



Crashing the Stop Lights

Operations Assessment in a Changing Global Security Environment

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Outline

- What is the problem
- What has changed in the security environment... and what has not
- What could/should we do about it

(Spoiler Alert: No silver bullets, no new tools, no easy answers)

Revision: What should Operations Assessment (OpsA) do ?

OpsA informs decision making (DM) by measuring:

- (1) Success in (and risks to) achieving operational and military strategic objectives & Decisive Conditions
 - (2) Effectiveness of actions in creating desired operational effects
- (source: Comprehensive Operational Planning Directive (COPD))

Should be:

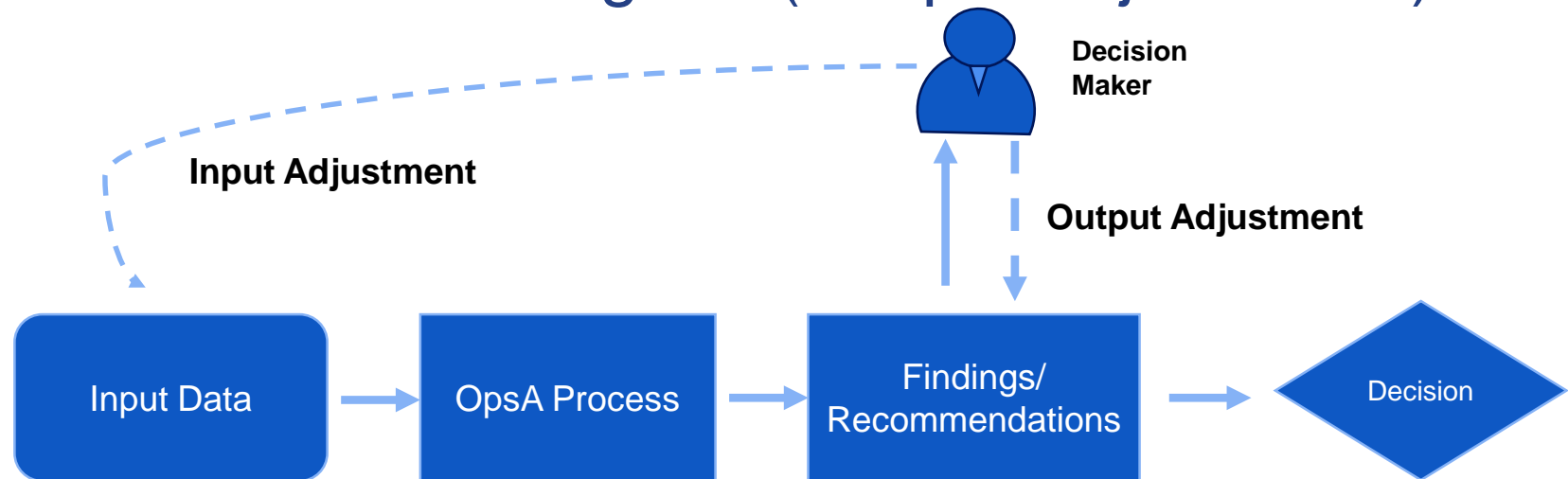
- Evidence based
- Applicable to full spectrum of military interventions
- Independent of any specific tool or planning style
- Readily communicated to relevant audience(s)



***If OpsA aspires to measure effectiveness,
it should expect to be judged by measures of its
own effectiveness***

What is the problem ?

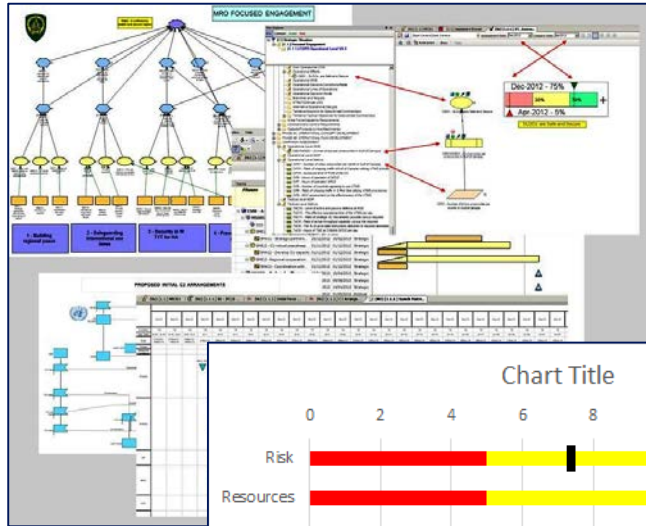
- Whatever OpsA recommends, the answer is that “we are making progress”
 - OpsA does not influence plans or policy (input adjustment)
- “The General only wants to see Green Lights” (“output adjustment”)



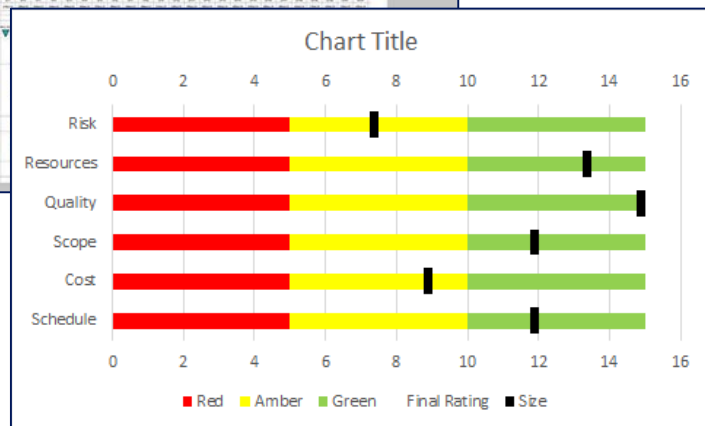
After Käki, et al 2019

V.1.0

Crashing the stop lights ?



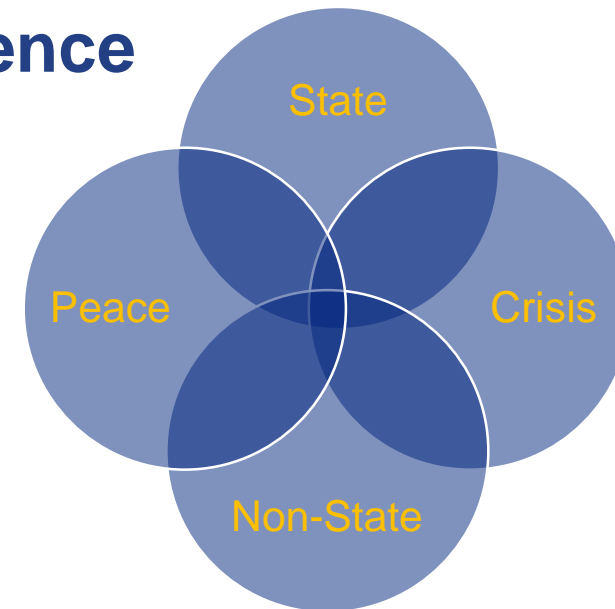
*Little or no evidence “stop lights” work...
...despite their visual simplicity*



“If an indicator is red but the commander ignores it, does it matter if I change it to green?”

Global Security Environment – What has actually Changed ?

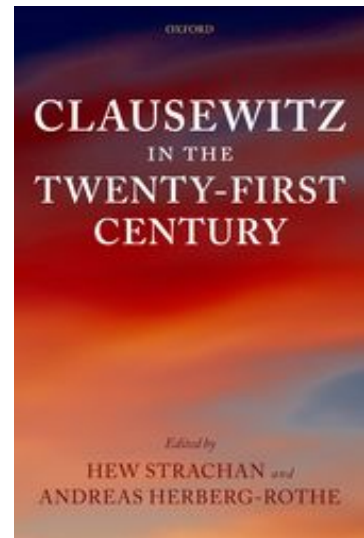
- **Contestation v Crisis Response ?**
 - More than a return to Cold War
- New dynamics of **mass communication and influence**
 - Volatile, global, hyper-connected (hence “big data”)
- **Blurring between conflict types**
 - Peace/crisis, state/non-state
- **Merging Operating Domains**
 - Trans-national, Hybrid
 - Urbanised, Littoral, Contested, Cluttered, Populous



Lots of change - but enough to cause a crisis in OpsA ?

What has not changed ?

- **War/conflict is still politics**
 - Globalisation exacerbates, technology mediates human input
- **Success through attrition and/or exploiting adversary vulnerabilities** (innovation, adaptation)
- **“Zweikampf” - adversary feedback and interactions inherently shape conflict**
- **Friction is inevitable-** Especially in Alliances



Does OpsA deal with these characteristics ? Does it need to ?

Recent Historical Critique of OpsA

Downes-Martin (2011 AFG case study)

- OpsA must be coherent and comprehensive
- Metrics and end states must be logically connected; data processed using valid logic, arithmetic, and science.

Schroden (2011 etc.)

- “Oscillation” between Quantitative and Qualitative
 - Reflecting trends in civilian science/management
- Need to serve distinct, and competing, audiences

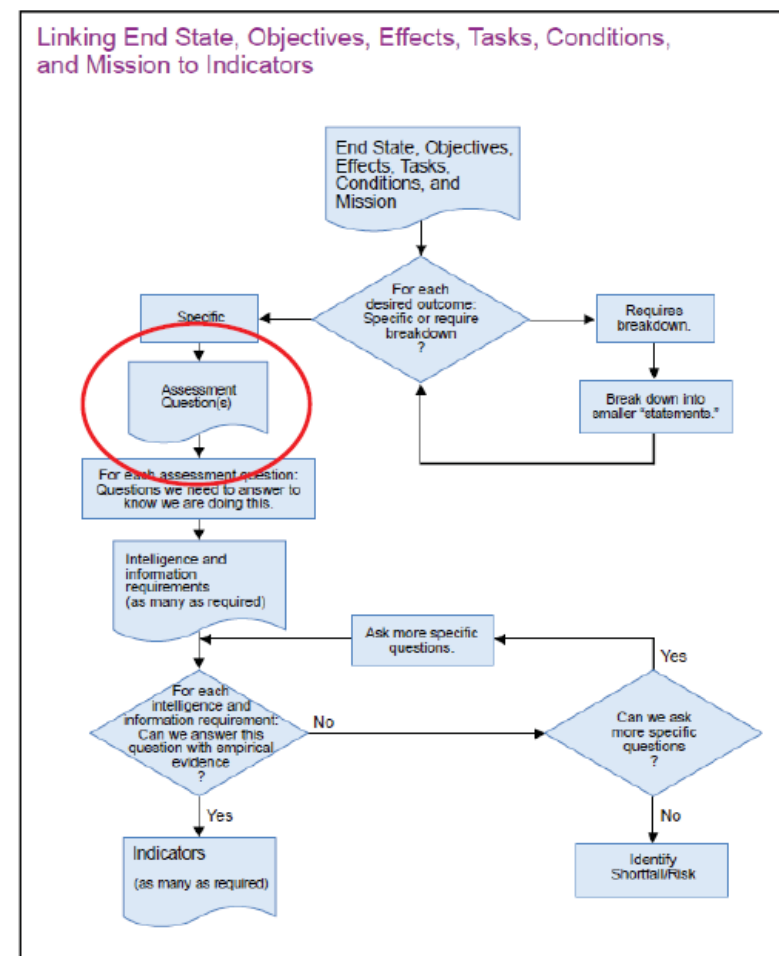
Zvijac (2012)

- Assess the system, not the plan - don't focus on endstates – too complex

Shilling (2018)

- Replace Measure of Effectiveness (MOE) structure with “strategic questions”

Question: Given the evidence, why no profound shakeup in NATO OpsA ?

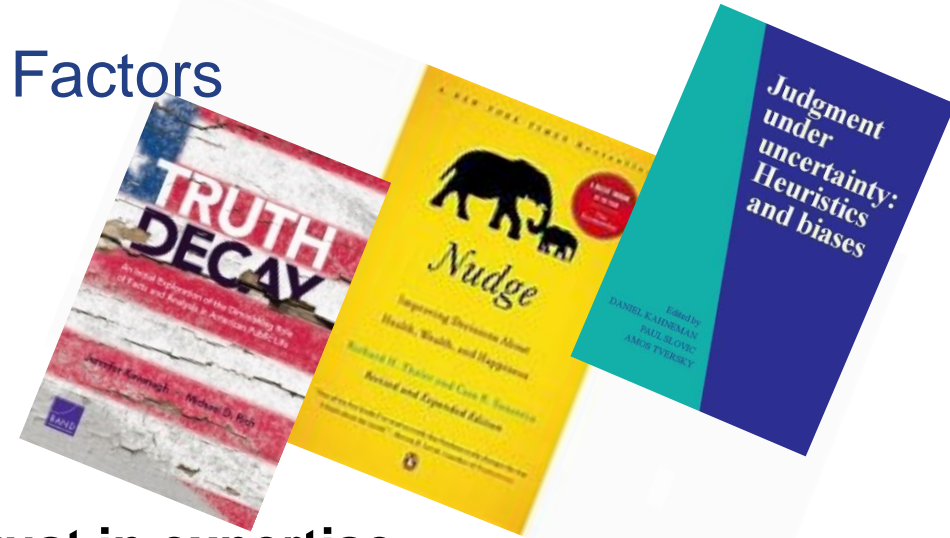


Other analytical disciplines **have** changed

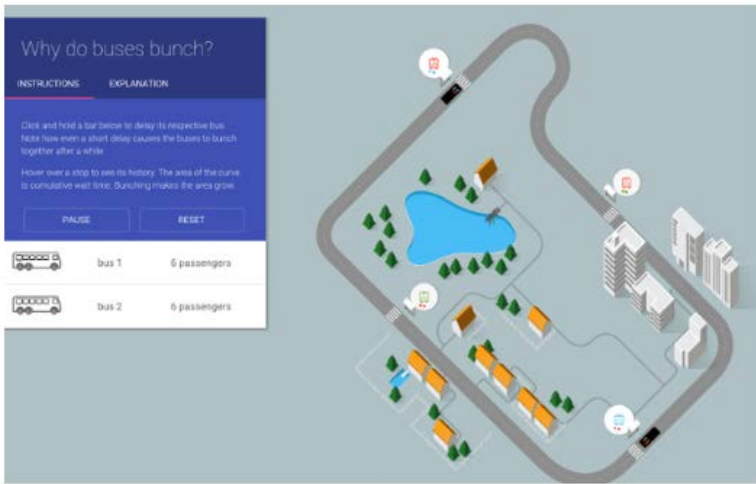
- **Economics:** 2008 Global Financial Crash crystallised concerns over “conventional” econ analysis, metrics and assumptions
 - Upsurge in so-called “Behavioural” approaches (e.g. Kahneman & Tversky)
- **Political Science** - “Nudge” approaches to policy reform (e.g. Thaler)
- **Design Thinking** / User Centred Design / Human Factors

But: concurrently decline in institutional trust

- Post-Truth / “Truth Decay”

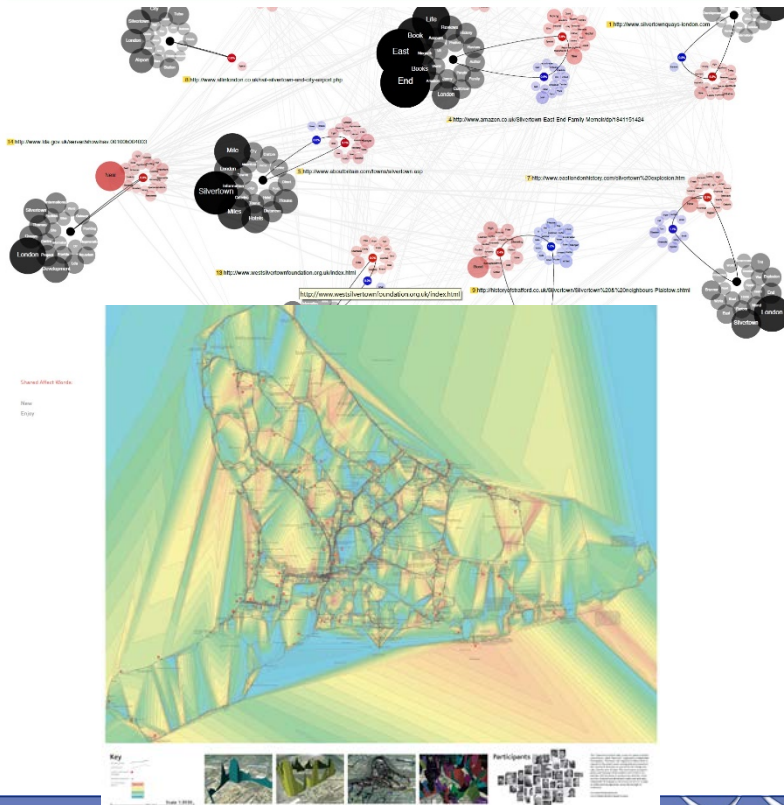


**Interest in behavioural approaches is not the same as a distrust in expertise...
... but the latter does mean *all* scientific methods are increasingly challenged**



So What for OR&A ? And OpsA ?

- **Behavioural Operations Research** shows promise in explaining several classic OR problems
 - e.g. Bull whip effect, Newspaper Vendor problem
- **Systems models**
 - Visualisation / Analysis of feedback / interactions
 - Common language for non-OR practitioners
- **Visualisation & Communication**
 - Evidence suggests advocacy and presentation of “results” just as important as “evidence”
 - New challenges of “visualisation literacy”



Characteristics of a behavioural OR&A approach

Acknowledges **behaviour** in its widest sense:

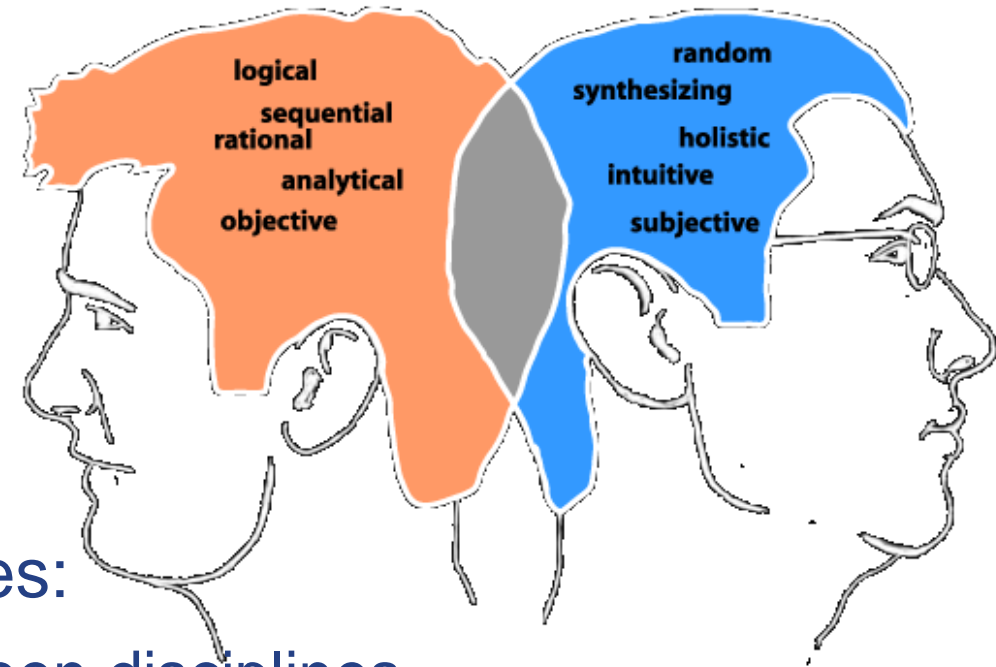
- **Behaviour of actors** (individuals)
 - “Bounded Rationality” in key issues e.g. risk assessment
 - Cognitive biases
- **Behaviour of Systems** with humans at the centre
 - Social/Human Factors (communication, social identities)
 - Organisational factors
- **Behaviour as it impacts OR**
 - Advocacy and communication of key findings
 - Analyst Craft Skills
- Decision *psychology* equally as important as decision *physics*
- Requires a genuine **interdisciplinary approach...**

Less focus on:	More focus on:
Prescription	Dialogue
Tools	Analysts
Numbers	Evidence
Rationality	Reality
Stop Lights	Narratives
Progress	Change
The Plan	The Outcome
Single Solutions	Possible Options
OpsA as assessment	OpsA as enabler

After Brocklesby 2015, Kunc et al 2016

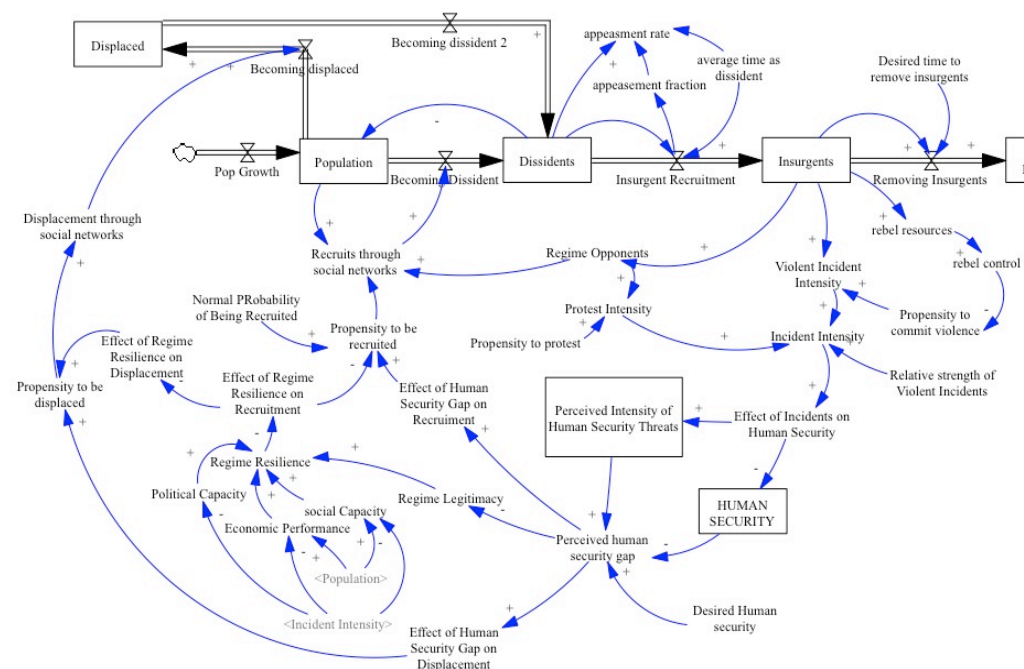
Interdisciplinarity

- **Interdisciplinarity** is an enabling capability
 - Not just a buzzword or application of “soft OR”
- **More than just a mixing of experts**, it requires:
 - Development of trust and mutual respect between disciplines
 - A common language of discussion
 - Willingness to participate and synthesise knowledge
- **Early Operations Research characterised by genuine interdisciplinarity**
 - Since challenged by specialisation/ “boxing” in academia (and in OR)
 - Dominance of quantitative approaches /spreadsheet-ology
 - Constant allure of new “technical” silver bullets... which under-deliver



Towards Behavioural OpsA

- **More Interdisciplinarity**
 - Integration of social research methods eg attitudinal polling
 - Counter the privileging of quantitative approaches
 - Strengthen existing informal methods (Alternative Analysis, Wargaming)
- **System Dynamics Modeling**
 - Intrinsic focus on interaction and feedback
 - Also potential “lingua franca” to aid interdisciplinarity
 - Utility even without parametrisations
- **Improved visualisation and “grammar of graphics”**
 - Facilitate dialogue and argumentation, not present answers
 - Beyond PowerPoint.....



OpsA as a “communicative process”, not an assessment itself (after Fisher and Forester, 2012)

Summary

- A range of OpsA shortcomings have been identified yet few concrete change proposals are on the table – mainly at the margins
- Some evidence that behavioural OR is giving new insights to classic problems
- OpsA remains focused on “decision technocracy” (process) vice “decision psychology” (outcomes)
- Hence worth considering a more behavioural OpsA:
 - **Greater focus on social, system and organisational aspects of DM, Embracing interdisciplinarity**
 - **Without abandoning evidence base**

Questions



Issues to resolve / discuss

- Can OpsA change if NATO planning remains as-is ?
- How can OpsA community build interdisciplinary skills ?
- What is Intel for ? Is this not just OpsA ?
- What is inhibiting OpsA change ?

References

([hyperlinks where available](#))

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