY is for you: the Canadian Armed Forces (CAF) member navigating increasingly complex and interconnected challenges in defence and security. BREAKAWAY was created by you: it is a framework built from over 32 interviews with CAF members at different rank levels, in different roles, across branches, drawing upon their experiences and insights addressing a wide range of challenges and problems.

BREAKAWAY provides a flexible structure for mobilizing bottom up innovative thinking to navigate problem solving and decision making in complex environments. By bottom up, we mean that the innovative ways of thinking we are proposing in BREAKAWAY are innate to the CAF as an organization. BREAKAWAY is complementary to the objectives, training, and tools you already have, and will provide you with attitudes, approaches and tools to help you create and navigate change.

BREAKAWAY provides a structured framework that works with and strengthens:

- flexibility of command
- adaptability of the organization and organizational restructuring
- ability to use and work around limited resources to maximize impact
- empathy for, and understanding of, stakeholder needs and views (foreign and domestic)
- political awareness, (foreign and domestic)
- awareness of allied command and the ability to interact with, follow, and lead allies while maintaining Canadian interests;
- understanding of great power competition and small power capabilities.

This Handbook provides you, the practitioner, with BREAKAWAY's logic and process, including the different stages you will encounter while resolving complex problems: *initiation, orientation, solution development, implementation, and evaluation*

Additionally, in BREAKAWAY you will discover 10 practitioner archetypes, developed from the experiences and personalities of your peers. You may recognize yourself in one or more of these archetypes; you may use these archetypes to determine what kind of fellow practitioners you need on a team; or you may use these archetypes to determine the different roles you need to play as you tackle the challenges in front of you. Above all else, these archetypes highlight the diversity of ways you can mobilize innovative thinking in the CAF.

Finally, BREAKAWAY includes a set of Attitudes, Approaches, and Tools (AATs) to add to your toolkit as a strategic decision

maker and problem solver. These AATs are derived from design approaches but are specifically tailored to the CAF. Further references and resources are provided for you to continue expanding your toolkit.

BREAKAWAY gives you a tailored process to access new perspectives in your navigation of complex challenges, an enhanced toolkit to understand your environment, and an increased ability to develop sustainable strategic solutions. The authors of BREAKAWAY hope to empower you with the best innovative thinking practices found in the CAF to the benefit of the Government of Canada, and Canada's allies and partners.

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SECTION 1

Introduction

Introduction

Start with Why

In the last decade, Canadian Armed Forces (CAF) leaders and their teams found they lacked tailor made frameworks to address complex situations such as:

Navigating the call to assign personnel to field a quick response team for disaster relief, while maintaining capacity to satisfy commitments to NATO in the midst of a severe retention crisis.

Redefining professional identity by considering the legacy of warrior culture, while addressing sexual harassment and low recruitment among women, Indigenous peoples, persons with disabilities and members of visible minorities.

Developing strategies in environments characterized by multiple stakeholders with different needs, objectives and loyalties, while fulfilling objectives with limited resources and capabilities.

Several leaders applied established, doctrine-informed approaches such as the Operational Planning Process (OPP). Many encountered roadblocks, and were unable to generate sustainable solutions. These challenges were simply too ambiguous, uncertain and complex to get ahead of with any singular tool. In all of these cases, CAF leaders had to "breakaway" to find a way to move forward. They had to find new ways to unlock the innovative thinking potential of their team in a robust planning culture. This handbook uncovers why and how these leaders did so and expands on their leadership insights to help you and your team benefit from their lessons learned. By learning from the experiences of your peers, articulated in the tailor-made framework now available to you, you and your team will have an advantage should you find yourself in a similar situation. While certain elements of CAF culture and structures need to evolve, the experience and insights of all CAF members are also needed to rebuild and expand the CAF to meet its obligations. BREAKAWAY is the result of a focused study on innovative thinking from 32 interviews with CAF innovative thinkers, approved by the DND/CAF Social Science Research Review Board, and supported by the Mobilizing Insights for Defence and Security (MINDS) programme.

This section starts with the why. It explains why emerging wicked and complex problems compelled CAF innovative thinkers to break away and tap into the innovative potential of their teams. This section articulates a perspective as to why a bottom-up framework for innovative thinking is better suited to a CAF context than other existing but imported frameworks. This section also shows BREAKAWAY's foundation in the experiences and tacit know-how of the CAF.

Wicked problems

The situations named above are but a few of many that are challenging the CAF in the 21st century. These situations are called "wicked" problems. They are ambiguous, uncertain, and complex due to their dynamic and changing nature. In wicked and complex problems, attempts to address a single issue have ripple effects that result in unintended consequences in the broader environment. To succeed in anticipating, navigating and addressing wicked problems, innovative thinkers in the CAF must shift to a new framework. This handbook names this framework BREAKAWAY.

The BREAKAWAY handbook invites readers to be humble in accepting that one's initial perspective on a wicked problem is most likely already limited, if not irrelevant. Your initial perspective is partial as it is informed by your senses, experiences and background knowledge. For instance, some people expressed denial as an immediate reaction to the COVID pandemic. They perceived the pandemic through the lens of their previous experience of limited scale epidemics such as the SARS outbreak of 2002-2004. Government mandated lockdowns forced them to change their perspective on the pandemic because the problem was reframed in terms of scale and threat. Likewise, public health organizations initially focused on measures to limit contagion by indirect touching before shifting perspective to focus on measures to limit indirect aerial contagion with masks. These examples illustrate that individuals and organizations always have a partial perspective on any wicked problem, a perspective which may shift with new information.

BREAKAWAY is an invitation to disrupt your fundamental assumptions to unlock new perspectives on a wicked problem.

Story Break

"I came to get to know you. The Americans tell me the intelligence says you're a Taliban sympathizer. And I have my doubts because I think there's something else that's going on here." The stoic Pashtoon, he betrayed a little smirk. And I realized I was on to something. He said, "We will meet again and we will talk," and we did. And what I realized is that he wasn't part of the Taliban network, he was a Mujahadeen Commander. But in fact, what had happened was he was not getting along with President Karzai's brother, who was in Kandahar, who was closely aligned with the Americans, and what was happening is that they were getting all of the salary that the Americans were using to build a road through the district, when in fact it should have been going to his group. So what was purported as a Taliban engagement was actually just two tribes fighting one another. And that's what we needed to be able to see in our intelligence system. It couldn't tell us stuff like that, so we had to be able to take a step back and say "what's happening here? What's the real story?"

Story Break

I've seen some people try to interpret intelligence the way they want to interpret it because they want to get an operation in, or they want to get a successful operation under their belt or they want to get that big capture. But you know you need to be willing to be open to what reality is, to what your view of reality is and changes to it, and then being able to move on. There is a lot of stuff that influences us, and people telling us what to do, and the impression that we don't control any of that stuff. But, especially as you go up in rank, there's a whole bunch of stuff that you do control, and what you can influence, and you can use that. Piecing all that kind of stuff together you have a real tool box there. Now you have an idea of what it is you're trying to accomplish, you have an idea of the environment you're trying to do it in, and you have an idea of what are the threats, so to speak, that are out there and the tools that are available to you. You can then start to make decisions. I call it "move with no openings" and what I mean by that is that the areas where you're vulnerable or where things may threaten you, you try to not leave an opening for that vulnerability. And then at the same time, you try to position yourself to take advantage of opportunities that show up with your limited tools that you have, whatever that may be.

BREAKAWAY is an invitation to consider and integrate multiple perspectives on security, social, economic, political or psychological and even philosophical and aesthetic questions, to name but a few. Leaders need a diversity of perspectives to fully appreciate the relationships between the stakeholders and the broader ecosystem they inhabit. Leaders also need to consider these perspectives to shift from the big picture to the close-up details and back again. BREAKAWAY suggests doing so not only to fully appreciate a wicked problem, but to raise awareness of the potential for unintended consequences when intervening. For instance, BREAKAWAY reminds us that intervening in one domain may create unintended consequences in another domain. Consider how decisions in the space domain can have impacts in the land domain. The same can be observed across levels of warfare. Achieving success at the tactical level may create negative consequences at the strategic level in a wicked problem, such as in Operation Unified Protector in Libya in 2011. While the NATO air operations were seen as a tactical success, the defeat of Gaddafi turned into civil war, causing instability at the strategic level, ultimately benefiting Russia and Turkey. In other words, BREAKAWAY calls for cognitive agility to remain relevant and to gain an advantage when addressing wicked problems.

For some, considering this new framework will be challenging. Breaking away is often counterintuitive to your training and education. For others, this new framework will come as second nature. Whether

adapting to this is challenging or not, wicked problems are already forcing CAF leaders and their teams to adopt attitudes expressed in the BREAKAWAY framework. Shifting to this framework will enable you and your team to create new perspectives that are more likely to become key drivers for generating innovative solutions.

The Limits of External Frameworks

Beginning in the 1990s, many of the CAF's allies and partners, including civilian organizations, explored alternative operational and strategic decision-making approaches and tools to address wicked problems. They found inspiration in disciplines such as biology, architecture, and management. Within these disciplines, allies and partners found inspiration in methodologies like Systemic Design, Design Thinking and Strategic Foresight that enabled them to stake out new frameworks to regain cognitive agility in the 21st century. More specifically, Systemic Design contributed to leaders's understanding of the environment as a whole and by bringing awareness to the potential ripple effects of any intervention. Design Thinking contributed by suggesting that we need to fundamentally change our perspective on problems to better address them, a process called reframing. Further, mobilizing empathy is one of many ways for leaders to change perspectives, as this section details below. Design Thinking also borrowed from science the principle of experimentation by showing the benefits of continuously iterating and learning from trial and error in a low risk environment. Lastly, Strategic Foresight helped these leaders recognize that the future holds many possibilities that will most likely be different than the present. Leaders must therefore take into consideration several possible futures when planning, instead of planning by taking for granted one future and by, extension, one end state.

Several allies and partners turned these fundamentals into best practices, approaches and doctrines. Most notably, the Israel Defence Forces (IDF) prototyped an early model called Systemic Operational Design (SOD) in 1995. This model, which continues to evolve towards a 4th version, attempted to modernize operational art by building on systems thinking and design theory. The US Army, US Marine Corps and US Special Operations community found inspiration in this model in 2004 and developed their own Design Methodology doctrines. The US Naval Postgraduate School as well as the Royal Canadian Air Force (RCAF) in partnership with Communitech found inspiration in the design thinking model developed by IDEO and Stanford University. This model put the emphasis on empathizing with stakeholders to generate an approach that could identify and fulfill implicit needs. And finally, States like Singapore and Finland put significant efforts into mobilizing foresight to inform strategy making efforts. This allowed them to invest in areas where they observed the most potential to ensure resilience in the long-term.

All these attempts have one thing in common: their models were informed by disciplines external to military, defence or security contexts, and external to Canadian culture. While some elements were built on the work of historical figures such as T.E. Lawrence and John Boyd, these attempts were grounded in theory more than they were hammered out in current practice. This grounding in external disciplines, theories and historical experiences complicates their alignment with Canadian military and cultural contexts.

Unleashing The Power of Tacit Know-how

The BREAKAWAY handbook suggests that looking to external disciplines for models, while often enlightening, limits the potential for tailored innovative thinking. The frameworks developed by allies and partners have contributed to developing the skills and attitudes required to address wicked problems. Yet the authors of this handbook recognize that some leaders and instructors who attempted to apply these frameworks would often forget the external baggage coming with them, leading to misadaptation. In other words, while some external tools and specific methods may be useful for the CAF, BREAKAWAY is a consciously developed framework that builds upon the CAF's own objectives, needs and experiences.

Table 1. Benefits of Breakaway

Solutions to Operational Challenges	• Direct application of practitioner knowledge and experience in the field to unexpected and immediate challenges. • To counter the barriers to innovation. • Adjustment of acquired technologies to the realities of the field.
Efficient Use of organizational resources	• Knowledge of context and resource constraints. • Solution building that aligns with context and constraints. • Knowledge of institutional rules.
Strengthening of Knowledge Sharing Networks	• Creates an internal community of knowledge and trust. • Creates openness and communication with external networks.
Increased Engagement of personnel	• Improve morale by applying experience to problem-solving. • Encourage contribution to a "safe, secure, equitable working environment". • Increased input from a variety of CAF members, beyond "usual" voices.

The CAF has many foreign and domestic objectives, as outlined in the defence policy ***Strong, Secure, Engaged.*** They range from demonstrating commitment to allies, to domestic disaster assistance, to addressing the needs of its personnel. Strategically, it calls for Canada to be "strong at home;" "secure in North America;" and "Engaged in the World," while operating a diversified force capable of responding to domestic emergencies and partnering in foreign engagements. Canada's historically varied experience as a UN peacekeeper, contributor to disaster responses, and supporting ally in Afghanistan and other missions such as NATO's Operation REASSURANCE in Eastern Europe, shows the need to be adaptive, cooperative, and sensitive to the different partners, allies and societies it engages. Considering this mix of strategic objectives and experiences, the CAF requires an approach that works with and strengthens:

- flexibility of command
- adaptability of the organization and organizational restructuring
- ability to use and work around limited resources to maximize impact
- empathy for and understanding of stakeholder needs and viewpoints (foreign and domestic)
- political awareness (foreign and domestic)
- awareness of allied command and the ability to interact with, follow, and lead allies while maintaining Canadian interests
- understanding of the great power game and small power capabilities.

BREAKAWAY recognizes that the CAF as a community is already endowed with a wealth of experience in the application of innovative thinking and problem solving. That community's demonstrated experience in innovative thinking reflects a deeply situated knowledge of the unique needs of the organization and is grounded in applications and practices that are compatible with CAF organizational culture. The contribution of BREAKAWAY not only lies in bringing these experiences to the foreground, but in articulating these experiences for you and your peers to inspire your own leadership style.

BREAKAWAY credits hard earned knowledge while opening new avenues for exploratory thinking that will enhance the CAF's capabilities. This approach will also ease the messy process of uptake and execution of innovative solutions since CAF practitioners can better adjust them to their specific operational and organizational contexts. The CAF may also tap into its own tacit knowledge to enhance operational awareness of the environment and maintain advantage. The CAF can do this by harnessing field-level insights into what is occurring and what may be changing in the environment. Integrating insights at this level enhances organizational awareness of emerging problems before their symptoms become so severe that they subsume the focus of solution-making.

Imported, top down frameworks that overlook local knowledge tend to under perform because they do not have the knowledge base to adapt to specific field

conditions. They may also face resistance by on-the-ground personnel. In contrast, a decision-making framework built on CAF knowledge and experience improves buy-in. Harnessing tacit knowledge is a vital aspect of organizational evolution, especially in settings where learning and experience of risk are measured in the cost of life and property. BREAKAWAY mobilizes tacit knowledge by identifying and expanding on activities and approaches already used within the CAF. It draws from and uses local organizational terminology rather than forcing an unfamiliar and elitist jargon that would be distracting to learn. BREAKAWAY also identifies and recognizes adjacent spaces – both the physical locations and work-related activities – that foster the creative and exploratory thinking that leads to innovative solutions in the CAF.

The CAF's organizational concerns and complex internal environment, its mission objective and complex external environment, require its members to exercise an awareness of nuance and subtlety. Likewise, they demand an awareness of the strengths, weaknesses and biases held internal to the organization and the stakeholders it interacts with. For example, the CAF has structural issues around questions of equity, sexual harassment, misconduct, and assault, low enrolment and a crisis of leadership. These structural issues are closely related to its organizational culture and the legacies of "the way things are done." It may therefore seem problematic to address those challenges with tacit knowledge and experience rooted in the context that contributes to the organizational culture. A decision-making approach that deals with complexity is still necessary, given the structural issues noted above. However, the CAF would benefit from insider knowledge and experience of these issues, especially if those members suffering from the negative consequences are given a voice. To empower these kinds of voices, BREAKAWAY is closely tied to capacities for empathy and identifies specific tools that can draw insights from those capacities.

An innovative thinking approach tailored to be adaptable to a unique culture, mix of needs and objectives is required. This handbook introduces the fundamentals of such an approach.

Applying the Handbook

BREAKAWAY is a handbook for CAF officers and their national security partners who are interested in further developing their innovative leadership skills. Building on the experiences and knowledge bases of CAF members, BREAKAWAY is aimed at those who are curious, those who have already been exposed to fundamentals in design thinking, systems thinking and foresight, and those who have already attempted to innovate in their organization. BREAKAWAY is therefore the successor to AOD's Collaborative Innovative Thinking by Design primer.

The BREAKAWAY handbook is not a standalone document. You will be able to make the most of this handbook by using it as a reference to support a structured

professional military education experience in a setting like the Canadian Forces College, a professional development session, a workshop, or to simply find the inspiration to lead innovation initiatives in your organization.

Breakaway is also not a substitute for doctrine. It does not offer a step by step guide to innovation. Doing so would be counterproductive to innovation. Rather, this handbook offers a framework including a broad model, descriptions of real-life innovation experiences, archetypes, tools and references that can assist you in developing a viable innovative thinking style suited to the CAF. Akin to the experiences of the 32 officers who informed the development of this framework, this handbook aims to inspire you to unlock the innovative thinking potential of your team in a way that is likely to be compatible with and effective in your organization.

SECTION 2

BUILDING LOCAL

Building Local

Breakaway: Reframing to Prevail

BREAKAWAY was developed with you, the CAF practitioner, in mind. To create the best fit for the issues you face, the researchers who produced this framework interviewed over 32 CAF officers at different rank levels, in different roles, and across branches. The interviews identified the barriers to creative decision making these officers encountered, and a variety of approaches they used and fine-tuned to muddle through complex and wicked problems. The interviews also tracked how officers navigated the CAF as an institution (successfully and unsuccessfully), and the events and experiences that helped shape their approaches. From their early experiences as young CAF members, to their insights as experienced officers; from domestic operations, such as the military's involvement in long-term care homes during the COVID-19 pandemic, to operations in Bosnia, Haiti, and Afghanistan, the handbook draws from uniquely Canadian circumstances for a uniquely Canadian framework. In other words, this is why this handbook calls BREAKAWAY a bottom up innovative thinking framework that is built for CAF: it reflects ways of thinking that are second nature to some CAF members, and that have proven successful.

This section will focus on the how. It shows how leading innovative thinkers in the CAF navigate a third way in the debate over the relationship between design/innovative thinking and planning. This section follows their lead to show the difference that unlocking the innovative thinking potential of their teams can make in a planning culture that needs to address complex and wicked problems.

The design/planning binary

For more than two decades, military practitioners, defence scientists and instructors found inspiration in Systemic Design, Design Thinking and Foresight to augment planning and cope with complexity and wicked problems. They never reached consensus, however, on the relationship between these approaches and well established planning processes. Several of these thinkers suggested that the mobilization of design/innovative methodologies and planning processes must be compartmentalized from one another and executed by distinct teams. For some like Ben Zweibelson, the philosophical traditions supporting these two activities—evolutionary biology for design/innovation and Newtonian mechanics for planning—are so at odds with one another that they cannot be paired. For others, such as the authors of the US Army Design Methodology, design/innovative thinking and planning

activities take place side by side, with design/innovative thinking incrementally ceding to planning as the design process moves closer to execution. Lastly, some argue that the personalities prone to idea generation and conceptualization required for design/ innovative thinking are the total opposite to personalities prone to optimization and implementation required for planning. In other words, contributors struggled to develop alternatives to compartmentalizing design/innovative thinking and planning in professional and theoretical debates. BREAKAWAY challenges these assumptions by following the practices of innovative thinkers in the CAF without discarding the insights of these academic debates.

Transcending the binary

The BREAKAWAY handbook is guided by the perspectives of innovative thinkers in the CAF who unlocked the innovation potential of their team while operating in a robust planning culture, including during the planning process. In figure 1 on page 32, we attempted to visualize the impact of their bottom up approaches to innovative thinking within the planning culture, influenced by the OPP. To show this impact, we build on a similar sequence of stages as the OPP: **1. initiation, 2. orientation, 3. solution/concept development, 4. implementation, and 5. evaluation**. Later on page 40, the handbook will reveal ten archetypes of CAF innovators to show the wide diversity of ways this framework can be interpreted and actioned.

BREAKAWAY is most impactful in specific stages of the innovative thinking process, particularly in stages focused on problem-setting and solution making like **orientation** and course of action development (hereafter **solution/concept development**). This does not mean that CAF innovative thinking leaders proceed in a linear manner. Quite the contrary: BREAKAWAY calls for continuous feedback loops of learning and experimentation However, the handbook keeps this chronological structure for clarity and for enabling comparison with the standard planning process. Likewise, the handbook preserves the same terminology as found in the interviews, which were deeply informed by OPP terminology. In other words, this research is confirming that the CAF planning culture may provide enough flexibility, at times, for creating new analyses and options that are needed but do not yet exist, and that may provide an advantage. BREAKAWAY empowers leaders to tap into the potential these windows of opportunity afford them.

Stretching the Boundaries of Orientation

The first stage, called ***initiation***, takes place as in a standard planning process. Prompted by a problem, challenge or change in the environment, the commander responds by mobilizing resources. The impact of BREAKAWAY is highly pronounced in the second stage, which is called ***orientation***. This stage involves a type of mission analysis which includes exploration of the contextual terrain, exploration of past events that

inform the problem's context, identifying the involved actors (internal and external), developing an understanding of actor motivations/ needs/actions, and understanding possible interconnections between actors in the system. Insights about the environment can come from any member of the team, and team members (including the commander) are willing to check their own biases and limitations to get as complete a picture of the environment as possible. Most importantly, this stage involves problem framing and reframing, a key driver of innovative thinking. Innovative thinkers reframe when they fundamentally change their perspective on a problem. Challenging core biases, fundamental assumptions, and questioning sacred cows are promising pathways for a substantial reframing of a problem, opening up solutions that were unthinkable beforehand. Even outside of the ***orientation*** stage, orientation is continuous throughout the process, even as solutions develop. Insights that emerge from the learning, analysis, and synthesis of ideas during ***solution development*** will continue to enhance awareness of the environment and clarify the team's orientation towards the problem. For this reason, innovative thinkers in the CAF do not get attached to a prior understanding of the environment (also known as "situating the estimate") and are continuously open to radically refreshing it.

Table 2. BREAKAWAY

1. Initiation	• Identification of issue by command. • Identification of issue by personnel, sending it up the chain of command.
2. Orientation	• Mission Analysis. • Exploration of terrain and actors involved (both internal and external actors). • Understanding actor biases, motivations, actions and interactions with others. • Understanding system interconnections between actors and variables, direct and indirect. • Mission/Problem re-definition and reframing. • Core problem identification vs symptoms of core problem.
3. Solution Development	• Idea generation. • Identify possible action/leverage points. • Generate ideas to influence or alter leverage points. • Idea selection. • Create, assess and combine solution ideas. • Prototype, test and learn. • Determine suitability, feasibility, and impact. • Redesign, recreate, and recombine ideas. • Generate solution suite for implementation. • Generate evaluation metrics.
4. Implementation	• Launch. • Observe execution and changes in environment. • Iterate and rebuild. • Observe. • Alter, iterate and rebuild.
5. Evaluation	• Evaluate based on selected metrics. • Evaluate environment and any perceived changes – note whether metrics work in a changed environment. • Determine whether solution and/or metrics need to be altered or tweaked post-execution. • Determine if the process needs to be started again.

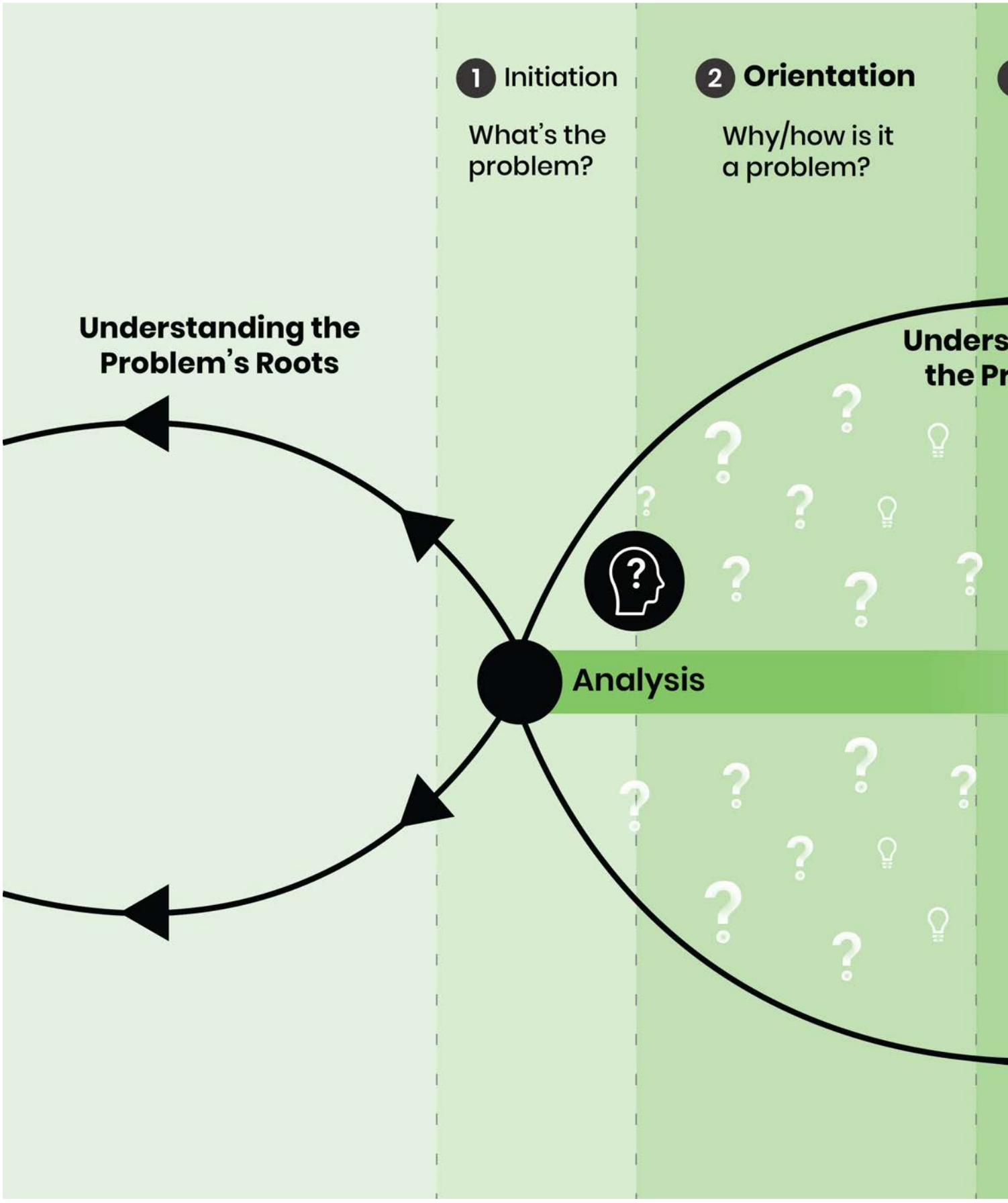
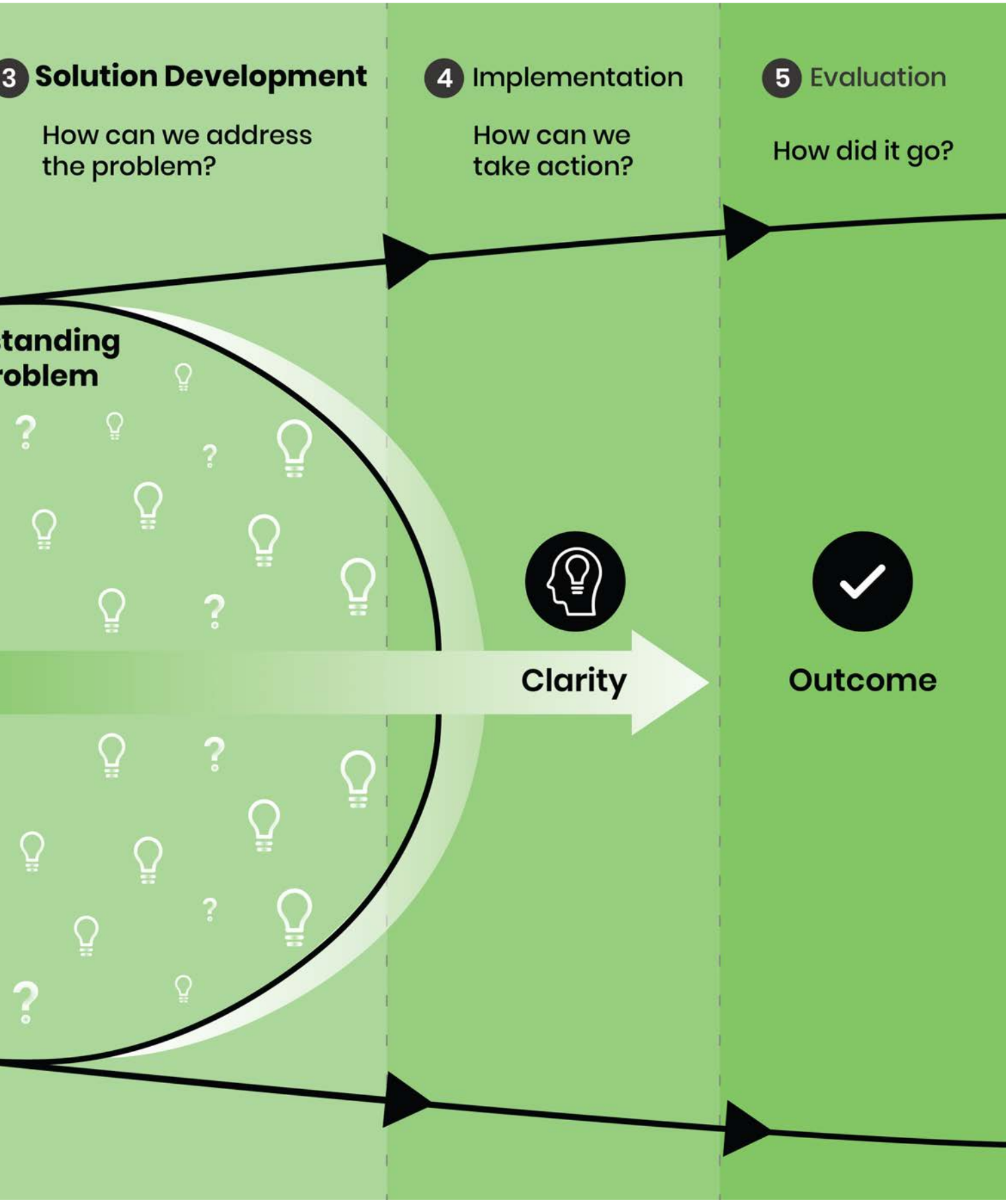


Figure 1: BREAKAWAY


3 Solution Development
How can we address the problem?
4 Implementation
How can we take action?
5 Evaluation
How did it go?
tanding
roblem
Clarity
Outcome

Supporting questions to spur innovative thinking

The following is a list of potential supporting questions to pose to yourself and your team at different phases of the BREAKAWAY process. This list is not a planning checklist or a linear sequence to follow. Rather, these are some questions that can help your team, whether they find themselves stuck on a particular problem or simply in need of a fresh perspective to move forward.

1. INITIATION – what's the problem?

- Has something changed in the environment?
- Who is saying there is a problem? What are they identifying as the problem?
- Why is the change significant? For whom?
- Who benefits from ignoring the problem? Who would benefit if we addressed it?
- What does the problem appear to be?
- What makes the problem a problem?
- Is there more than one part to the problem? What part(s) are most pressing?

2. ORIENTATION – why/how is it a problem?

Stakeholder questions

- Who is a stakeholder? Do they have direct or indirect relation to the problem?
- Who needs answers/reasons?
- Which organizations does the problem impact? Are they internal or external organizations?
- How are stakeholders' interests, needs, values, and actions impacted by or related to the problem?
- Are we focusing on the right stakeholders at the right scale? Depth vs breadth?
- What are the relationships between the stakeholders?
- Is there anyone we need to hear from but haven't? Who are we ignoring?
- Context and Previous Line of Effort questions
- What are the existing policies/plans and what problems are they trying to address?
- What is the history of the problem? How did it come to us?
- Have you reformulated the existing definition of the problem? Does your definition depart from the existing guidance?
- How can you expand the scope of the problem inquiry into areas adjacently or indirectly related? To what extent did that expanded scope shift your perspective?
- Did your view shift at all when you turn back to the more familiar lines of

inquiry and action?
- Did you practice a "yes, and..." discussion style in your definition of the problem, or did the discussion track more towards "No, but..." where views were shut down early? How can you enhance the widening of views in discussion?

System Recognition and Mapping

- Are there adjacent events or issues that impact the space you're working in? How might they be linked to the problem?
- Have you mapped how stakeholders, issues and events may be related or influence each other? Are there any indirect relationships you're overlooking? Have any surprising connections or gaps emerged?
- Where do you draw the boundary around your problem? What's left out?
- How might you simplify to draw out the big picture?

Problem Framing questions

- What's not working? Or are there multiple failures contributing to the problem? Can they be dealt with separately, or do we need a cohesive set of changes to address the problem?
- Are you focusing on the "symptom" or the "disease"?
- Can you think of any similar problems that might be similar to this problem? What can you draw from that analogy? Are there any significant differences?
- Can you think of a useful allegory or metaphor to represent the problem? Can you compare the problem to something in a completely different field (i.e., outside of defence and security)?
- Is there an apparent end-state or objective? Is that a viable end-state, given your understanding of the root problem and different relationships you've explored?
- What aren't you considering? What are you actively ignoring?
- What's unspoken about the problem you're trying to address/what's the elephant in the room?
- Does the initial problem statement need to be reframed? How can you frame it so that the "disease" rather than its "symptoms" are addressed?

Team Capabilities

- What is within your ability to influence?
- What is outside of your influence?
- What can you impact indirectly if you don't have direct influence?
- What resources do you have at your disposal (e.g. personnel, time, financing, equipment, network, etc.)?
- Who has talents that aren't being used?

3. SOLUTION DEVELOPMENT – how can we address the problem?

- Where can you make a difference?
- Where are the leverage points in the system that you can influence?
- Were any solutions from earlier stages sidelined?
- Who understands this space better than you do? Who understands this space from a different perspective than you do?
- Who has tried to solve this or a similar problem before?
- Are there other precedents, historical, allegorical, anecdotal?
- What hasn't been tried?
- What are the risks? Who sees what as a risk and why (i.e., are there differing opinions on risk)?
- What is the ideal end state? What is the minimum required change to realize that state?

When engaging on a team ready for innovation:

- If a proposed solution seems business-as-usual, is it sufficient to make a big enough change to address the problem?
- Are there any tools that might help you surface more radical solutions?
- Are there any tools that might help you contrast radical solutions favorably alongside the more business-as-usual?
- What makes a radical solution radical? Does talking about that solution feel empowering or does it feel awkward?
- Have you played out the radical ideas, or shut them down? If you had played them out, what might they have revealed? If you shut them down, why?
- Do you practice a "yes, and…" discussion style, or was discussion limited by early use of "No, but…"?

Narrowing down the options

- If you had to imagine a set of COAs with a mix of radical, new-but-not-surprising, and business-as-usual, what would the portfolio of options look like?
- How might we prototype or test our ideas?
- What are the resource costs for each (i.e. personnel, finance, equipment, political or social capital)?
- What potential conflicts might you encounter, and how might you pre-empt them?
- Who else needs to know about our options?
- Are there any unintended consequences we aren't anticipating?

4. IMPLEMENTATION – how can we take action?

- How can we put our ideas into action?
- What should be our first set of steps, considering resources and timing?
- Are there any small changes we can make to create momentum? How would these transition into the steps that follow?
- Who do these changes impact? Have we engaged them?
- Who should be involved, both internally or externally?
- Will the change have a positive effect in the short term? In the long term?
- Will the change be immediately perceived or will it take time to take effect? If the latter, what -low hanging fruit or messaging will you need to keep momentum?
- How do we measure the impact?

5. EVALUATION – how did it go?

- What were the objectives of your solution set and were they met?
- How have your actions affected the areas you identified as points you could influence?
- How might outsiders see your actions, and what criteria would they use to measure impact? -Who benefits from your actions, either directly or indirectly? Are you considering how their metrics might evaluate your actions?
- Can you combine measures?
- Do you need to communicate your evaluation metrics to stakeholders?
- What went according to plan? What was unexpected?
- Has the environment changed in a way that affected the outcome or made it difficult to measure?
- Did you consider systemic effects of your actions, or just immediate effects?
- What might we do differently next time?
- Did any obvious errors emerge, and what were the lessons learned? Are they quick fixes, or do they require a deeper re-assessment?
- What do our successors need to know?
- How can we help those who come after us?

Story Break

I think both me and the CO are a little bit out of the box thinkers to begin with. We looked at what is the mission? The mission is to provide resources and support, really, in a clinical environment, and so any of our military doctrine or command structure really has medical supporting a military operation. But in this instance, it was a military operation to support a medical requirement. So any of the C2 or the command structures that we traditionally knew or doctrinally knew just weren't going to work. Because when you take an infantry Captain who is going to be your platoon commander, he has no clinical background, but the nurse and the Med techs would be answering to him from a command structure. But if he doesn't understand what COVID is, he doesn't understand PPE, he doesn't understand long term care, he doesn't understand the healthcare system, so it was just always going to be clunky in reporting. As a result, we went through a couple machinations and we would literally draw it out and see: if we make the command structure like this, who reports to who? Then we put together ideas, if there is going to be a problem, how would that reporting work? What we realized was medical needed to be the supported command. That's a term that military commanders understand: who are you supporting, right? And in this particular operation the medical staff were going to be the supported command so that all of the other platoons that we created were our support and we were sort of the priority. Which again is very different from a doctrinal point of view.

Orientation as Wayfinding in a Complexity Cavern

Orientation in complex and wicked problems is easier said than done. Echoing military historian Hew Strachan, a commander could know all there is to know about capabilities, the environment to mobilize them, and the enemy in the 19th century. In contrast, a commander has very limited knowledge of the environment and the enemy in the 21st century. As for capabilities, technology is evolving at a pace that makes it demanding, if not impossible, to keep up. BREAKAWAY adapts an allegory of traversing a cave in both time and space to model the wayfinding process commanders must travel through to navigate wicked problems. BREAKAWAY assumes we rarely have perfect knowledge of the environment and of our situation. While knowledge gaps are often important when addressing simple problems, they can have a tremendous impact when intervening in wicked problems. Our degree of awareness and knowledge is affected by the resources available to learn about the situation, and by our biases, which shape how we prioritize data and information. As a result, our ability to see what has happened,

is happening, or will happen, is imperfect. We can compensate for these limitations by bringing our biases into awareness and by becoming more comfortable with not knowing.

Figure 2 below shows how a practitioner moves through the environment in time. The known present is shown as an illuminated sphere surrounding the practitioner, representing the perceived events and environmental dynamics occurring around the practitioner at any one time. Picture the light given off by a torch in a dark cavern – the stronger the light, the wider the sphere of observation. The greater the practitioner's ability to observe events in the environment, the greater their awareness of it. The more aware they are of the environment, the greater the ability to perceive direct and indirect events and understand the effects on tasks and activities. The sphere enlarges as more of the present environment is illuminated, although the spill of the torchlight never allows for complete certainty over what is perceived towards the edges of the sphere.

The past is represented by a cone extending from the left edge of the sphere (the immediate past) and widens outwards to the distant past. The more time, effort, resources and skills used to examine the past, the larger and wider the cone may become. Beyond a certain point the edges become blurry because there are limits to how completely the practitioner can study, know and accurately understand past events. However, a clearer understanding of elements of the past may help correlate different events, expanding the practitioner's understanding of the present.

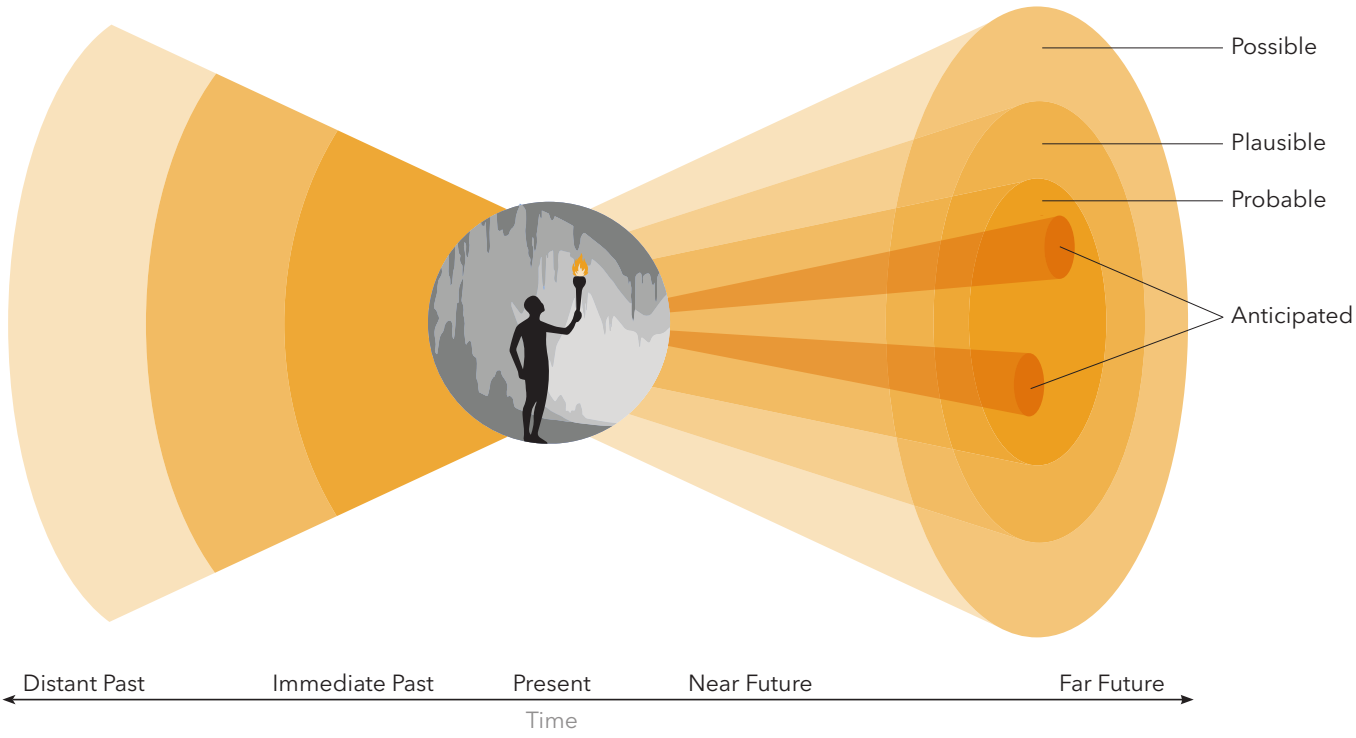


Figure 2: Into the Cavern of Complex Environments

The future is represented by a second cone, projecting out from the right edge of the sphere. While the future does not yet "exist" per se, the breadth of the cone is determined by our ability to foresee the trends that continue from the past and present. Those trend lines also trace new events including those with very few predictors in the past or present. Gaining an understanding of the past, the present, and the relationships between actors help us in creating better approaches in the near, middle and even distant future. Different foresight tools can help you amplify your awareness of events that could possibly happen, including events with few to no precedents or predictors. In other words, BREAKAWAY encourages trial and error when anticipating the future to guide the present. And the authors of BREAKAWAY are mindful that while the past shapes the present, the impacts of many elements of the past may continue to escape us.

Having teams with diverse views and approaches, using their enhanced abilities to navigate the cavern, means more light is cast to dispel the shadows. More facets of the environment and the interplay of events can be understood, and a greater set of future possibilities can be anticipated.

The Centrality of Empathy in Orientation

As innovative thinkers and their teams attempt to orient themselves, mobilizing empathy – a capacity to understand and appreciate the perspectives of others – is central to generating initial insights. In some cases, empathizing also has the potential to reframe a wicked problem, unlocking solutions that were unthinkable before. The interviews with CAF innovative thinkers detailed how they leverage empathy to enhance trust, rapport and improve buy-in in support of their unconventional problem solving approaches. Some interviews also emphasized a more defence-oriented model of "strategic empathy", expressing familiarity with the ideas of LTG H.R. McMaster, U.S. Army (ret.). This model of empathy is needed for understanding opponents in traditional security settings, and would also be useful for many of the soft-power and humanitarian missions the CAF engages. Embracing both forms, BREAKAWAY assumes that the capacity for empathy is indispensable to innovative leadership. Empathy is the key to legitimizing these innovations from the perspective of the organization, their peers and teams. Empathy is likewise invaluable for understanding the needs of stakeholders, their organizational, historical, and cultural context, and emotional state. In both senses, empathy provides a strong foundation for collaboration: it allows us to see problems from multiple perspectives, which can enable teams to develop divergent solutions that meet the needs of multiple stakeholders.

In a more direct sense, empathetic leaders are adept at motivating the people they lead, and are able to get the most out of their team's abilities. Empathy enhances communication by promoting active listening and attentiveness to subtleties of human interactions. It also allows leaders to anticipate conflicts, making for easier conflict resolution. Empathetic leadership is often perceived as a badge of authenticity, and helps legitimize unconventional approaches to problem solving and the innovations they yield. On the whole, developing capacities for empathy is indispensable for leaders who seek to foster deeper connections within the organization and the wider world they interact with. Seeking a deeper understanding of the connections that bind humans and their environments is the essence of complex problem solving. Empathy is therefore a crucial skill to nurture for emerging leaders in the CAF, and is at the heart of BREAKAWAY's continuous orientation stage and beyond.

Innovative Solutions are Worth the Wait

Referring back to figure 1, the third stage after initiation and orientation is ***solution/ concept development***. Paraphrasing a quote often attributed to Albert Einstein, if a group of planners and thinkers needed to come up with a plan to save the world in 60 minutes, BREAKAWAY recommends they spend 55 minutes understanding the problem in the orientation stage before taking 5 minutes to devise a solution. This is especially the case since the team's understanding of the problem directly shapes the solutions they will imagine to address it. CAF leaders more experienced in innovative thinking tend to conduct several iterative problem-setting & solution cycles. Yet, the risk for initiates is that their perspective becomes anchored in one solution or one understanding of the problem, closing off the possibility of alternative understandings and solutions too soon. In other words, innovative solutions with game changing potential are worth waiting for to avoid prematurely situating the estimate, in planning terms.

Innovative thinkers in the CAF implicitly mobilize systemic ways of thinking at this stage, if they haven't already done so in the ***orientation*** stage. Developing solutions involves identifying possible leverage points in the system after mapping the environment, and generating ideas to influence or alter those points. Identifying solutions might begin across different points in the environment, and during different timelines of orientation, depending on the

problem addressed. It involves considering variables to leverage that may lead to direct or indirect effects that align with the objectives. Having a holistic view of the problem means having an understanding of the system and how multiple events and variables influence each other, as shown in figure 3. A holistic view would also recognize that stakeholders may have more interaction points than are obvious if you can understand the indirect links between them. This kind of understanding can help teams move past the "but it's not my decision" or "above my pay grade" block to addressing complex problems at different levels. Direct and indirect means of influencing stakeholders like presenting low-hanging fruit that allow for quick wins or working to create buy-in to convince those with decision-making power to consider alternatives are approaches that can help the team become a participant in the solution. Note again: even as the team begins shaping solutions, the team continues to refine orientation as new insights emerge.

Story Break

Afghan radio, we set that up so we could influence Afghan populations. So we had radio systems, we gave out stuff. It was run out of Kingston. So we had Canadian Afghans acting as DJs in Kingston Ontario. We piped and transmit it in Kandahar.

It was completely successful according to our performance. Number 3 radio station in Kandahar. Sounds good right? Number one and two had 95% of the population listening to them. So you're number three, but you have less than 5% of the audience. So is it really effective? How much did we spend on that? On a performance side, we executed, we spent the money, we could say we were number three, but actually, the effectiveness, waste of money. How do we get that in the system if we're not doing that assessment, informing the problem and the objectives to what we're doing?

While moving towards the middle of figure 1, some proposed solutions will be discarded, others combined, revisited and tweaked. This iterative prototyping process accelerates as the team moves towards the fourth stage, which is called ***implementation***. And as the team prototypes a solution set from insights generated in previous stages, the solutions will be further refined until they are implemented. Solutions for implementation may be launched based on a minimum viable level of readiness coupled with time pressures. Solutions may also be launched when reaching a level of development where immediate objectives can be met with due consideration given to unintended consequences and long-term goals. At this stage, the team evaluates solutions and any changes in the environment that may be directly or indirectly related to actions. With ***Evaluation***, the fifth and last stage, the team blends continuous monitoring of the environment with the launch of solution-specific measures of effectiveness.

Figure 3: Student stakeholder map taken from Great Power Game exercise

Iterate, Iterate, Iterate

As awareness of the complexity of the environment grows, the leader and the team may also consider how solutions evolve and change. The team should consider short and long-term impact horizons, and potential intended and unintended consequences. In other words, an initial idea may have merit, but as the orientation continues to develop, that idea may have to change to capitalize on fresh insights. Solutions may have to be combined with other ideas. They may have to be dropped or replaced with others. Designing solutions happens in conjunction with other active learning and feedback loops, with the support of different tools and methods for making sense of the environment. These learning tools, such as the future wheel, will likely be employed from the beginning to expand the scope of awareness. These tools are also instrumental for the learning process that informs prototyping of solutions, and for initial attempts to execute them as the "rubber hits the road". For these reasons, the team needs to maintain flexibility in thinking and applying these approaches. If a solution does not initially work, simply dropping it may not be the most successful course to follow. Could the proposed solution instead be combined with another? Timed differently or applied to a different leverage point? Or altered to better suit the situation? A combined solution set may often be most appropriate for complex challenges, depending on available resources.

Complex environments do not tend to resolve themselves or become less complex. Challenges in these environments tend not to have an endpoint, even though your initial objectives may be met. As a result, while figure 1 depicts an endpoint

after commitment to a solution set and corresponding courses of action, continuous evaluation is essential, as is ongoing monitoring of the environment. You will then have to decide whether you have to start the process again, tweak or alter solution sets, or address new emergent issues.

What's next?

This handbook provides a set of leader archetypes and tailored tools, detailed in section 3, to work through this process of learning by doing. These tools and associated approaches and attitudes can be applied at different points in the BREAKAWAY framework. More importantly, each leader can lead their team and navigate through the framework differently. There is no one-size-fits-all approach to the BREAKAWAY framework. The archetypes, representing different experiences and knowledge-sets of CAF members, also represent multiple viable alternatives to perceive and navigate the process based on their skills, preferences, experiences and personalities. Different kinds of team and tool combinations increase the variety of possible movements through the framework. For example, different mixes of practitioners, corresponding to different combinations of archetypes in a team, will navigate through their decision making and solution finding differently. Rather than a drag on efficiency, this variety is a strength and an asset: complex challenges are best addressed from different angles, using different perspectives, offering differing analyses and interpretations of the changing environment. The cumulative creativity of your team's interactions with these Tools, Approaches and Attitudes is a means of learning about that environment which enhances the process of developing solutions.

Breakaway Walkthrough

Attitudes, Approaches, Tools and Archetypes

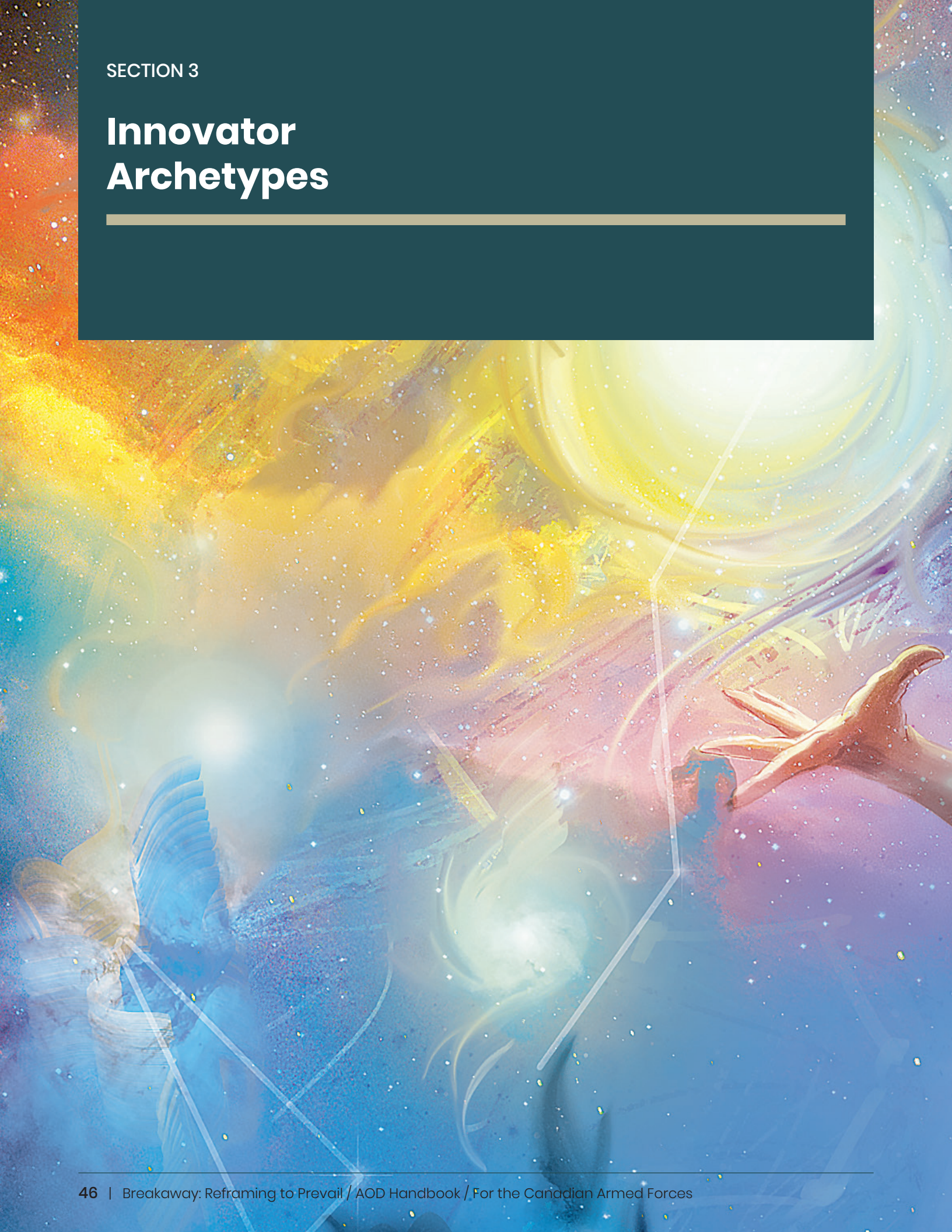
In section 3 and 4, you will find a walkthrough with different Attitudes, Approaches and Tools (AATs) in a complexity toolkit. You will also find short edited quotes taken from interviews with CAF members which exemplify their thought processes as they worked through different phases of the problem-framing and solution-finding journey, and short examples of how they may have worked through other parts of the journey using the approaches discussed here.

The journey can be undertaken by any member of the CAF, though you may find yourself wondering whether and how the BREAKAWAY attitude fits your personality, experience, situation or decision-making style. To guide you, the handbook first introduces a set of 10 archetypes, voyagers who will take the journey alone or as part of a team. You may recognize yourself in one or more of those archetypes. You may see yourself as an amalgam. You may not identify with any of them at this exact moment. These archetypes are not meant - and should not be used - to pigeonhole anyone into a type. Rather, they are amalgams of the personalities and experiences of real CAF members' personalities who have navigated the journey of complex problem solving in different ways. The ability to navigate such a journey creatively and successfully exists organically in the CAF, and the archetypes were designed to highlight that. The BREAKAWAY handbook also includes a shareable template for developing your archetypes to plot out experiences, training and intuitions, if not Attitudes, Approaches and Tools, which can help your team navigate the challenges of complex problem solving.

We invite you to use the archetypes as a wardrobe of sorts for team-building for different situations. Just as an actor's wardrobe contains different costumes for different roles, as their craft demands, the archetypes may serve as mental costumes. They were designed to help you to identify the different personalities you may need on a team as you solve a problem. They may already naturally exist in you or your potential teammates. You may have to "try them on" as the need arises. You may need to design your own archetype to navigate a particularly novel challenge or problem. Again, by avoiding typecasting yourself as any single archetype, the different archetypes can be applied as tools for unique problem sets, as well as illustrative examples of innovative thinkers whose leadership meets complex challenges in different ways.

SECTION 3

Innovator Archetypes



Innovator Archetypes

Overview

BREAKAWAY leverages the creative capacities of CAF personnel, whose leadership practices demonstrate a superlative ability to synthesize novel approaches to strategic, operational and organizational challenges that not only defy straightforward solutions, but challenge the assumptions and even the values of the organization itself. CAF personnel's willingness to embrace these conceptual challenges in recent years demonstrates evidence of a thriving "subculture" of innovation. BREAKAWAY is a formal framework to foster innovative practices within the CAF. It includes Innovator Archetypes to model the kinds of attitudes and practices that have been proven to bear out innovative solutions to complex problems.

The Archetypes

Ten Archetypes have been developed to paint a picture of the various ways CAF members have personified innovation thinking. Common to all archetypes is a willingness to embrace novel practices that are generally not templated by official CAF culture/professional lexicon. In other words, these archetypes are modeled on CAF members who have worked with, around, bent, or expanded rules and processes of the CAF to find solutions and get things done. Each archetype demonstrates how CAF members recognize opportunity in complexity, how their decision making evolves to realize these opportunities, and how their tacit knowledge - developed from experiences in the field - led to innovative solutions in their pursuit of organizational and strategic objectives.

The archetypes introduced here are for you to use. Like a closet full of different outfits and uniforms, one or two may feel most comfortable. One or two may be aspirational in fit or occasion. All can be seen as appropriate for different situations or roles. You can look at it like an actor's wardrobe: different costumes for different roles (as an individual), or different costumes for different members of a team as they explore and act within the space around them.

1. The Chaos Technician	2. The Detour Artist
3. The Visionary Collaborator	4. The Agent Provocateur
5. The Reflexive Mentor	6. The Structured Creative
7. The Supportive Questioner	8. The Tempered Tinkerer
9. The Skeptical Sage	10. The Insider-Outsider

CAF members are just beginning to tap into the potential of archetypes to inform innovative leadership. That potential is reflected in the way those members conduct meetings, workshops and planning sessions. With this flexibility in mind, archetypes can be inspiring for:

- Foregrounding a wide diversity of ways that CAF members can innovate that may have been overlooked. We invite CAF members to explore this diversity to develop their own leadership style for fostering innovative thinking.
- Providing a terminology to recognize, remove barriers to and create conditions for the development of innovative leadership in the CAF. We invite CAF members to channel and empower innovative thinkers in their team, rather than attempting to control them.
- Tasking specific team members to role-play a specific innovator archetype to tackle a complex problem. Alternatively, tasking the team to think like a specific archetype to unlock new insights on a particular complex problem.
- Discovering and mobilizing tools that are aligned with archetypes that may share similarities with you or your teammates.

Empathy

All nine archetypes share one common trait that enables them to innovate in their organizational settings: they are all driven by an innate capacity for empathy. Empathy describes a capacity to understand and appreciate the perspectives of others. Whether the innovator archetype is positioned at the strategic level, among field-grade, operational or tactical officers, NCOs or enlisted personnel, they are all adept at finding ways to leverage empathy to enhance trust, rapport and improve buy-in for their unconventional problem solving. The capacity for empathy is crucial to innovative leadership: empathy is the key to legitimizing these innovations. Whatever archetype you either aspire to become or encounter in your team, you will be well-served by an approach that can tap into empathy to inspire the trust and confidence of your organization, your peers, and the people you lead.

Closing

Each archetype has different strengths and weaknesses, but all can and do work through the process of solving complex challenges. You can use the archetypes to think of how to improve your own performance in weak areas, or take advantage of your strengths. You can match complementary tools for different archetypes, and put complementary archetypes on a team. Archetypes are not meant to be seen as fixed categories. They are a malleable part of your toolset, changeable and replaceable as needed, for both you as an individual, and for your team.

ARCHETYPE 1

The Chaos Technician

Attitude:

The Chaos Technician lives to experiment. They are sensitive to conditions that may not be obvious to other observers. They resist oversimplification and bias to action and devise their own tools for sense-making. They love a blank canvas because it lets them conceive their own narrative of events. They are comfortable with chaos and a lack of control because these present unique conditions for learning. By tracing the dynamics of forces outside their control, they set conditions for the organization to anticipate and get ahead of the problem.

In Action:

They excel when they are forced to confront problems for which there is little precedent. They begin by engaging stakeholders in order to understand their needs. This engagement creates a space for them to develop their own theories to explain what is happening, which also helps those stakeholders anticipate and get ahead of a novel problem. The organization needs to understand the forces driving events in order to understand how to transform the relations in the system. In chaotic environments, the Chaos Technician invents their own terms and process of discovery, supported by access to subject matter experts. By creating a framework for understanding what is happening and why, they set terms for decision making and accountability that can be generalized and carried forward. They see their role in terms of being comfortable letting the course of events set the terms of their response, and not the other way around.

Approaching Problems:

This archetype thrives in the realm of the chaotic and complex. They are comfortable with the loss of control because that loss of control sets conditions for experimentation and learning by emergent practice. They are inventors of probes that help them make sense of what's happening, and that those who come after them can use to do that same. Their work is about developing the kind of bigger systemic picture that decision makers need to take action in a space that they don't presently understand.

Traits:

They work to develop a keen sense of empathy for the stakeholders with which they are engaged. That sense of empathy helps them understand the implications of the actions they take, and second and third order effects.

The Chaos Technician needs a supportive sponsor who is open to the kind of experimentation they need to be effective. Because the exercise of critical judgement is more important than outside accountability for the Chaos Technician, they need a fairly wide latitude to invent and discover. This may be uncomfortable for an organization that thrives on discipline and accountability.

Catchphrase:

There are things we don't know we don't know.

Attitudes:

Complexity Thinking

Approaches:

System Mapping

Tools:

Research and Observation, Prototyping

Using the AATs:

The Chaos Technician uses research and observation to establish a feel for a problem space, especially when problems appear chaotic and unprecedented. The understanding afforded by research and observation sets them up to experiment and develop their emergent practice. The Chaos Technician is a master of "dropping their tools". They know that in novel and chaotic situations the best approach is to unlearn, adapt and stay flexible. Rather than reaching for their favourite tool, they invent a new one.

"If you look at complexity science and the concept of complex adaptive systems, the military is the antithesis of a complex adaptive system. As much as we talk about wanting to innovate, we don't want to let go of the control. I was given free reign because no one was able to control the situation because it was chaos. So I could capitalize on chaos in order to innovate and move forward."

ARCHETYPE 2

The Detour Artist

Attitude:

The Detour Artist discovers their role when they are thrown into a situation without an obvious path forward. They learn by going off script. They become fixers by learning on the fly, making meaning out of an emergent situation: they may lack information and clear guidance, but they need to act, and they need to measure the effects of the actions they take. They improvise by rerouting their organizational network in order to map out an evolving situation and chart a path forward.

In Action:

The Detour Artist takes a special, limited prerogative to reconfigure the organization's internal network in order to adapt. They flow like water, adapting their form to the obstacles they encounter. Recognizing that the standard approach is struggling to stay ahead of events, they improvise a new one that can. They don't necessarily look to permanently break the system, but they'll bend it and alter it temporarily to address new problems that can't be dealt with under the status quo. This kind of active restructuring is the latent superpower of the Detour Artist. Lacking a workable organizational template for "what to do", they confront a threatening reality by defining its meaning for the organization on their own terms. They recognize when the mission requires new methods of reporting and accountability so that the organization can respond effectively to a mission that the organization wasn't designed for.

Approaching Problems:

This archetype is most comfortable working to transition from the experience of disorder (i.e. the organization doesn't know where it's at) into the realm of the complicated in order to generate a framework for good practice. Their work is about planning and reorganizing so that the organization can find its way. Their approach is about making the right decisions that move the organization towards a specific goal.

Traits:

The Detour Artist improvises by adapting the organization to events unfolding beyond its scope of comprehension. By empowering others to improvise in their roles, they help change the terms in which the military understands itself and its mission. By changing those terms, they enhance organizational effectiveness.

Because the Detour Artist changes the terms in which the military knows and understands itself, they may face resistance, which means they must carefully qualify the changes in a way that satisfies the organization's need for accountability. The work of the Detour Artist is something that happens spontaneously when the need arises, and may only happen on a one-off basis.

Catchphrase:

There are no dead ends, only detours.

Attitudes:

Suspend Judgement

Approaches:

Problem Framing

Tools:

Analogy, Research and Observation, Stakeholder Mapping

Using the AATs:

A drastic change like restructuring an organization to accomplish a mission that the organization wasn't designed for requires a high degree of collaboration and trust. The Detour Artist must draw on multiple perspectives to ensure their team is onboard and can make sense of an emergent problem space.

Analogy is another way that the Detour Artist makes sense of emergent problems. The Detour Artist can compare the emergent problem with other problems to identify similarities and differences, which helps to figure out how to adapt to the mission.

“What is the mission? The mission is to provide resources and support. So any of our military doctrine or command structure that we traditionally knew or doctrinally knew just weren’t going to work... And we realized this through discussion. I think it was me and the CO having very open dialogue and he was very open and receptive to a very strange structure.”

ARCHETYPE 3

The Visionary Collaborator

Attitude:

The Visionary Collaborator sees the world as always changing and therefore relies on the experience and expertise of those around them rather than on doctrine or procedure. They find that once something is written, it's dated and can't meet the present challenge. They find that relying on strong relationships with a diverse group of collaborators is the best way to learn and will lead to the best outcomes. Nothing is off limits: the Visionary Collaborator is attracted to weirdos and nerds; people who are interested in solving problems differently. When assessing problems, the Visionary Collaborator doesn't take anything at face value. They spend most of their time focused on defining the problem. They do this by tapping their networks once again to understand the request, understand who's asking and what their attitude may be, and how to best support the people involved.

In Action:

The Visionary Collaborator looks at their working life like differing battle rhythms. They focus on how the rhythm of the day-to-day feeds into quarterly planning, which feeds into the systemic vision of their department. Thinking in these scales allows them to see how each input informs, affects and reinforces the future. Thinking in a future state, the Visionary Collaborator is able to remain nimble in their thinking and in their approach to collaboration in order to anticipate, plan for, and react to unique and ever changing problem sets.

Approaching Problems:

The Visionary Collaborator is interested in understanding the scale of problems and how new variables can change the state of each problem type. Day to day problems may be perceived as simple, complicated, complex, or chaotic, but the Visionary Collaborator always has an eye on how different problem sets interact and affect one another to change problems into different states.

Traits:

The Visionary Collaborator is great at working with people from diverse backgrounds, including other allied nations. They are charismatic and spend their time building relationships and natural empathy for those around them.

Because they like to think in the future, and believe the pace of change is fast, they can often be impatient with cultural norms and protocols if they do not find it contributes to their ability to do their job. They often dismiss the value of historical perspectives. Their strength is in divergent thinking and can have a hard time converging.

Catchphrase:

Problems are rarely as simple as they seem.

Attitudes:

Be Curious, Suspend Judgement

Approaches:

Collaboration, Foresight

Tools:

Horizon Scanning, Causal Loops

Using the AATs:

The Visionary Collaborator is always scanning for weak signals from their diverse network. They use these signals to identify potential future change. They use this not only to frame the problems they are tackling but also to understand how the problem may shift and change in future contexts.

The Visionary Collaborator uses Causal Loops to enhance their problem framing and systemic understanding of problems. By mapping the ways in which different problem sets interact with each other, the Visionary Collaborator uses this tool to help convey their understanding of the problem to others.

“I spend more time on defining the problem than actually going to production and rote button-pushing. Talking to people, understanding what’s driving it, understanding the request, understanding who asked for that and their mindset in order to better position and make a decision to support that person.”

ARCHETYPE 4

The Agent Provocateur

Attitude:

The Agent Provocateur seeks out highly chaotic and volatile situations. Like a diamond, they produce the best results under pressure. They are a rebel and disruptor at heart. They aren't afraid to outwardly challenge the assumptions of others. Because they tend to throw the status quo out the window, they thrive in ambiguous and complex situations. Although this behaviour can put them at odds with others, they aren't just trying to upset the system. They get fulfillment from meaningful human engagement. They naturally breathe life and energy into concepts and abstract thoughts which make them excellent teachers and they have no problem entertaining challenges from others, which enriches the learning environment.

In Action:

The Agent Provocateur isn't the kind of person who will carry out a task just because their senior leader said so. They want to know why and how it fits into the bigger picture. If they think there is a better way, they aren't afraid to say so. In highly structured environments such as the military, this can mean walking a fine line between innovation and insubordination. However, when the typical way of doing things fails, they are the person that will step up and save the mission. This attitude can make it difficult for this person to move up in the ranks unless they can find a way to harness their natural aptitudes without alienating their senior leaders and their peers.

Approaching Problems:

This archetype is most comfortable working in chaotic problem spaces. They thrive on uncovering systems, discovering unknown connections, and making sense out of ambiguity. This archetype is skilled in identifying leverage points, generating ideas to influence those leverage points, and prototyping those ideas.

Traits:

Although Agent Provocateurs appear to be creators of chaos, before throwing caution to the wind and tapping into their unconventional problem solving skills, they often check in with their internal moral compass to make sure their decision making is in line with their values.

It is easy for the Agent Provocateur's unconventional tactics to come off as hindering the mission or confusing the common goal. They rely on their internal compass to make decisions and they don't necessarily consider how others may see their actions. Because of their disregard for falling in line, they often end up alienating others in the process.

Catch Phrase:

Sounds impossible, I'm in.

Attitudes:

Suspend Judgement

Approaches:

Divergent Thinking, Foresight

Tools:

Horizon Scanning, Cone of Plausibility, Paper Roll (Charades) Game

Using the AATs:

The Agent Provocateur is a master of divergent thinking. They employ horizon scanning to keep an eye on the big picture. When everyone is focused on one trend, the Agent Provocateur has picked up on other weak signals in the problem space.

The Agent Provocateur uses these weak signals to inform improbable scenarios using the Cone of Plausibility. They use both of these tools to cast a wide net, catching information that others may miss or dismiss. This is how they easily pivot and why they're able to save the mission when the more probable scenarios don't play out as expected.

"I discovered I can create calm out of chaos. And the military realized this was useful: if they wanted me to do the same thing over and over again, or do what other people could do, by personality, I could do it. But when I'm bored what I do is I create chaos out of calm. So over time, the military knew where they needed to send me or put me, which is where things were upside down and backwards and on fire. And if we're really lucky, they're impossible to fix, because then I can do it. Then it doesn't bother me at all."

ARCHETYPE 5

The Reflexive Mentor

Attitude:

The Reflexive Mentor works to understand the limits of their own knowledge and experience. They engage in rigorous self reflection and critique in order to enhance their ability to teach. This allows them to understand their own instincts and intuitions at work, and to establish criteria for the training and evaluation of the instincts of others. They play out complex scenarios so that they have the reflexes to get the easier problems right. They are constantly building analogues in order to grasp the world in new terms. They self-identify as intuitive people who understand things quickly. For the Reflexive Mentor, developing the cognitive capacity for reflexive decision making is everything, and they strive to cultivate this capacity in themselves and others.

In action:

The Reflexive Mentor learns by taking a deep look into their own field experiences, effectiveness of their past training, and questioning the combination and its impact within the broader system. Because war is chaotic, because the operational environment "bites back," and because the stakes of decision making are high, they are under immense pressure to make the right call. Not only that, they have to use limited resources effectively, and they have to improvise when the situation calls for it. This demands a highly developed set of instincts that can translate intuitions or "gut feelings" into workable plans. In order to refine these reflexes, they need to understand the effects of the choices they make: they take stock of their decisions and the consequences of those decisions. They are receptive to feedback because feedback is a key mechanism of reflexive learning.

Approaching Problems:

This archetype is about developing the intuitions that enable them (and those who follow them) to respond to chaos intuitively. They study their own responses to chaos in order to make imminently dangerous scenarios into manageable, trainable problem sets. Their work is about conditioning the reflexes to make chaos survivable for not only themselves but those who come after them.

Traits:

The Reflexive Mentor is interested in exploring and developing instincts and intuitions. They grasp the world through metaphors and are quick learners. They are excellent visualizers and have an affinity for numbers and math. They are intensely safety conscious, and share a kinship with engineering attitudes.

The Reflexive Mentor can be pugnacious, because it's difficult to argue with intuition and instinct. They are open to feedback, but their outlook isn't conciliatory by nature. They will press their own arguments if they believe they are right, because the consequences of being wrong are dire.

Catchphrase:

Always trust your gut instincts.

Attitudes:

Self Reflection

Approaches:

Iterative Thinking

Tools:

Research and Observation, Storyboarding

Using the AATs:

The Reflexive Mentor uses Research and Observation as a self-reflective tool. They often "observe" or reflect on past experiences to better understand their actions and instincts in the moment.

The Reflexive Mentor uses Storytelling as a tool to cultivate reflexive decision making in others. They employ Storytelling to reflect on their past experiences and to teach others to be self-reflective. They teach these skills by showing, rather than telling, and lead by example.

“I talked about the gut feeling and it’s hard to explain how commanders use it. But you somehow feel that this is the right thing to do and the right decision to make. There’s a reason we train. It becomes muscle memory, but not muscle. It’s just a feeling, a process. Maybe I won’t be able to explain it but I know that’s the procedure to go to. If I need to move my foot, I need to lift my foot. It’s like a second nature reaction that you don’t even have to think about. We overtrain complexity of scenario so you can make the right call in an easier scenario.”

ARCHETYPE 6

The Structured Creative

Attitude:

The Structured Creative loves to get their hands dirty. They are drawn to learning and applying different decision-making tools. They volunteer for professional development, and when they learn a new framework, they test it, connecting it to other decision-making tools they've acquired. They can scaffold frameworks and mental models together to make sound decisions when addressing a new problem space. They are often known as "fixers" because they can easily derive a way to assess a problem and communicate a logical approach to solving it.

In Action:

In the field, the first thing the Structured Creative does is build a basic logic model to determine the vital ground and map out what must be done to obtain the best position. They focus on understanding the objective to determine if the objective is achievable and measurable. From there, they determine the key terrain and build a logical path of actions to move in the direction of the desired objective. Using these kinds of metrics and tools helps the Structured Creative make decisions in the face of ambiguity. Once the problem has been appropriately framed, they then deploy other tools and logic models to execute.

Approaching Problems:

The Structured Creative values operational accuracy and efficiency. This means they are focused on scaling problems down to make them solvable. They focus on understanding cause and effect so they can anticipate and influence the outcomes of a solution. They like to think about how the components of complex problems interact and how they can influence change at the systems level.

Traits:

The Structured Creative is very good at matching the right framework to the right problem space and can easily understand the conditions needed to make decisions. Frameworks like business continuity planning turn into the mental checklists when they are assessing a problem space.

The Structured Creative values and relies on doctrine. They are influenced by how things have been done in the past and consider best practices when deciding what the course of action should be. When assessing a problem space, they usually focus on convergent thinking (i.e., asking how we might narrow down on only the information that is relevant to focus this problem space).

Catchphrase:

Just put me in coach, I'll figure it out.

Attitudes:

Engage your Creativity

Approaches:

Visualize

Tools:

5 Whys, Business Model Canvas

Using the AATs:

The Structured Creative uses visualization to help them achieve their objectives by mapping out the problem space and then visualizing the path of actions to take to meet their objectives. Often this visualization happens in the mind, but the Structured Creative can draw their thoughts to help communicate them with others.

The 5 Whys can be a powerful tool to help the Structured Creative visualize a problem space and they may already do this naturally. The 5 Whys can be used to help explore and build a mental model of a problem space that extends to the root cause of the problem.

“Our planning process in the military is essentially project management. It’s not called that, but that’s what it is. So if you look at the triple constraint of project management - the scope, resources, and time - then throw in quality for good measure, you can apply that to anything. Then do the work, breakdown structure, identity, everything that goes into project management. You can break down many problems like that.”

ARCHETYPE 7

The Supportive Questioner

Attitude:

The Supportive Questioner isn't afraid to challenge the status quo. It is easy for the Supportive Questioner to take in the bigger picture and identify when something isn't working the way it should. They are driven by their strong sense of empathy which makes them good listeners and enables them to empower and support others. All of these skills are supported by their open mindedness, which means they are comfortable with ambiguity, sitting within the unknown, and resisting their bias to action before understanding the root cause of a challenge. This also allows them to stay agile and be adaptive when solving problems.

In Action:

They have a highly developed ability to tap into different perspectives to understand and tackle a challenge. They have big picture thinking, and they can pick up on sources of tension in a group. They want to solve problems in a way that makes sense and take the time to look for solutions that create lasting change. Their ability to dig deep into problems leads them to creative and innovative problem solving methods. However, their curiosity may uncover that a solution to a problem requires changing the status quo, which may be difficult for others to understand or accept. They know it's important that they learn how to bring others along and hone their communication skills to bridge this potential gap in understanding.

Approaching Problems:

This archetype is most comfortable working in complex environments, and they work to make sure complicated problems aren't more complicated than they seem. This archetype is very comfortable identifying challenges and exploring the problem space (i.e. divergent thinking): feeling out the terrain, understanding actors and their motivations, identifying interconnections, and reframing the problem. To others, it may seem they are making the problem bigger than necessary, but they are doing their due diligence to make sure they are solving the root cause of the problem. They are not interested in band-aid solutions or half-measures.

Traits:

They have strong listening skills and seek out the perspectives of others before making a decision. They are supportive of their colleagues and are good mentors. Their willingness to grapple with a challenge means that they don't shy away from a healthy debate if it leads to a better outcome.

Their approach to problem solving and willingness to dig deep into a problem may frustrate others who would rather take action sooner. And if they don't fall in line, they may come off as abrasive or stubborn to others.

Catch Phrase:

Wait, but why?

Attitudes:

Self Reflection

Approaches:

Empathy, Multiple Perspectives

Tools:

Question Storming, 5 Whys

Using the AATs:

The Supportive Questioner uses the 5 Whys to dig deeply into a problem because it helps them understand the root cause. It is very likely that they go deeper than just 5 Whys, and if they aren't satisfied that they've reached the root cause, they may even change tools to continue digging.

Engaging with multiple perspectives is another way that the Supportive Questioner tackles the problem from multiple angles. The Supportive Questioner will ask many people about how they perceive the problem, which helps them find several potential avenues for solving the problem.

“These tensions, they don’t go away, right? You have these ongoing cultural frictions, differences of opinion. But knowing that, I understand I can’t change everything. But I can create a little island of things that I can affect. That was a big factor for me and is how I’m framing things now.”

ARCHETYPE 8

The Tempered Tinkerer

Attitude:

The Tempered Tinkerer is a skilled problem solver because they understand the value of prototyping and incremental change. When tackling a problem they are less concerned with doing things according to procedure; instead, they try to do the right thing regardless of procedure. Their tempered nature enables them to easily navigate social situations and they are able to present their unconventional solutions by framing them in a way that others can relate to. They succeed because they can build trust with those around them.

In Action:

Their ability to see things from other perspectives helps them communicate their ideas and get buy-in from senior leaders. This ability to shift perspectives also means they often experiment with tools and methods to find the best one for the task at hand. Their concern for doing the right thing means they can resist their bias to action to spend time ensuring they are solving the right problem. This archetype is excellent at assembling teams to tackle a challenge and is a great mediator during the planning process. Their well-rounded approach means they're able to balance holding space for visionary thinking with the need to address tangible factors. The trust they build with others (including their superiors) means they often get asked to tackle organizational challenges. Their ability to shift out of their comfort zone and experiment means they can effectively tackle this task and many other types of challenges that get thrown their way. They see failure as an opportunity to learn more about the challenge by observing what parts of the solution worked well and what needs further tweaking.

Approaching Problems:

This archetype is comfortable in the highly ambiguous areas of complexity and chaotic problems, but can also be dropped into simple and complicated situations. This archetype has a diversity of skills that makes them well suited to assembling teams and overseeing the process from problem identification, mission analysis, framing, prototyping, testing, and evaluating the implemented solution.

Traits:

Their ability to build trust makes the Tempered Tinkerer very effective in leadership positions. They are naturally talented at managing their teams and managing up as well. They can support a wide range of problem solving challenges because of their adaptability.

Although their easy-going nature and trust building skills make communication easy, the Tempered Tinkerer has to be careful that they don't let others hold too much sway over their decision making. They must remember to balance their internal values with the values and opinions of others.

Catch Phrase:

Interesting, let's try it.

Attitudes:

Suspend Judgement

Approaches:

Collaborate, Iterative Thinking

Tools:

8 Ways of Seeing, Prototyping

Using the AATs:

The Tempered Tinkerer uses the 8 Ways of Seeing to understand perspectives of different stakeholders. They question their colleagues to understand the driving motivations behind their decision making. This deep understanding of people helps them to build trust.

The Tempered Tinkerer prototypes everything. They find creative ways to test out all sorts of ideas. They often use prototyping in group settings to involve teams in solution finding exercises. They also use their questioning nature to understand why prototypes didn't perform as expected.

“It was back in military college. I was presented with the model of the way we’re supposed to do things and I remember not being satisfied with that and thinking there’s gotta be something more or a better way to do this. At the end of the day, I ask ‘what’s the underlying principle or fundamental that is driving this?’ and then that’s what I’ll focus on.”

ARCHETYPE 9

The Skeptical Sage

Attitude:

Whether it's historical knowledge or the insights of people around them, the Skeptical Sage values inputs that develop their appreciation of the bigger picture. Able to see both the big picture forest and the detail-level trees enables them to grasp what's at stake from an organizational perspective. Working in a demanding leadership role, they are cautious and skeptical, and continuously self-educating.

In Action:

Usually working at a high level of the organization, the Skeptical Sage sees their role in terms of both the "art" of managing people, and the "math" of commanding soldiers, sailors or aviators, depending on the situation. Their ability to determine situations comes from being aware of different precedents while also engaging with people to note situation specifics.

The Skeptical Sage is a student of history, looking for precedents that might form useful ideas and concepts. Historical imagination helps them recognize patterns, form analogies and raise relevant questions for problem-solving. While they appreciate novel ideas and perspectives, they revere the classics of military history, science and philosophy. First principles matter just as much to the Skeptical Sage as new ideas. Likewise, the Skeptical Sage is adept at managing people and they place high value on continuously developing the people-skills to make that work. The Skeptical Sage approaches people on the basis that they have something to learn from them. They appreciate that people are complicated.

Approaching Problems:

The Skeptical Sage values the planning process because the process helps people solve problems, but they also make time for cerebral exercises in planning to make sure they're aligning their actions with the bigger picture. They are conscious of the difference between asking the right questions to address the right problems and rigidly interpreting doctrine.

Traits:

The Skeptical Sage understands the limits of their knowledge and is constantly working to move beyond them. They see their role in terms of supporting people to support the organization, not the other way around.

They may feel frustrated by the lack of opportunity for historical imagination at lower levels of command. They also place a premium on the time available for study, which is a scarce commodity in a fast paced, under-resourced environment. This means that they must be able to manage intense time pressures to be effective in their art.

Catchphrase:

Precedent is the foundation of principle.

Attitudes:

Be Curious

Approaches:

Problem Framing, Multiple Perspectives

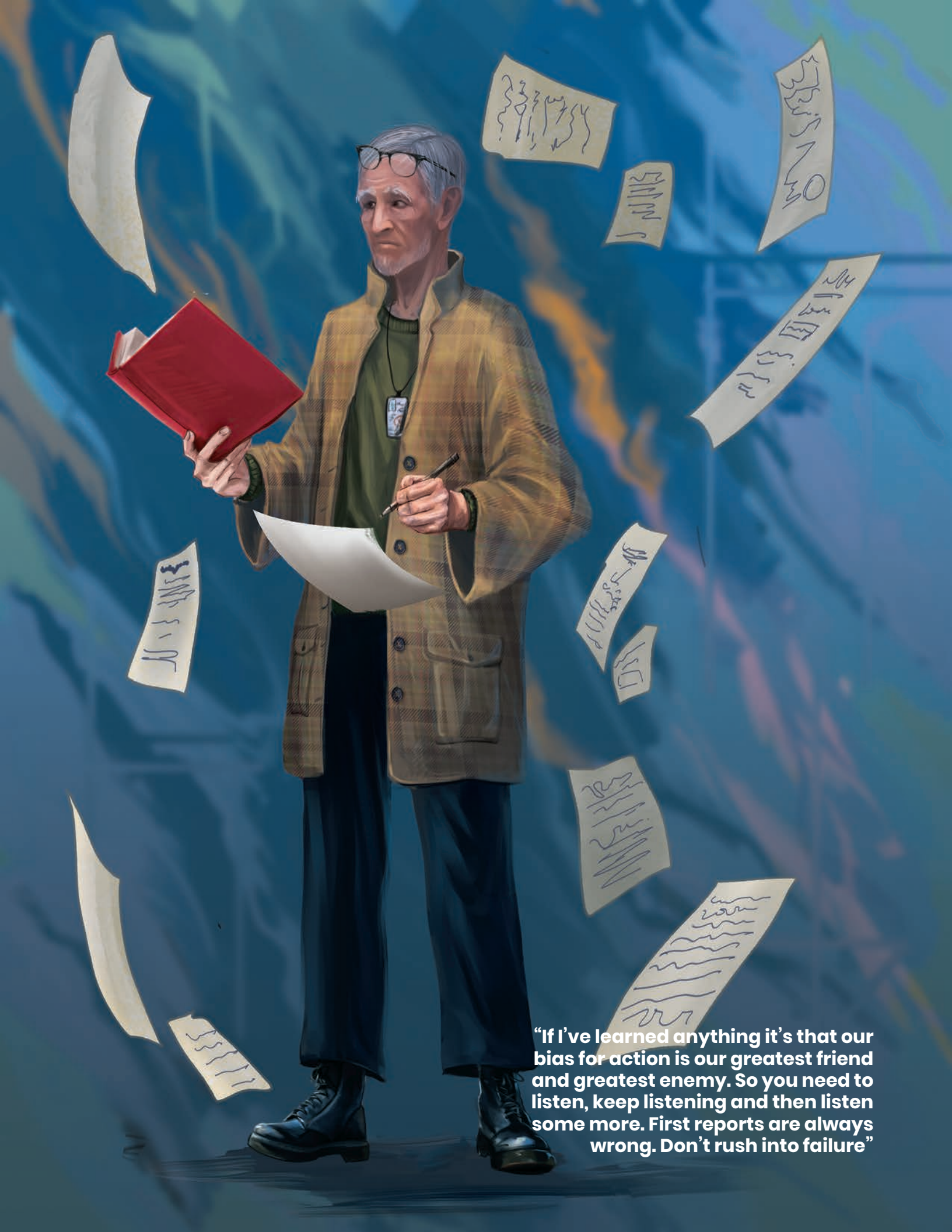
Tools:

Analogy

Using the AATs:

The Skeptical Sage uses Analogies to find patterns in past precedents that fit the current problem space. They will catalog and compare factors to find the closest match for the problem at hand to give them a starting point for solution finding. This helps them solve problems quickly and efficiently with proven strategies.

When a problem is beyond their repertoire of precedents, they will employ Multiple Perspectives to solve the problem. They will reach out to others who might have relevant information or experience to the problem at hand and will actively solicit their advice.



“If I’ve learned anything it’s that our bias for action is our greatest friend and greatest enemy. So you need to listen, keep listening and then listen some more. First reports are always wrong. Don’t rush into failure”

ARCHETYPE 10

The Insider-Outsider

Attitude:

The Insider-Outsider brings a unique perspective as an outsider that enables them to support the development of strategic level thinking. Often coming from a civilian background, they pick up on signals and details that escape the organization's abiding focus on tactical and operational dynamics. They see the field differently than their counterparts, and this is an advantage for an organization that needs to navigate change. They know that they will never be one of the in-group they are supporting, which means that they can say things that people inside the organization can't. Through collaboration and relationship-building, they are able to synthesize competing and conflicting perspectives to help the organization adapt in ways the organization's traditions and biases would otherwise hinder.

In Action:

The Insider-Outsider's work is about building relationships. They open closed spaces to inputs that will enhance organizational resilience and adaptability. They engage in discussions with people on the ground and in-the-know to understand the dynamics of a changing environment, the needs of stakeholders, and the responsibilities of the organization. The Insider Outsider's data-driven engagement better informs strategic decision making at a high level, contributing to the best possible solutions to complex problems. Their role is to bring a critical perspective to the table, without getting tied up in organizational processes or politics. They understand that friction between different groups with different knowledge and experiences can be a potent driver of innovation. They can also use their position to circumvent the usual courses of action. By working to understand and reconcile "knowledge friction" through their position, they can support people in the organization who need comprehensive answers to intellectually challenging problems.

Approaching Problems:

Traditional problem solving in defence organizations often works by deduction, removing variables in order to simplify problems and choices. Instead, the Insider-Outsider identifies unobserved variables and conditions that are crucial to making sense of the problem in novel terms (i.e. inductive reasoning), framing the right problem to then try to solve. Because their work is often about helping the organization feel comfortable with the uncomfortable, they need to be nuanced communicators to develop relationships with their collaborators, who are also knowledgeable about the field.

Traits:

They are highly educated and experienced in their field, which gives them a great deal of confidence. They possess skill and knowledge sets that the organization needs to adapt, but does not have "in house". They are resilient and roll with the punches in an environment which might be hostile to their presence.

Because their work is advanced and contentious, they need to secure broad buy in from the organization they are supporting. This means that the organization they are supporting has to be open to non-traditional inputs and approaches.

Catch Phrase: What's not being said?

Attitudes: Be Curious

Approaches: Collaborate

Tools: Storyboarding, Stakeholder Mapping

Using the AATs:

The Insider-Outsider uses storyboarding to create a narrative of the problem space. They use this tool to tell a compelling story and to bring their audience along on the journey because they are an outsider communicating to "insiders".

The Insider-Outsider uses stakeholder mapping to gather input from the organization they are working with to collaboratively build an accurate picture of the problem space with the organization they are supporting.

“I will never be one of them but it also makes me something different and someone different, so I’m bringing something different to the table. If you bring something to the table, generally, no matter who you are or what you look like, there’s no issue. And it allows me to say stuff that someone else couldn’t say”

ARCHETYPE TEMPLATE

Build Your Archetype

Archetype Name:

Attitude:

In Action:

Approaching Problems:

Traits:

Catch Phrase:

Attitudes:

Approaches:

Tools:

Using the AATs:

SKETCH YOUR ARCHETYPE

SECTION 4

Collaborative Innovative Thinking by Design Toolkit

Attitudes, Approaches and Tools

BREAKAWAY builds on CAF personnel's experience to improve CAF innovative thinking. It serves as both a reminder of the infinite ways that are already available for you and your colleagues to address problems innovatively. BREAKAWAY complements these experiences with different tools and approaches for you to draw upon. BREAKAWAY is mission and task agnostic. You can apply it to any complex problem you encounter. It is flexible and modular. This means it is not characterized by a fixed or rigid framework, but rather is open to adjustment and revision as needed by practitioners. In the sections above we emphasized why this flexibility is important. We also presented a set of archetypes which serves as a roster or cast of different kinds of CAF innovators who navigate complex problems in their own way, and whose practices are compatible with BREAKAWAY principles. In the sections that follow we present you with a toolkit with examples of different Attitudes, Approaches, and Tools.

The Attitudes, Approaches and Tools (AATs) are for you to use. They can apply across the different phases of the planning cycle, from the initiation stage, to exploring the challenge environment and developing an understanding of it, to problem definition and development of a solution set and evaluation criteria. But they are flexible and adaptable to address different kinds of complex challenges and problem sets you encounter outside of the planning framework. The AATs can help you shape your own thinking and the thinking of your team and other stakeholders, channeling your thoughts in new directions. The AATs can also help you recognize potential biases and move past their limitations, generate ideas through different thought processes, and apply them to your problem space. Subsequently, we will show how different AATs may be used by the different archetypes, aligning with their disposition, countering some of their weaknesses, or complementing their strengths. Whether you identify with a particular archetype, are trying on an archetype "costume" for a particular purpose, building a team of complementary roles, or simply matching AATs to your own personality, the combination of AATs with an understanding of different problem solving experiences in the CAF will equip you to confront any complex problem you encounter.

ATTITUDES

An attitude is a way of thinking that you and your team can use to help support your success in applying design. These attitudes are included to assist those who are learning about design understand the different ways that designers think when they are trying to solve problems. The approaches are also included for those who are working on their skills (and seasoned designers!) to support their developing abilities as a design thinker.

Adopting these attitudes at different points in the problem-solving process will help you identify the places where your normal thinking patterns become stuck and can help you build the skills to get yourself unstuck. They can also enhance the effectiveness of the work you're doing, but working on your skills by applying each of these attitudes will help you build on your overall design capability. Each of the included attitudes represent broad skill sets and capabilities that will help you learn how to think like a designer, and identify areas where building these capabilities will help you become a better designer.

There are many different ways to learn each of these attitudes, and many ways that you can build your agility and skill in using these attitudes. In each of the attitudes we've suggested, we've included some ideas to get you started and some references you can use to support learning more.

APPROACHES

An approach is a group of behaviours or skills that you can apply in different ways at different times during the design process. Approaches shape the way that you get the work done and help you execute your problem-solving process. This primer will give you a suite of approaches to draw upon for different problem solving situations.

TOOLS

Tools are resources that you can use in the design thinking process. You don't need to have to have a deep understanding of design to be able to use a method or tool - you just have to be willing to try it out!

SUSPEND JUDGEMENT

Approaching a problem with an open mind means that you are willing to suspend your disbelief and criticality and consider possibilities that you might not otherwise entertain.

When you are working on a problem, we often believe that there is one ideal solution, and this solution is the only one that will solve the problem. We have been taught to believe that our intelligence and expertise make us particularly capable of coming up with the "correct" idea.

If you are critical of an idea before you have fully explored it, you likely aren't allowing space for possibilities that you haven't yet considered. By seeking out ideas different from your own, working with other people who are not like you, and inviting opportunities to consider things that seem unusual or different, you'll generate more ideas—and more different ideas—than you normally would have developed on your own.

How can I practice having an open mind?

Practice having an open mind by getting out of your routine and engaging with things that you don't usually engage with. There are lots of ways you can do this. You could take a different route to work or read something new. Opening yourself up to new experiences, new conversations and new ideas will expose you to different perspectives. It helps you articulate your own perspective and it makes it easier for you to understand other people.

There are other ways of practicing this. For example, rather than thinking about reasons why something might not work, simply ask your team "why not? Why won't it work? " By drilling down, you might see how other ideas have merit. It's also worth considering: are you listening to the idea itself, or is noise getting in the way? For example, is a person's rank (higher or lower) colouring your reception of the idea? Is the idea coming from a typically oppositional place, and is that why it's being discounted? Is the stated reason for "why not" an inconvenience, or a genuine obstacle?

Related Tools:

- Analogy

BE CURIOUS

ATTITUDES

Being curious means you allow yourself to consider every possibility by asking "What if?", rather than critically evaluating every idea that comes up. You will know you are operating with an open mind when you recognize that you aren't immediately saying NO to ideas that you may not think are possible. Instead, you're curious to see what might happen. In design thinking, it is helpful to allow space for inquiry and consider many possibilities. As the process plays out, it's important that strange perspectives, seemingly wild ideas, and alternative ways of doing things be considered just as possible as any other.

How can I practice being curious?

You can practice being curious by focusing on questions and inquiry instead of focusing on being an expert. Think like an inventor. Ask "what if?" and "why?" Imagine yourself as a child who has never been exposed to the world and sees everything as something to question. You could imagine you've been dropped from another planet to where you are right now. How do you approach your problem when you have no prior knowledge and you have to learn everything anew?

Related Approaches:

- Multiple Perspectives

ENGAGE YOUR CREATIVITY

Creativity is is an attitude that can be learned and developed through practice. Every person is creative. If you weren't able to think creatively, you wouldn't be able to succeed in the face of change. Being creative means that you can come up with new ideas and imagine other possibilities than those that currently exist.

We are being creative when we allow ourselves to imagine novel or different ideas, or when we imagine ways we might realize them. You can enable this approach by giving your mind the space to make connections between things that may not be entirely logical, and by holding space open for multiple possibilities and perspectives, knowing that many things can be true at the same time.

How can I practice being creative?

You can practice being creative by challenging yourself to generate several ideas for solving a problem . One trick you can use to build your creative thinking approach is to allow yourself and your team the time to imagine many possibilities for solving the problems that you are facing. Don't just go with your first idea. You can use prompts like "How might we...?" to open up the problem to multiple possible solutions, because there are always numerous ways you can solve a problem. . While imagining multiple solutions is good practice, you can also try coming up with multiple hypotheses or new evidence to account for the knowledge you already have. This latter kind of creativity can open up alternative explanations for why a situation may be occurring, and what you might be able to do about it.

Related Tools:

- Draw

SELF-REFLECTION

Being self-reflective means actively questioning how you understand yourself and your environment, and how you relate to others. The practice of self-reflection enables you to understand your own experiences and values, and the perspectives of others at a deeper level of meaning. In that sense, self-reflection is vital for adapting to a complex and dynamic environment: self-reflection is closely tied to your capacity for recognizing thoughts, emotions and behaviours (including unconscious ones) in yourself and others, and identifying patterns that influence your decisions and actions. Understanding how your thoughts, instincts and feelings inform your decision making makes it easier to assess the outcomes and impacts of your actions on the situations in which you hope to gain an advantage. Enhanced self awareness will also increase your sensitivity to the perspectives of people around you, and will therefore make it easier to communicate difficult ideas and even change minds.

How can I practice self-reflection?

You can practice self-reflection by actively examining what you know and how you know it. Ask yourself what assumptions you may be holding in regards to a problem, how they inform your understanding of it, and which options you'd likely default to for addressing it. By bringing those assumptions to the foreground of your thinking, you open the possibility of thinking in different ways, either by changing your assumptions, changing how you work through your understanding of something, or embracing the inputs of those around you.

Related Tools:

- 8 Ways of Seeing
- Iterative Thinking
- Paper Roll (Charades) Game

COMPLEXITY THINKING

Complexity thinking works on the premise that different problems involve differing levels of uncertainty. These problems can be categorized as simple, complicated, complex, or chaotic.

Complex problems involve known and unknown variables with observable and unobservable cause and effect relationships. As a result, there is a level of uncertainty and a lot of potential for unexpected change in the environment. Complexity therefore requires mechanisms of constant scanning, questioning relationships, understanding possible repercussions and resulting changes (i.e., systems thinking), and recognition that there are multiple possible solutions. In contrast, chaos differs from complexity in significant ways. In conditions of chaos, events are constantly changing, there is no stability in the system, and there are many unknown unknowns that are not solvable or comprehensible. Chaotic conditions and complex systems share a level of uncertainty, but it's helpful to recognize the difference between a state of chaos and a complex system.

Complexity thinking therefore calls for an awareness that there are multiple interacting elements that may not always be observable or understood, and that emergent phenomena is to be expected.

How can I practice complexity thinking?

One way to explore complexity thinking is through the Cynefin framework. Thinking in terms of the interaction of systems and how you can map them are also beneficial to complexity thinking. You can further practice complexity thinking by looking for interactions between variables, actors or events. Ask yourself: "are these things directly linked? Are they indirectly linked? Am I assuming a direct link where maybe I'm missing another point of connection?" Being aware that there may be "unknown unknowns" can help you expand the scope of your search for information to minimize uncertainty (although it can never be eliminated!). Asking how others see the situation, especially outside of your team or your usual circles, is good practice, as others may have picked up on new connections.

Related Tools:

- Problem Framing

Related Approaches:

- System Mapping

Story Break: On Complexity Thinking

We were running behind and it was really important because from one venue to another the distance that had to be traveled was quite significant. What that means with a motorcade...is that when you're in a city with a population of 11 million people, it needs to stop traffic for a certain amount of time. These are all actual big factors that play into something as minimal as a meeting going over 5 minutes because that's 5 minutes that the entire city is literally on hold....

The "so what?" of that is that you're in the car in the end of the motorcade and then all of a sudden you see the actual impact of that traffic being stuck and all these people on the street waiting to cross or to go whatever and ... the 30 cars you're a part of that are just flying by the street and those streets are lined with police officers about every 500 metres. How long have they been there waiting for us to go by? How much longer will they be there by the time they get picked up? Do they have water? No. They had nothing really, just standing on guard. All of that, you know, it just plays into such a like 1-minute decision, but it's knowing all those people and what it means, the effect that your decisions have.

FORESIGHT

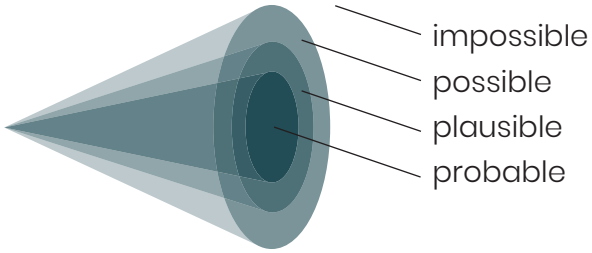
While there are many ways to practice foresight, at its core, foresight is the ability to assess and address complex problems by thinking about and picturing possible outcomes to better anticipate and plan for the future. When we assume that the world is going to carry on as it presently is, we often lose sight of how context and conditions can change.

Having a discipline of foresight in decision making helps us maintain an open mind that is not only equipped to solve today's problems, but anticipate the problems of the future. It allows practitioners to think in possibilities instead of constraints, and focus on consequences. Foresight is more of an art than science, and is ideal for problems that require creativity, or for offering alternatives to more traditional analytical thinking.

Foresight is an approach that uses different tools to generate future scenarios that consider a broad range of possibilities, and not just probabilities. Considering different scenarios allows for enhanced risk perception and management. Foresight is an ideal way to stress test a strategy or an approach against multiple plausible scenarios, or to inform organizational change strategies to increase resilience.

Foresight in action:

You can use future cones to help you practice foresight and think about the future. Future cones can help you brainstorm visions of the future and sort them by how likely they are to occur.



Related Tools:

- Horizon Scanning

Related Attitudes:

- Suspend Judgement

DIVERGENT THINKING

Diverging means that you are broadening the scope of your thinking. When we diverge we get a bigger picture of what is going on. That bigger picture affords us a more holistic view of the problem, and enables us to spend more time considering possible solutions.

For example, the BREAKAWAY diagram on page 66 shows how expanding your understanding of the environment (the widening of the cone) leverages new perspectives that allow your team to interpret different possibilities and generate different solutions. This expansion of scope differs from planning's early focus on filtering information and ideas that don't immediately contribute to a solution. Instead, ideas that might otherwise be filtered out can contribute to solution development on as ideas are refined later on.

Practicing divergent thinking means you're not approaching a problem from a solution focus. Instead, you're approaching it from a place of questioning and understanding. Creating space for diverging means that you provide an opportunity for people to work on problems by starting with a very wide lens to better understand the problem and its broader context. Sometimes this is a challenge, because it can be perceived as less efficient than jumping to a solution immediately.

You can promote divergent thinking by providing space to consider many possibilities at the start of a project. This can help your team develop a solution that is a better fit for your purpose. This also helps reduce risk by enabling more robust solutions that are better able to withstand turbulent conditions.

Moving past expert bias:

One challenge in engaging in divergent thinking is confronting your bias as an expert. You are a well-trained and educated CAF member with significant experiences, and you have no doubt encountered and successfully addressed many different challenges. But your expertise and self-sufficiency may prevent you from looking to others for fresh ideas, or different ideas, or ideas that conflict with your own take on things. However, providing an opportunity for these ideas to be gathered and shared can produce new angles on a problem, allow for identification of new or different problems pertinent to your situation, or new solution ideas or combinations. Expertise means having a strong understanding of a topic or knowledge set, but it also comes with its own set of blindspots (both active and accidental). Divergent thinking allows you to see into those blindspots with the help of the team.

Related Tools:

- Research and Observation

MULTIPLE PERSPECTIVES

Gathering multiple perspectives is an essential practice for innovative thinking - it helps to avoid groupthink, spurs creativity, elicits new insights around a problem, and leads to greater empathy with stakeholders.

Brainstorming is a typical method for gathering multiple perspectives because the structure of brainstorming ensures as much input from different people in the group as possible. However, the act of brainstorming is not guaranteed to provide the widest range of perspectives possible on a given issue. To ensure you make the most of brainstorming, we suggest leveraging rules like assuming every contribution is worthwhile (no matter how seemingly silly or confusing the ideas), suspending judgement (do not evaluate others' ideas or censor your own - that's for later), and allowing everyone the chance to speak. The brainstorming session rules can be modified before or after, but not during. The exercise can be modified, for example, as brainwriting, where everyone writes down four ideas for a solution, and then swaps their paper with someone else. Everyone then has to add two more ideas to the original four. Role-storming is another method, where people take on a role or character, and half of the group contributes ideas based on their character or imaginary role and the rest contribute from their own perspective.

Multiple Perspectives in action:

As a leader in the CAF, you may think that you are canvassing multiple opinions in meetings with your peers and subordinates. However, something to consider is that, given rank differences and personality differences, open forums of discussion may not invite as many voices to speak on an issue as you may think. People may hesitate to contradict someone of higher rank. Perhaps only a few voices dominate the discussion while others remain silent. Different methods are available to ensure more voices are heard: 1-2-4-all, where individuals first write their thoughts, then share them in pairs, then in fours, and finally to the room. You might try silent posting of thoughts around an issue on a white board or (perhaps anonymously on a virtual whiteboard with coded avatars). Capturing these voices adds a completeness to the picture of the issues in play, including challenges regarding organizational culture itself, that may otherwise be overlooked.

Related Attitudes:

- Be Curious

Story Break: On Multiple Perspectives

I would deliberately say something ridiculous. Like "OK under my command for the next two years. There will be no short leave. I don't believe in short leave." Now, of course, that's not true. That's a stupid thing to say. Really, if you want to take the right Friday or Monday off with the kids, do it. But nobody would say anything, and so I would look at everybody and say "that's exactly what I'm talking about. Guys, the emperor has to have clothes. And if I say something ridiculous and you don't challenge me, shame on you. And I will only advocate for the people who have the courage of their convictions." But this is rare, right? More often than not, a GOFO will be challenged and see it as some kind of personal attack.

COLLABORATE

Any process that calls for fresh ideas will likely benefit from collaboration with others.

By working with people who are not like us in some way, we invite a broader diversity of ideas and experiences into the ideation process. The greater the variety of thinkers you bring into the process, the more opportunities you will find to create novel ideas from a variety of different perspectives.

Collaboration is also about including people in design processes who have different methods, thinking styles, and strengths. By including a variety of thinkers in the process, you will be better able to understand different perspectives and your team will be better able to develop outputs that reflect the needs of multiple stakeholders. Collaborating with others supports the process of creating holistic outputs that are suited to realizing a variety of simultaneous outcomes, and developing ideas that are robust enough for system-level implementation.

Collaboration in action:

Collaboration can be increased by foregrounding intellectual diversity for team-building and confidence-building purposes, and for leveraging implicit diversity in team activities. You can do this by asking everyone on your team to draw something that makes them unique that the rest of their team may not be aware of. Bringing this into awareness can help the team appreciate the advantages that diversity can bring to a project.

Related Tools:

- Empathy

Related Attitudes:

- Be Curious

VISUALIZE

Working in complex problems means working in abstract ideas and concepts. Working in abstract concepts is best supported through visualization, which is a tool to think through your ideas and to communicate the work as you go. Visualization helps you to create a reference point to support ideation and conversation throughout the process, and communicate your thinking to others, enabling quick understanding and uptake of abstract concepts, helping people understand your work.

Because much of this work is about creating new ideas, you can use sketching and drawing as a tool for learning. You might try drawing out your thinking to understand how something might work, and use visualization to communicate ideas.

A simple sketch is a low cost and low effort tool that can act as a model that helps to support a thinking process, it can provide an example of an idea, or even act as a simple prototype that you can use for testing ideas.

Visualization in action:

Using creative approaches and tools like visualizing and storyboarding will help you to collaborate with other people more effectively, and will help you share your work in a way that is clear and compelling for your audience.

In late 2020, CAF/CJOC engaged members in a workshop to develop their drawing skills by learning simple methods from a professional sketchnote and drawing teacher.

Related Tools:

- Draw
- Storyboarding

Related Attitudes:

- Engage your Creativity

ITERATIVE THINKING

There are many ways to think iteratively, but all take place in a specific learning environment. In those learning conditions, initial solutions are put forward with the intention of quickly receiving feedback to improve and refine the idea until the requirements for full implementation are met. For this iterative learning process to succeed, it's important to be open to feedback and critique, and to consider how you might capture and remember lessons learned. Iterative thinking also calls for the adoption of healthy attitudes towards communication and requires a level of perceived safety among participants so they can share ideas and insights, regardless of rank or position in the organization, without fear of judgement. Iterative thinking also involves regular and frequent feedback opportunities during the process of developing ideas and solutions.

Iterative thinking also means accepting that the first idea or prototype is almost certainly meant to fail, and that failure is both acceptable and beneficial because it provides an opportunity for further learning. Prototyping allows for both a better understanding of the environment, especially in complex situations. It helps you identify needed improvements to the solutions proposed by the team. Early prototyping is also less costly than rushing to develop and implement an untested solution set, as it allows for the skeleton of a solution to be tested without investing too many resources in an approach that may then fail.

Iterative Thinking in action:

When developing the solution suite for your challenge, iterative thinking allows for the combination and recalibration of ideas, in contrast to the simple elimination of COAs.

Given the nature of complexity, it is likely that any viable solution will need tinkering and adjusting, and that the first (or second or third) version will not get it right.

Related Tools:

- Prototyping

SYSTEM MAPPING

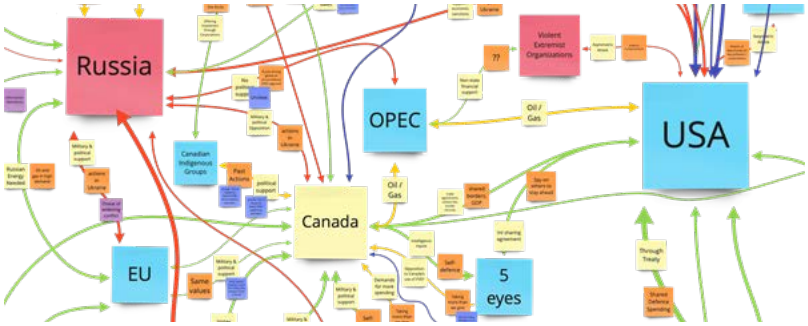
Systems Mapping allows you to connect different elements in a particular environment of focus, to analyze possible relationships, and, eventually, to identify possible bottlenecks, problem areas, or leverage points for solution finding to complex problems. Different kinds of system mapping tools include stakeholder maps, process maps, causal loop diagrams, etc. System maps can be used to understand a current snapshot of a system's characteristics, possible flows, connections, and relationships, and can be mapped chronologically.

While there are different ways to draw system maps, all maps require clear boundaries to determine scope. Ask yourself "how micro or macro do you want to go in your understanding of elements' relationships to each other?" You will have to actively decide what is to be included in the map and what to leave out to set the boundaries of the system you're exploring and frame the problem for analysis. System maps include individuals or organizations, relationships or interconnections, and functions. They may also include stocks (quantities of a resource) and flows (activities or changes that can impact the stocks), and outcomes and feedback loops. In all cases, systems are greater than the sum of their parts, and system mapping helps to show how the different variables interact in a way that creates emerging elements or functions.

System maps may also be the clearest way to move past the "above my pay grade" or "it's not our decision" blocks to dealing with complex problems. By seeing how different actors interact with the system, including your own team, you can determine where direct or indirect action can be applied to create system effects. This may include creating a plan for action, or it may simply mean communicating information to other actors, but either way systems thinking can help broaden the option set for effective action.

Systems in action:

Systems mapping is about understanding, visualizing, and analyzing complex connections between variables within a system. This understanding makes it possible to identify patterns and leverage points.



Related Tools:

- Causal Loops

Related Attitudes:

- Complexity Thinking

EMPATHY

Empathy is a core tenet of design thinking. When you engage people from a position of empathizing, you are trying to imagine yourself in someone else's situation, and you're trying to connect to what that must feel like for them. It's not about sympathy - you're not feeling sorry for them – instead, you are trying to deeply understand what their experience is like, to put yourself in their shoes so that you can better understand the problem you are trying to solve.

Gen. HR McMaster calls on the use of "strategic empathy" to better understand opponents in defence-oriented arenas. Empathy will also improve understanding and stakeholder engagement in domestic operations, ally relationships, and organizational change initiatives.

You can engage in empathy through different tools such as empathy mapping, 8 ways of seeing, and journey mapping. You can research the literary, historical and religious texts of a culture to try to understand its motivations and values. You can interview representatives from different groups.

Empathy in action:

Consider these questions from the Empathy Map Canvas:

- WHO are we empathizing with?
- What do they need to DO?
- What do they SEE?
- What do they SAY?
- What do they DO?
- What do they HEAR?
- What do they THINK and FEEL?

The benefit of considering these kinds of questions is an increased understanding of the problem context. Internally, it can also boost morale by acknowledging member's experiences and knowledge in problem solving. Overall, leaders practicing empathy contributes to a "safe, secure, equitable working environment" by understanding member needs and listening to the variety of CAF members beyond the "usual" voices

Related Tools:

- 8 Ways of Seeing

Story Break: On Empathy

When I was in Germany we had a soldier that had a troubled or troubling issues back home and had to get out, and I took the time to help him. Other young officers in the squadron thought that I was spending too much time trying to help this soldier take his release from the forces, while in my view I did it because it was the right thing to do. But this was the 80s, so we weren't that far removed from the culture that thought "if we wanted you to have a family, we would have issued you one". So, you know, it was all about the service, the military, the army. And one day after I'd finished helping this young soldier, I was walking up to the headquarters and I saw the Sergeant Major, who wasn't the most personable guy.

He said to me "This thing about the soldier. Do you know what you've done?"

And I said no.

"What do you mean you don't know what you've done?" And I said "No. Sorry, Sgt. Mjr, I'm not sure."

He said. "Well, Mr. X, you've made every trooper in this squadron want to be in your troop. Well done!"

And he saluted me and walked away. And I thought, what the hell just happened there? You know, because I expected to be ripped on something. But what he told me is that you know, the soldiers recognized that what I was doing was helping a soldier in need, and they realized that if they were ever in need, they knew that I would be in their corner.

RED TEAMING

Red teaming is an approach that encompasses self-awareness and refection, empathy, critical thinking, mitigation of groupthink, and creativity. A few related attitudes and tools are explored in this document. The main purpose of red teaming is to avoid "doing things the way they've always been done" in new situations requiring new courses of action or in situations where there is an opportunity to innovate.

Red teaming can help teams test their assumptions and explore alternative perspectives to overcome cognitive biases, reveal blindspots and expose overlooked opportunities. Several tools can be used to put red teaming into action. For more, consult the Red Teaming Handbook in the Resources section.

Consider:

Should red teaming only be used in planned evaluation scenarios? Or can you use red teaming proactively to critique a situation or plan that you want to change or bring to the attention of command as a way of starting the process or exploring a problem?
Who might you include in red teaming? What groups, other than obvious adversaries, might be included? Besides military and security issues, can you apply the principles of red teaming to policy, financial/budgetary, or social aspects of a problem?

Related Tools:

- 8 Ways of Seeing
- 5 Whys

Related Attitudes:

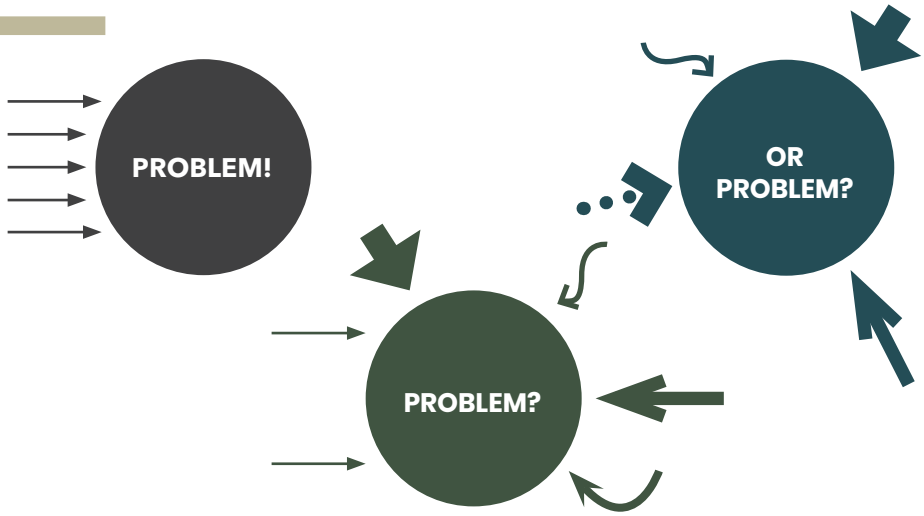
- Suspend Judgement

PROBLEM FRAMING

Several defence organizations consider problem framing to be the key contribution of design to planning in complex environments since it was introduced in the late 1990s.

Problem framing enabled defence organizations to come to the realization that failure is not necessarily a failure of solutions, but of the very way the problems were defined in the first place. From a design perspective, problems are contingent in the sense that they depend on the perspective of those formulating them. Enhancing problem framing is crucial since the development of courses of action depends on how the problem statement is posed in the first place. In other words, problem framing allows us to make sure we are putting our ladders on the right wall.
Several tools are available to assist in problem framing such as the 5 whys (see related tools) and question storming. Problem framing is iterative, that is, the team's perspective on a problem evolves throughout the design and planning processes. For this reason, problem framing must be ongoing to be effective, the continuous reframing of which aims to generate a cohesive problem statement.

Problem framing benefits from group diversity and inclusion of different stakeholder views in determining the exact nature of the problem. For example, consider the CAF's organizational challenges, and calls for culture change: without robust consultation with the different members and related stakeholders who are impacted by organizational structures – beyond the needs of the organization's leadership - the crux of the problem is likely to be missed entirely.



Related Tools:

- 5 Whys

Related Attitudes:

- Complexity Thinking

ANALOGY

Analogy is a simple but powerful tool for design thinking. You can use analogy to bridge concepts or parts of a project that are hard to understand. You can use it as a tool to empathize with people, as a way to express experiences to those who have not had them, or as a tool to help you generate new ideas. One way to generate ideas with analogy is to use a method called forced pairing.

Start with a random list of nouns that you can use to generate your pairings. Then consider your problem and ask, "How is this problem like?" As you try to relate seemingly unrelated terms, you'll create new ideas and concepts that you would not normally consider without forcing your thinking through this tool.

Analogy in action:

Analogy is also useful for improving your communication with others in your team, in the CAF overall, or outside the CAF. Analogies and metaphors are powerful tools for sharing the knowledge you gained from experience, especially when that experience that is not shared by the other person. By creating an analogy, the recipient might better understand and find parallel experiences, or develop a clearer understanding of what is being communicated.

Related Attitudes:

- Suspend Judgement

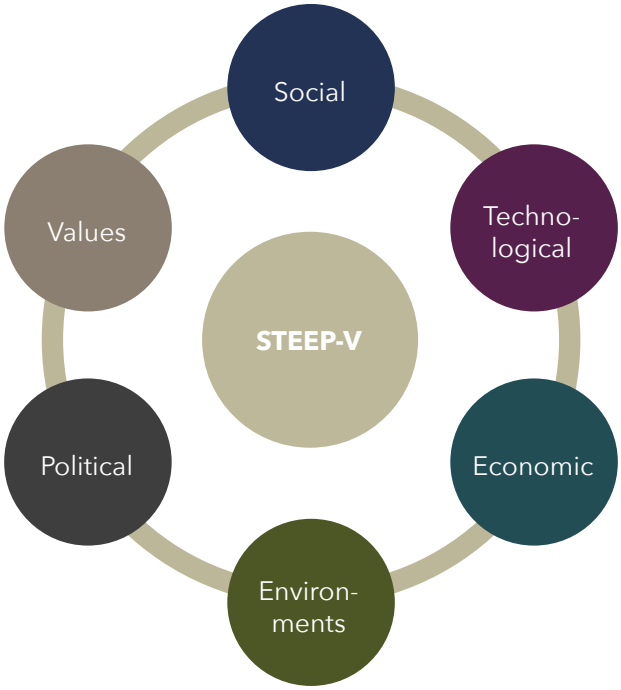
Story Break: On Analogy

For my normal military mind, lines of effort are linear and they go to meet the objective here to get to the end state. So that was the initial design of [Op X]. And then my boss at the time was like, I don't like it because it's too straight. So I formed my own tiger team of my closer, open-minded colleagues to look at it. How do we make this not linear? What can we do to make it? One example was a spiral, which is something we do more in the realm of capability development, because it never ends. [But] the spiral didn't really work out. So then what about something like a Venn diagram, but only to show how things all link together, to be able to portray that LOE's are not all separate, they're linked and cyclical.

RESEARCH & OBSERVATION

Developing a bigger picture means opening your efforts to define the problem to more sources of information to understand what is going on from many perspectives. The first step in doing this is often simply observing people in their environments.

When engaged in observational research, observers position themselves as a "fly on the wall" and look at how people are engaging in their contexts. One research tool you can use is a simple framework called STEEPV. As you observe, be mindful of systems, processes and trends related to the Social, Technological, Economic, Environmental, Political and Cultural (Values) context of what you're observing. This helps expand the scope of observation and allows you a more holistic view of the situation.



Related Approaches:

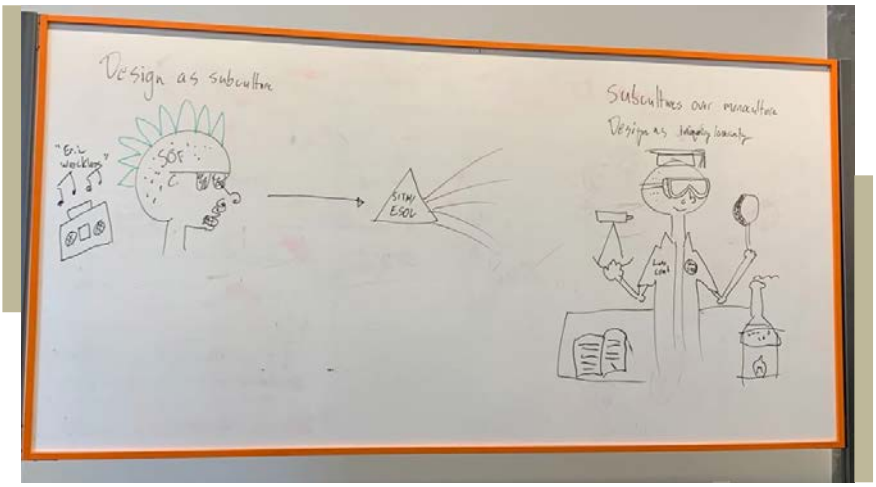
- Divergent Thinking

DRAW

In design thinking, drawing is an important part of a visual vocabulary. Drawing provides a way to share ideas before they're fully formed, and it provides a way for you to collaborate with others and build ideas together. You don't have to be an artist to draw. Your drawings aren't about making beautiful, realistic images — you use them to share concepts and ideas as you're working through a challenge.

If it's been a long time since you've tried to draw anything, this is the perfect time for you to take up a sharpie and build your quick drawing skills. A lack of skills can actually be an advantage in design since it's more likely that team members won't become too attached to initial ideas and will be more likely to create multiple drawings to express new ideas iteratively. Start with simple shapes and lines. You can find inspiration from simple clipart icons and whiteboarding videos online. Take your time and remember to practice - drawing is an act of courage!

The use of "placemats" in the CAF invites visual thinking and drawing. Consider using metaphorical symbols, maps, process diagrams, or simple stick diagrams to express thoughts quickly while encouraging people to perceive things differently than they would a simple text-based report.



Related Attitudes:

- Engage Your Creativity

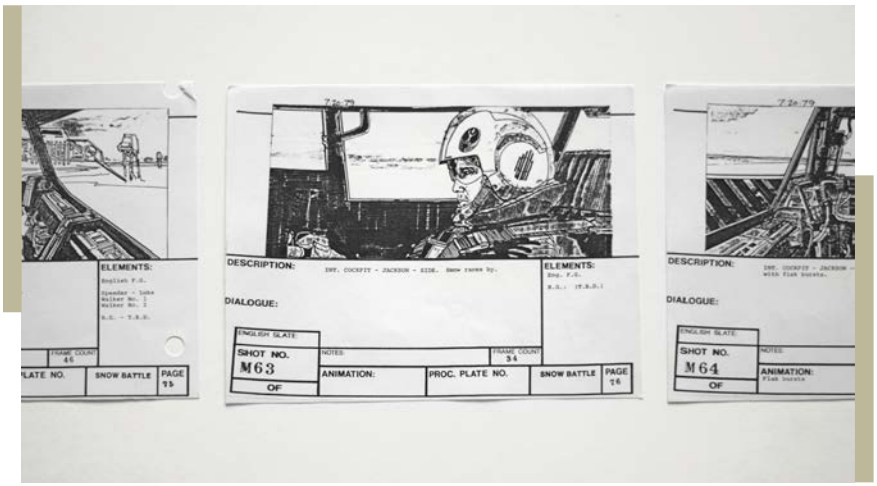
Related Approaches:

- Visualize

STORYBOARDING

Storyboarding is useful to assist in developing a narrative to covey your innovative vision or approach to an external audience who wasn't engaged in the process, such as your commander. Sharing the knowledge you've built and the impact of your work is dependent on your ability to put together a compelling story. Design thinking relies on storytelling as a key tool for sharing your knowledge and connecting people to why your work makes sense.

A storyboard is a simple narrative-building tool you can use to sequence the parts of a story (such as the frames of a movie or a comic strip). It provides an easy way for you to combine the elements of the story into a logical presentation. Starting with quick drawings of slides on post-it notes is a great way to create modular story blocks that you can re-order or combine in different ways as you're framing the concepts you'd like to communicate.



Related Attitudes:

- Engage Your Creativity

Related Approaches:

- Visualize

PROTOTYPING

Prototyping is the creation of artefacts for testing. Prototyping acts as a forcing function to make your ideas tangible by test-driving them. It's a way of seeing how "the rubber hits the road". Taking feedback from this first contact with reality, the team can go back to the drawing table to improve their idea.

While it is easy to think of prototyping as useful for products, processes or plans can also be prototyped by engaging in idea testing or "virtual" prototypes that can be discussed and critiqued within the group or with trusted stakeholders before proceeding to more concrete development. A project might start with some research and analysis, and insights communicated to stakeholders for feedback and validation. After some further research and development of ideas, you might then develop early prototypes and elicit feedback, and repeat the cycle as feedback is incorporated into the design.

The early suite of solutions that emerges from your developing understanding of the environment and the needs of stakeholders doesn't need to be perfect. Prototyping allows for informative testing and critique of a plan so that you can refine it without throwing out potentially useful elements.

Related Approaches:

- Iterative thinking

Story Break: On Prototyping

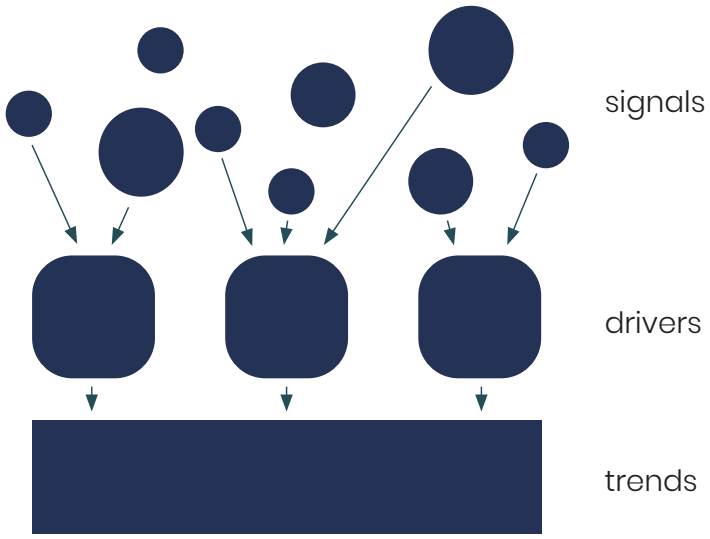
One of the things we tried, our squadron in Afghanistan, we were running a mixed fleet of tanks, so we were running Leopard 2s and we were running Leopard 1s. So in the Leopard 2s you have what's called a slung seat for the drivers. Essentially, it's a mesh seat, so the driver floats and the idea is that if you hit an IED or a mine, you're not directly attached to the tank. But in the Leopard 1s, they were traditional seats. On our very first op, we actually had one of our Leopard 1s hit an IED, and the driver was injured. So we asked "why can't we put a slung seat in a Leopard 1s?" So we basically cut out a seat and put one in, and you know it was not appreciated, shall we say, by Ottawa. But we had a couple of technical experts in theater who jumped on board us doing it, and it wasn't a perfect fit, but it was a solution that provided a measure of protection... So anyway, it was based-off necessity. What happens after that is you send in basically an equipment modification report, and then it goes into the system.

HORIZON SCANNING

We look out to the horizon to find signals that may indicate where we are headed. Scan your current problem space and see what clues you can find. Look for events or disruptions happening now that have the potential to scale or develop in the future, indicating larger trends. Trends are patterns made up of groups of signals. Trends can often turn into drivers of events, slow moving truths that are likely to have a significant impact on our future. Using signals, trends, and drivers, can you imagine what the future might look like?

Scan your problem space for signals by looking at news headlines, industry reports, etc. Look for signals that cover the following STEEP-V areas (Social, Technological, Economic, Environmental, Political, Values) to ensure your personal interests do not bias the global picture. Write your own news headline based on your findings. Then ask: What are the implications? Are there any countertrends to consider? Can multiple signals indicate a larger trend or driver? If you were to pull this signal to the extreme, what would it tell you?

Ask yourself, what signals might you be ignoring? Horizon Scanning may include the search for "weak" signals - events that may not seem important now but that may indicate an upcoming issue or problem.



Related Approaches:

- Foresight
- Research and Observation

CAUSAL LOOPS

Causal loop diagrams are a tool to understand the dynamics within a system. Causal loops are best created in teams to understand the system from multiple perspectives. Begin by listing variables related to the problem space. Once you have identified the key variables, begin connecting them with directional arrows to represent how they influence one another. Often these connections create either a reinforcing loop where the resulting outcomes are encouraged or a balancing loop where the outcome is mitigated. During this process you may discover missing variables that you can then go back and add. You many also need to reevaluate the arrows representing influences in the system. This tool allows you to visualize the interactions and outcomes of a system quickly. There are some causal loop archetypes that represent common patterns within systems that may help you visualize the interactions of a system. You can learn more about these archetypes from the supplementary resources section of the toolkit.

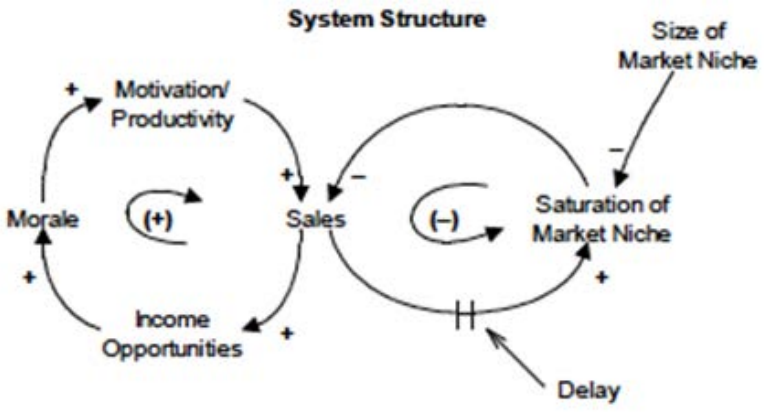


Diagram from Kirkwood, C. W. (1998).

Related Approaches:

- System Mapping

8 WAYS OF SEEING

8 Ways of Seeing is a tool that can be used to explore the perceptions that two groups have of one another and why they are holding these perceptions. It can also be used iteratively to explore relationships between more than two groups by using several matrices. You can use research and observation (see related tool) to get a more accurate picture of the relationships being explored.

To use this tool, first draw a 2x2 matrix and then add an outer layer to address the "why" for each quadrant, like the one shown below. Then start filling out the corresponding relationships between groups, ideally using information from your research and observations. Focus on identifying points of commonality, opposition, and potential between the two groups while filling out the matrix. Ideally, a small teams fill out the matrix with their thoughts and insights on the relationship between the two selected groups on post-it notes before clustering them onto the matrix quadrants. Consider how this might be useful in understanding the nuances of oppositional and allied stakeholders' views on a situation.

Why	Why
How X Sees X	How X Sees Y
How Y Sees X	How Y Sees Y
Why	Why

Adapted from diagram in (Studies, U.U.F.M.C. 2019).

Related Approaches:

- Multiple Perspectives
- Research and Observation

5 WHYS

The 5 Whys is a tool for asking questions that get to the root cause of a problem and the fundamental conditions sustaining it. The process of asking for deeper and deeper insights into a problem is meant to push beyond treating the symptoms to get to the underlying conditions. By exploring a problem in this way, a team can better understand the underlying cause-and-effect relationships and circumstances at play.

Start by having the group state their thoughts about the problem space one by one. Then continue by asking "why" questions and letting each person respond. Continue the process until you've asked why at least 5 times. It is helpful to record answers to each round of questioning on a whiteboard or with sticky notes to document the thought progression. If answers from one round to the next begin to look or sound similar, try asking "how" to get a different perspective. It is natural for other questions like "what" or "who" to come up. Consider jotting them down and putting them to the side to address after the "why" questioning. Starting with "why" questions is important for understanding the drivers behind the symptoms of a problem. After completing this exercise, it may be helpful to try and draw Causal Loops (see related tool) of your discoveries.

Toyota provides the following example on their global website:

1. "Why did the robot stop?"

The circuit has overloaded, causing a fuse to blow.

2. "Why is the circuit overloaded?"

The bearings were insufficiently lubricated, so they locked up.

3. "Why was there insufficient lubrication on the bearings?"

The oil pump on the robot is not circulating sufficient oil.

4. "Why is the oil pump not circulating sufficient oil?"

The pump intake is clogged with metal shavings.

5. "Why is the intake clogged with metal shavings?"

Because there is no filter in the pump.

Example from (Studies, U.U.F.M.C. 2019).

Related Tools:

- Causal Loops

Related Approaches:

- Red Teaming

Supplementary Resources

General Resources

- Lewrick, Michael, Patrick Link, and Larry Leifer. *The design thinking playbook: Mindful digital transformation of teams, products, services, businesses and ecosystems*. John Wiley & Sons, 2018.
- Lewrick, Michael, Patrick Link, and Larry Leifer. *The design thinking toolbox: A guide to mastering the most popular and valuable innovation methods*. John Wiley & Sons, 2020.
- Jones, Peter and Kristel Van Ael. *Design Journeys through Complex Systems: Practice Tools for Systemic Design*. BIS Publisher, 2022.

Attitudes Resources

Suspend Judgement

- See this piece by Ed Bernacki, also relevant for Divergent Thinking and Collaboration https://aodnetwork.ca/innovation-would-be-easy-if-people-thought-alike-understanding-cognitive-diversity/

Be Curious & Engage Your Creativity

- This blog post by Daniel Riggs is about Curiosity to blend words together as a design practice, also relevant for Engage Your Creativity https://aodnetwork.ca/portmanteau-as-pedagogy-a-new-design-icebreaker/

Complexity Thinking

- For more on the Cynefin framework see "A Leader's Framework for Decision-Making" by David Snowden and Mary Boone https://hbr.org/2007/11/a-leaders-framework-for-decision-making
- See Aaron P. Jackson's blog post on Complexity, also relevant for Systems Mapping https://aodnetwork.ca/your-flight-is-delayed-the-impact-of-complexity-upon-a-simple-plan/
- Or see Ben Zweibelson's blog post on non-linearity and complex emergence https://aodnetwork.ca/understanding-emergence-how-complexity-theory-requires-getting-out-of-the-militarys-favored-newtonian-box/

For more on Complexity Thinking see:

- McChrystal, Stanley, Tantum Collins, David Silverman, and Chris Fussell. "Chapter 2: Clockwork & Chapter 3: From Complicated to Complex." In *Team of teams: New rules of engagement for a complex world*. Penguin, 2015.
- Morin, Edgar. *Introduction à la pensée complexe*. Média Diffusion, 2015.

Approaches Resources

Foresight

For more Foresight tools see:

- Ashby, Madeline, Scott Smith. *How to Future: Leading and Sense-Making in an Age of Hyperchange*. Kogan Page, 2020.

Divergent Thinking

- Ben Zweibelson's blog post covers Divergent Thinking and provides a complementary tool. https://aodnetwork.ca/the-semiotic-square-and-systemic-logic-a-technique-for-multiple-futures/
- Or see Chris Paparone's blog post on reflective practice https://aodnetwork.ca/the-reflective-military-practitioner/

Collaborate

- See Mercy Kuo's article on strategic empathy for some insights on Collaboration: https://thediplomat.com/2016/05/strategic-empathy-assessing-leadership-behavior/

For more on Collaboration see:

- Kahane, Adam. *Facilitating Breakthrough*. Berrett-Koehler Publishers. 2021

Visualize

- See Glen Milne's section on Visualization https://aodnetwork.ca/the-design-brain-notes-on-design-facilitation/

Iterative Thinking

- See Alex's Ryan's piece, also relevant for understanding Complexity Thinking https://aodnetwork.ca/the-art-of-design-a-design-methodology/

For more on Iterative Thinking see:

- Kumar, Vijay. *101 Design Methods: A Structured Approach for Driving Innovation in Your Organization*. Hoboken, NJ: Wiley. 2013.

Systems Mapping

- See Alex Ryan's post on complex systems, also relevant for Complexity Thinking https://aodnetwork.ca/applications-of-complex-systems-to-operational-design/
- See Tom Wujec's TedTalk on wicked problems https://www.ted.com/talks/tom_wujec_got_a_wicked_problem_first_tell_me_how_you_make_toast?language=en

For more on system mapping see

- Meadows, Donella H. "Chapter 2: The Basics - Bathtubs 101" *Thinking in Systems: A Primer. Edited by Diana Wright*, Chelsea Green Publishing, 2008.
- Meadows, Donella H. *Leverage Points: Places to Intervene in a System*. Sustainability Institute, 1999.
- Ryan, Alex and Leung, M. "Systemic Design: Two Canadian Case Studies," *FORMakademisk* 7 3 (2014):1-14.

Empathy

- See Eric Dion's article on Empathy Mapping https://aodnetwork.ca/e-unit-councillors-a-human-centric-design/
- See H.R. McMaster's video on Strategic Empathy https://youtu.be/e8X09lYgFbM?si=swmyCM_bQEB6tRgk
- Or see Mercy Kuo's article https://thediplomat.com/2016/05/strategic-empathy-assessing-leadership-behavior/

Red Teaming

- Check out the US Army's Red Team Handbook https://usacac.army.mil/organizations/ufmcs-red-teaming/schedules-and-handbooks

Problem Framing

- See Philippe Beaulieu-B. and Philippe Dufort's article on challenge framing https://aodnetwork.ca/enhancing-challenge-framing-in-defence-organisations-towards-reflexive-methods/
- Check out Thomas Wedell-Wedellsborg's article https://hbr.org/2017/01/are-you-solving-the-right-problems

For more on Problem Framing see:

- Pee, Suat Hoon, Kees Dorst, and Mieke van der Bijl-Brouwer. "Understanding problem framing through research into metaphors." In *IASDR 2015 Conference*. 2015.

Tools Resources

Analogy

- See Ben Zweibelson's article on Analogy and design metaphors https://aodnetwork.ca/design-facilitation-101-using-trojan-horses-to-sneak-past-the-institutional-barriers-for-complex-security-affairs/

Research and Observation

- See this Pestle Analysis piece on Horizon Scanning https://pestleanalysis.com/what-is-steep-analysis/
- Or try this tool for STEEPV analysis https://www.designmethodsfinder.com/methods/steep-analysis

Multiple Perspectives

- See Pino Audia's article on embracing Multiple Perspectives https://hbr.org/2012/11/train-your-people-to-take-others-perspectives

Draw

- Check out Ben Zweibelson, Jim Wetzel and Todd Landis's article on applications for Drawing https://aodnetwork.ca/designing-in-complex-security-contexts/

Storyboarding

- See Ben Zweibelson's article on practices for creating narratives https://aodnetwork.ca/wp-content/uploads/2013/03/Zweibelson_-Three-Design-Concepts_2013.pdf

Prototyping

For more on Prototyping see:

- Martin, Bella & Hanington, Bruce. "Rapid Iterative Testing and Evaluation" in *Universal Methods of Design.* Rockfort, 2012.

Horizon Scanning

- See Donna Dupont's blogpost on Horizon Scanning https://aodnetwork.ca/strategic-conversations-for-strategy-development-horizon-scanning-tows-scenarios/

Causal Loops

For more information on Causal Loops see:

- Meadows, Donella H., Dennis Meadows, Jorden Randers, and William Behrens III. *Limits to Growth*. "Chapter 3: Growth in the World System." Potomac Associates – Universe Books. 1972.

For more information on system archetypes see:

- Braun, William. *The System Archetypes.* 2002.

5 Whys

- See Philippe Beaulieu-B and Philippe Dufort's article for more on the 5 Whys https://aodnetwork.ca/enhancing-challenge-framing-in-defence-organisations-towards-reflexive-methods/

Supplementary Tools

Cone of Plausibility

- See this SecAlliance blog post on the Cone of Plausibility https://www.secalliance.com/blog/applying-cone-of-plausibility-to-cti#:~:text=What%20is%20the%20Cone%20of,influence%20of%20multiple%20key%20factors.

Paper Roll (Charades) Game

- See JSOU's tutorial on how to run a Paper Roll exercise https://www.youtube.com/watch?v=-khjRpZ5ncQ

Stakeholder Mapping

- See this Allison Hendricks article on how to apply Stakeholder Mapping tools https://simplystakeholders.com/stakeholder-mapping/

Business Model Canvas

- See this Oyem Ebinum piece on Business Model Canvassing https://medium.com/seed-digital/how-to-business-model-canvas-explained-ad3676b6fe4a

Question Storming

- See this Linda Naiman blog post on Question Storming https://www.creativityatwork.com/spark-creativity-in-your-team-by-question-storming-before-problem-solving/

In Closing: Time to Break Away

The CAF operates in a dynamic security environment. Members of the CAF confront complex problem sets in a variety of global, domestic and organizational contexts. By their nature, such environments are fraught with ambiguity and uncertainty. Relationships and interconnections between actors and events are constantly changing and the evolving nature of their interactions may not be fully understood by those who need to make decisions to have an impact or position their organization for advantage. BREAKAWAY is designed to help you navigate this complexity and capitalize on the opportunities that you and your team discover. Drawing upon combined experience and knowledge of CAF members and stakeholders "in the field," BREAKAWAY encourages assertive exploration and expansion of the problem space, and systemic and iterative thinking to get ahead of the curve of events.

Working from the foundation of BREAKAWAY, which is tailored to the unique objectives, history and experience of the CAF, you can add to your toolkit by evaluating additional tools and approaches and their fit with your objectives and existing practices. BREAKAWAY will not only help in increasing your understanding of complex strategic and operational environments, but will expand the range of possible solution sets conceivable to you. It will also help in addressing complex organizational challenges by contributing to a "safe, secure, equitable working environment", as has recently been called for by the Independent External Comprehensive Review. BREAKAWAY, we hope, will provide a bright torch to illuminate the dark caverns of complexity you may encounter as you move through this world.

AOD Services

AOD Services leverages our expert network and R&D team to unlock the innovation potential of your team to better anticipate, navigate and address complex problems.

Consulting:

We provide custom assistance to clients looking for change strategies, from scoping to implementation, including performance indicators.

Facilitate:

We offer facilitation services aimed at making the most of the collective intelligence of your team, experts and public partners.

Skills:

We enhance the innovative capabilities of your team with professional development packages mobilizing our expert network, transformative serious games, and toolkits.

Coaching:

We coach leaders to leverage facilitation techniques and collaborative tools to set conditions for developing an inclusive and innovative organizational culture.

Products:

We augment your toolkit with manuals, primers and serious game features tailored to your needs. We believe there is no one-size-fits all in innovation.

And More:

We are a global diversified community covering a broad range of services beyond this list. Let's connect and see how might we assist!

AOD Focus Areas

We have a robust background in emerging areas that demand organizations undertake substantial changes to remain fit for purpose:

Innovative Consulting:

We provide custom assistance to clients looking for strategies to better anticipate, navigate and address complex challenges in two ways:

1. **Plug & Play:** We offer plug and play strategic innovation labs as if they were your own. We customize labs for organizations seeking to test or seamlessly augment innovation capabilities including strategic foresight & design at a low risk.

2. **Expert Match:** We match clients with experts to develop a sequence of activities ultimately leading to innovative solutions. This sequence may include scoping, anticipating, brainstorming, red teaming, implementing, performance indicators and reporting.

Facilitating Workshops & Consultations:

We work with our clients to facilitate workshops that generate value by tearing down barriers to meaningful collaboration. Our facilitated workshops make the emergence of counterintuitive solutions possible. This facilitation service is also effective for public and expert consultations and may include:

1. **Reporting services:** Our team captures insights to empower our clients. This reporting is essential to foster buy-in to build a case for change.

2. **Multimedia production:** We tap into our multimedia expertise to offer workshop videos or podcasts including highlights for our clients to share.

Professional & Self Development:

We offer training for clients looking to unlock the innovative potential of their team. We currently offer three professional development options:

1. **Canadian Organic Innovation Framework:** We use Breakthrough, our serious game, as a diagnostic tool to develop a tailored professional development program grounded on our new model for targeted enhancement of innovation capabilities in your team.

2. **Innovative Team Leader:** We leverage our network to offer a programme empowering individuals in leading design and/or foresight initiatives in their team to better change the organization or generate effective strategies.

3. **Programme & curriculum development assistance:** We tap into our expert network to assist learning organizations in developing custom foresight, design or innovation-informed educational activities.

Coaching Innovative Leaders:

We believe that innovative capabilities can not only be nurtured, but also unlocked in a team. We coach leaders to set conditions for this by developing an inclusive and innovative culture in their organization, as well as by leveraging facilitation techniques and collaborative tools.

Custom Products:

We have more than a decade of experience in developing custom products that are conducive to developing innovation capabilities. We developed robust experience in adapting reports into transformative serious games to facilitate institutionalization of change initiatives, and in developing tailored toolkits for organizations, to name a few of capabilities.

AOD Membership

Support AOD in empowering leaders to shift mindsets in national security organizations across NATO members and partners by becoming a member!

Your monthly subscription supports AOD's network activities including website updates, collective projects, co-design workshops, annual symposium and more.

Each option also includes perks for you!

EXPLORER: $5 CAD/month

The Explorer subscription includes the following benefits:

- Access to members-only Discord channel
- Early/extended media access

DESIGNER: $15 CAD/month

The Designer subscription includes the following additional benefits:

- Regular webpage profile highlighting your content related to design & innovative thinking
- Monthly Mentorship with a senior member
- Access to Governance Committees
- Voting in the Annual General Meeting

GAME-CHANGER: $25 CAD/month

The Game-Changer subscription includes the following additional benefits:

- Access to AOD accreditation recognizing innovation and/or game facilitation skills (coming soon)
- A Professional category profile on AOD's website
- Your name in video credits
- Access to tailored workshops

ORGANIZATION BASIC: $350/month

- Your organization may select from one of these three benefits on an annual basis:
- A coaching trial (3 hours)
- A Breakthrough game session for 5 players (6 hours)
- A workshop for 9 attendees (2 hours)

ORGANIZATION PREMIUM: $2800/month

Your organization may select from one of these three benefits on an annual basis:

- A monthly coaching session for 2 team leaders (up to 3 hours per month)
- A Breakthrough game session plus follow up training day for up to 20 participants (two days)
- Two workshops for 24 people (3 hours each)

Your organization will also benefit from:

- Access to members-only Discord channel
- Early/extended media access
- An organization profile on our website
- Your logo on our homepage and video credits

ORGANIZATION CUSTOM

Each organization is different. Contact us at info@aodnetwork.ca for a tailored membership offer.

Visit https://aodnetwork.ca/membership for more details on accreditation and membership eligibility.

Visit https://ko-fi.com/aodnetwork/tiers to sign up!

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