Supreme
Allied
Commander
Transformation

Framework for Future Alliance Operations (FFAO) Workshop

Bydgoszcz, Poland

ACT – Leading NATO
Military Transformation

Agenda

- ✓ Conference Overview
- ✓ Syndicate Findings
- ✓ Way-Ahead
- ✓ Closing Remarks

Conference Overview

FFAO Conference Overview

- Problem Statement: Based on current trends, what are the *challenges and opportunities* for NATO in the security environment of 2035 and beyond?
- Syndicate 1 & 2:
  - 28 Sep: Understanding that war has an enduring nature, what are the anticipated *characteristics of future armed conflict* in 2035 and beyond?
  - 29 Sep: Based on the current trends in the security environment, what are the *potential ethical questions* NATO leaders may have to face in 2035 and beyond?
- Syndicate 3 & 4:
  - 28 Sep: Based on the current trends in the security environment, what are possible *instability situations* which would present challenges to NATO's military forces in 2035 and beyond?
  - 29 Sep: Based on the current trends in the security environment, what are the *opportunities* for NATO's military forces in 2035 and beyond?
- Products
  - Revisions to Chapter 1 of the FFAO

Syndicate Findings

Syndicate 1

Continuity and Change

Nature

"The inherent character or basic constitution of a person or thing: essence"

- A contest of wills
- Driven by fear, honor, and interest
- Primordial violence, hatred, and enmity
- Play of chance, fog, and friction
- An instrument of policy (intelligence, communication for social influence)
- Existence of ethical questions

Character

"A set of qualities that make a place or thing different from other places or things"

- Technological advances
- New operating concepts
- Changing human nature
- Changes in the security environment
- Shifts in the geopolitical landscape, legitimacy
- Changes in capabilities, objectives, and will

In armed conflict, some things change, some remain the same

Evolution of the Character of Conflict - Past

Cold war (people involved / home, tailored forces, ideology, POLMIL):

- Near peer
- Strategic deterrence
- Conflict by proxy
- Mutually assured destruction
- Known enemy (state)
- Predictable / status quo
- Conventional

Terrorism (people involved / homeland, LAWFARE, ideology):

- Limited war
- Asymmetric
- Non state
- No treaties / non compliance to international law
- Unconventional
- Difficult to identify / deter
- Transnational

Hybrid (Narrative, POLMIL, LAWFARE):

- Conventional + unconventional
- Below the legal threshold for 'war'
- Strategy of competition
- Conflict of intent – confusion is goal

Crisis response (POLMIL, Capacity Building):

- Home populations not as involved
- Expeditionary
- Conflicts of choice
- Nation building
- Lack of clear end state
- Long-term engagement (civil dimension)
- Combined approach
- Rogue states
- Vacuum

Evolution of the Character of Conflict – Present

Quasi-State:

- Across Borders / Transnational / Expansionism
- Governance, Rule of Law / Proto State / Illegitimate
- Domestic Threat
- Sophisticated Influence
- Ideology based
- Foreign Fighters
- Leverage Technology
- Mission command – intent/cell structure, disenfranchised – lone wolf
- Tech sharing
- Direct challenge to state
- Global recruitment policy
- Everyone can be involved or everyone can be a target
- Severity
- Virtual Environment
- Desire for a Theocratic state, provide alternate vision of governance
- Long Term View – incremental approach
- Lawfare

State actors:

- Direct competition
- Power politics
- Force density is down
- In contested areas proxies used
- A2AD
- Conventional capability development,
- Using more cyber capabilities – Stratcom and social media,
- Erosion of international structures – new rules
- Changing nature of the state,/ legitimacy erosion
- Clash of meanings / narratives
- WMD/E and cyber / space WMD proliferation
- Private military/hybrid / deniability
- Economic interdependence

Evolution of the Character of Conflict - Future

- More automation / counter automation
- Decreased force density / increased distribution
- Less likelihood of state on state war?
- Increased expense per platform
- Power politics
- Virtual battlefield
- Subterranean Domain
- Dense populated areas – urban (not megacities per se)
- Multi-domain
- Confusion friend / foe over time
- Importance of international organisations
- Increased precision munitions / increase in direct targeting and counter precision
- Decrease in total tech advantage can lead to an increase in near peer advantage
- Gap closing, Technology proliferation, Search for new advantage
- Increased speed (information and decisions – D.I.M.E) – escalation (auto react)
- Increased importance of political solutions to avoid conflict
- Melding of dimension – cyber 2.0 – non virtual impacts
- Defining success difficult
- NATO change ROE? - Lawfare
- Attribution / action threshold
- Op level of war dead? Tactical events – strategic effects, Compression level of war (uneven?)
- New cold war (tech race)
- Human out of loop
- Interoperability challenges
- Low tech counter to expensive tech solutions

Future Ethical Questions

Overall

- How will NATO maintain ethical cohesion? Are NATO's legal teams prepared to deal with conflicts of the future? – Training Needed
- In the future how can NATO address proportionality during intervention?
- How does NATO apply existing principles for LOAC during future armed conflict?
- How do we define conflicts? (war, combat, etc) This contributes to legitimacy

Future Ethical Questions

Human Augmentation

- Does NATO want to be a follower or leader in human augmentation (both mechanical and biological)?
- What long-term effects does the augmentation have on the individual (physical/psychological)? What are the behavior changes?
- What values are challenged when humans are augmented (against their will)?
- What new standards should NATO adopt?
- Does human augmentation matter strategically?
- Do we do this in the first place?
- How will people choose to enhance themselves (cyborg convergence)?

Combatants/Non-Combatants

- How does NATO differentiate between combatants and non-combatants? (hybrid and non-state emphasized)
- How do we attribute actions?
- What is the acceptable level of non-combatant casualties? (limited and non limited war)
- When do non-state actors cross the threshold and become combatants? (legal question – but extension)
- Will we conduct preemptive action if big data indicates threat?

Cyber

- How would NATO legitimatize offensive cyber action and proportionality? Is a new legal framework needed?
- What is war and conflict in the cyber realm?
- How do we respond proportionally to cyber attack, limitations of just war?
- How will attribution for cyber attacks evolve in the future?
- How do NATO leaders deal with ambiguity in the cyber domain?

Autonomous Systems/Artificial Intelligence

- In response to automation how does NATO respond?
- In the light of legal frameworks, do we keep humans in the loop?
- How do we teach AI to exercise good judgement in the application of force?
- What standards should NATO adopt? (New policies ???) Does NATO maintain interoperability of AI/traditional forces if the3re is disparity (manned/unmanned hybrid response)?
- How do we deal with AI/robotics used in a hybrid approach?
- How will the application of big-data affect transparency?

Syndicate 2

Syndicate 2

What are the characteristics of future armed conflict in 2035 and beyond?

Uncertanty/complexity

- The battlespace will become even more confusing
- The "fog of war" makes it difficult to know who you are fighting against and what you are fighting for
- Where and when does the conflict start and end?
- Cascade of instability because of globalization (spill over effect from the conflict or/and the effect of the conflict)

Personal vs impersonal conflicts

- From propaganda to "brain to brain" targeting -> cognitive dimension to the battlespace
- Conflict becoming more personal (precision targeting/discriminant) and impersonal (technology) at the same time
- Will war become more violent because of technology (incl nano and bio)?
- "Behind the human" we will see the internet of things (connectivity/networked), consequently "everyone" would like to/try to tap into that
- The technological development will make detection, accuracy and collecting intelligence easier (more visibility, but more difficult to understand?)
- If machine vs machine in a war, it will be logical and fast = total destruction (unlikely scenario??)

Syndicate 2

"Change of world order"

- A cataclysmic moment needs to happen to change a world order (systemic change)
- What if we now observe a cataclysmic moment in the Middle East? Will that change the world order?
- Is a short brutal war be more desirable than a long bloody war? "Give war a chance"
- Will allies in different parts of the world develop even tighter relationships and making the divide towards other parts of the world more solid (blocks), and focus on stability within the block?
- The nation states are changing. There is signs of less state control, will that lead to a more firm state to retain control? Will such a state become more internally focused (for self preservation)? Will this reduce the possibility for state to state conflict? Could it have a weakening effect on the Alliance?
- Is it more likely that we will se more local conflicts?

WMD

- If what we know as WMDs today gets more discriminant are they still WMDs?
- Will weak national states be more likely to use WMD?

- Rate of capability development will erode the qualitative advantages of established militaries
- Because of confusion the appetite for use of the military tool will decline? Do we, as NATO, have the correct "other tool" at hand? It seams like the PMESII/DIME toolbox is not enough

Syndicate 2

What are the potential ethical questions NATO leaders may have to face in 2035 and beyond?

- Human Augmentation
  - Uncertainly of long term effects?
  - Government directed as a condition of service (mandatory/compulsory)?
  - Social and battlefield norms (e.g., captured augmented soldiers, ownership rights)?

- Autonomous Systems (learning systems)
  - Level of decision making (man-in-the-loop)?

- Combatants and non-combatants
  - Blurring in ability to distinguish because of “new domains” that develops faster than the legal framework?

- Cyber
  - Conventions in rules of the road (hostile acts/hostile intent, deception and deceit, constraints and restraints)
  - Reciprocity and proportionality
  - Sovereignty (vs rouge actor)

- “Grey Zone” conflict and the blurring of the political/military means of power
- Laws and political decisions need to keep pace with developing capabilities
- Will brutality or “give war a chance” be more acceptable than the long war bloody war?

Syndicate 3

Drivers of Instability

- Instability Situations – "Drivers of Instability"
  - More accurate title
  - Better describes convergence and depicts

Drivers of Instability

- Global Commons Challenged
- Instability Caused by Disruptive Technology
- Governance Challenges Creating New Political Landscapes
- Cyber Challenges
- Race for Space and Its Resources
- Mass Migration
- Dense Urban Environments
- Natural and/or Manmade Disasters
- Structural Disintegration of Economic/Financial Systems
- Proliferation of Weapons of Mass Destruction

- State Versus State, Non-state actor, Hybrid Warfare
  - Move to Character and Nature of War discussion.

- Resource Scarcity and Competition for Resources
- Differences in Belief Systems: "Fault Lines"
- Climate Change

State V State; NonState Actors; Hybrid

- Consensus State Vs State, NonState Actors, and Hybrid are NOT drivers of instability
- Actors should be moved to character and nature of war section
- Need to think through how these actors influence instability, but they are not drivers of instability
- Discussed how to cover state versus state conflicts of interest
- Discussed how to cover state versus non-state actor conflicts of interest

Global Commons Challenged

- Global Commons Challenged / A2/AD
  - Title needs to remain about the global commons
  - A2/AD is a tool
  - Space and cyberspace require a direct mention in the text
  - Denial of global commons by an actor, non-state actor is the actual driver of instability
  - How does this impact land operations?

Instability Caused by Disruptive Technology

- Instability caused by disruptive technology
  - AI doesn't adequately cover the issue
  - Disruptive technology may cause changes to society or to systems that cause instability
  - AI and other technologies may impact across all of the other drivers of instability
- Future Opportunities
  - Disruptive technology could also be an opportunity that changes another instability situation for better…or worse

Challenges to Governance

- "Governance challenges creating new political landscapes."
  - Power away from states to cities, localities: fragmentation of existing political structures
  - New methods of governance may emerge, possibly aided by technology (cyber)
  - Individuals and corporations filling governance voids
  - Monopoly of power eroded, states cannot always control violence
  - Changing interactions between state, nonstate actors, alliances, etc.
  - Failed states/failing states can be included

Cyber Challenges

- Title change away from “conflict” to “ “challenges”
  - Valid Driver of Instability
  - Domain in near constant disruption
  - Impact to infrastructure and state resilience
  - Cyber is important when it degrades a states ability to perform governance or provide service

Race for Space and Its Resources

- Formerly Disruption of Space Capability
- Valid
- Broaden to include space competition
- Could be combined with global commons or stand on its own (no consensus)
- Denial of space is still a concern

Disruption from Mass Migration

- Valid Driver of Instability
- Proposed title change (with significant disagreement) “Mass Migration”
- Becomes driver of instability when migration impacts the ability of governments to govern, strain on resources
- Don’t list all of the causes, not necessary and risk leaving one out
- Migration can relocate instability from one region to another
- Time plays a role in its impact

Dense Urban Environments

- Megacity is an unnecessary distinction. Dense urban environments better describe the problem
- Dense urban areas have security concerns that challenge governance
- Lack of maneuverability in urban environment is a concern

Natural and Manmade Disasters

- Add manmade disasters into it
- Delete second half of paragraph after, “Alliance…” Not necessary
- Dense urban environments make disasters more problematic

Structural Disintegration of Economic/Financial Systems

- Valid concern
- Could be combine with #3: "Create new socio-economic and political landscape" (disagreement within group)
- Economics can change gradually or overnight

WMD

- Proliferation of WMD and ease of access and availability to WMD causes instability.
- Add use of toxic industrial materials as a weapon, as part of the WMD issue
- CBRN , how to best describe the issue?
- Is proliferation the best word?

Resource Scarcity and Competition for Resources

- New Instability driver centered around resources
- Resource monopolization and unequal distribution
- Water, fossil fuels, data monopoly
- Monopoly of resources skills knowledge
- Can be a factor for disintegration of financial or political systems

Differences in Belief Systems: Fault Lines

- New Driver of Instability
- Cover any significant difference in belief, opinion, culture or value systems
- Capture a wide variety of belief differences to include religion, politics, etc.

Climate Change

- New Instability Driver
- Separate and distinct from “Natural and Manmade Disaster”
- Occurs over longer periods of time
- Direct impact to food and water sources
- Direct impact on security issues, migration, etc.

Future Opportunities

- Innovative Technology
  - Technologies may solve current complex problems
  - Desalinization/Water scarcity, local energy sources, etc
- Digital Transformation
  - Help solve societal problems
  - Use of mobile devices/computers to train and educate people where they are
  - New employment opportunities
  - Crowd sourcing
  - New sources of funding
- Acquisition of Technology
  - Fast followers able to obtain technology quickly and cheaply
  - Smaller, cheaper solutions instead of high end expensive systems
  - Rapidly modernize through COTS or acquisition arrangements

Future Opportunities

- Dispersed Operations/Reach back enabled by tech
  - Medical
  - Communications
  - Training
- A2/AD
  - Alliance integrated A2/AD can be developed
  - Increase deterrence
- Migration Opportunities
  - Ease demographic concerns
  - New skilled workers
  - Diversity of opinions might mitigate differences between belief systems long-term

Syndicate 4

Outbrief Group 4 Instability Situations

- State vs. State
- Global Commons Disruption
- Major non-state actor conflict
- Disruption of critical infrastructure
- AI out of human control
- Conflict inside NATO
- NATO vs. peer state competitor (failed deterrence)
- Natural disaster – man made disaster
- Competition for resources
- Disruptive migration
- Failed state or changing statehood

Outbrief Group 4 Opportunities

- Increased chances to move forward to a working comprehensive approach
- Rebalancing of military capabilities away from two extremes: being only expeditionary or only article 5 oriented
- Contribution of the military to border-crossing resilience
- Chances for a better outreach and better quality of NATO STRATCOM
- Better interoperability and standardization
- More effective procurement processes
- Better intelligence via open source information, better security via open source architecture of networks

Outbrief Group 4 Ethical questions

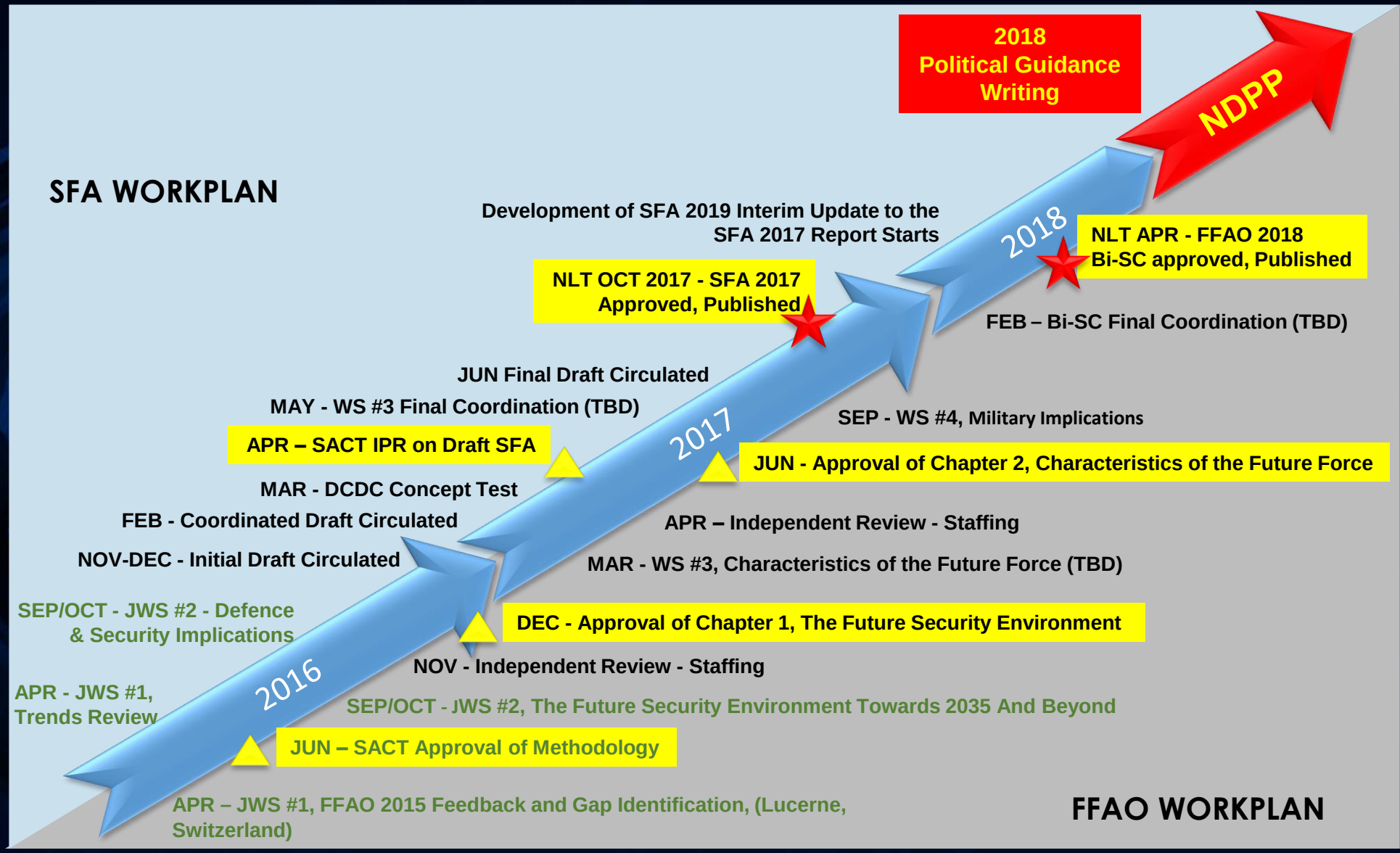
- Future responsibility for casualties fight with robots - AI intelligence issues
- Collateral damage
- Lethal capabilities of autonomous systems
- Engagement of NATO countries of outside NATO territory
- Human enhancement, AI, gene manipulation
- Discrimination of combatants and non combatants in megacities, cyberspace, as proxies and in the case of biological attacks
- Freedom vs. security

Outbrief Group 4 Ethical questions

- Operations in highly populated areas
- Maintaining of neutrality in fractured identities environments
- Sharing of new space resources and other benefits with the rest of world
- Pressure on NATO allies to create critical supply changes to effect other actors
- Definition of “the other” outside NATO
- Partners of opportunities which not necessarily sharing the same opinions

Way Ahead

LTMT Roadmap



Closing Comments