

Taiwan Toolbox

Designing a Modular Open-Source Taiwan Megagame

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Who Am I?

- Who am I?
 - Both an Academic of Wargaming + a Practitioner of Wargaming
 - PhD student at King's College London studying Immersion in Professional Wargaming
 - I design many games and help run many games (NATO, academic groups, MOD, etc.)
 - A portfolio of (free!) games – importantly (as will be discussed later) including the game discussed here – can be found at <https://evandalelessandro.com/>

Today's Talk

- Half thoughts about operational wargaming and modular design (building the toolbox)
- Half about the game (examples of using the toolbox)
- Using the game as a tool to illustrate what I am talking about

What Do You Need for An Operational Wargame?

- Started thinking when talking with a researcher at Swedish Defence University who was asking me about this.
- What is the Purpose of Your Game?
- Can you have an operational/strategic game that removes politics?
 - Strategic Objectives (and consequent operational objectives) are set by politics, not by militaries
- Can you wargame Taiwan without having politics?
 - How determinative are the politics to the outcome?
- (Usually) the more you represent DIME/PMESII the more representative your wargame becomes
 - Creates the bounds in which military operations occur
 - Alternatively, the more chance for things to go wrong and deviate from the purpose

Theory of Representation

- Representing a lot of stuff allows for contingent outcomes of represented things
 - E.g. war is a non-linear phenomenon, and we should represent it as such
 - Beyerchen 1992; Jobbágy 2008, 115; Edwards 2014, 13; Walters 1994, 75–77; Storr 2022, 32–33
 - The “*For Want of a Nail*” proverb
- Representing a lot of stuff leads to a higher chance of incorrect representations = produces bad games because the contingent outcomes are unrealistic.
- If the thing is not in the game, people will not engage with it
 - If something is determinative, you need to represent it
- What is the purpose of your game?
- What if your purpose is to have the ability to have whatever you want?

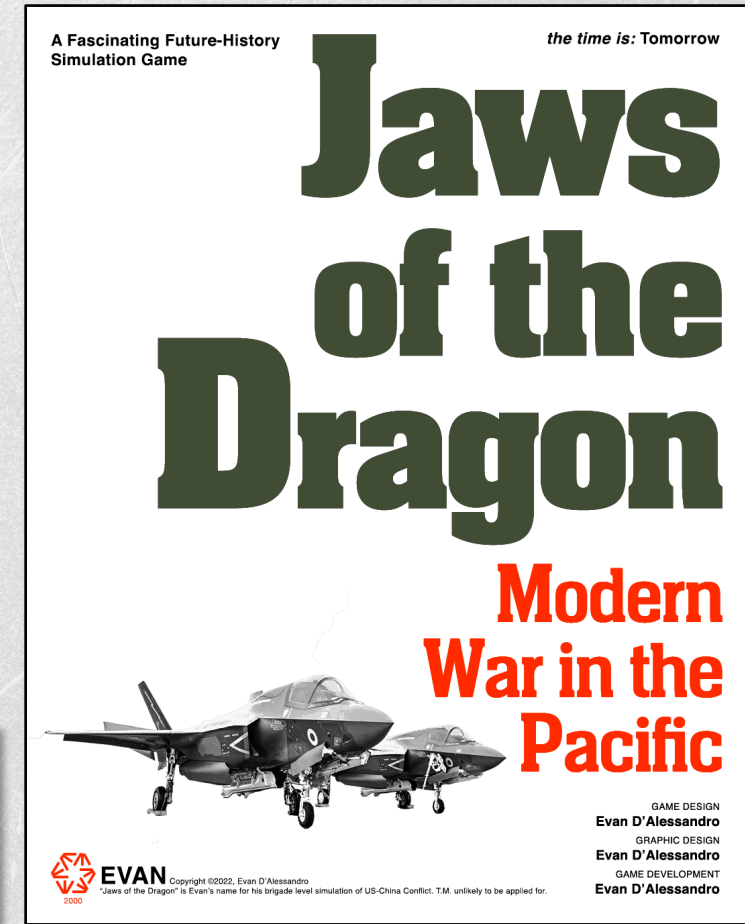
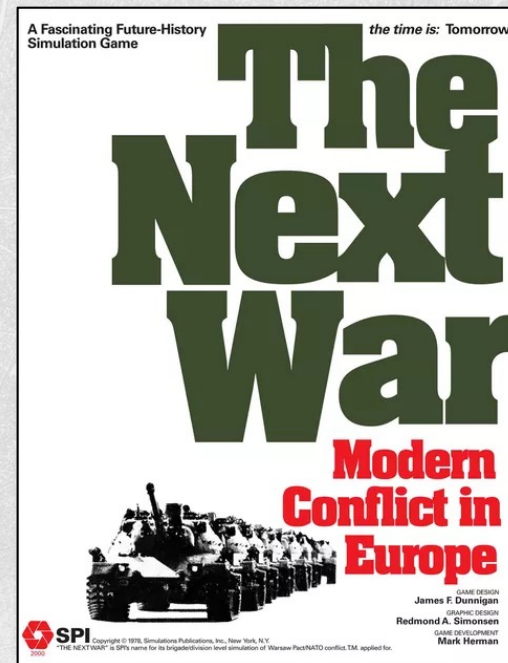
What is Jaws of the Dragon?

Show, Don't Tell



What is Jaws of the Dragon?

- A 4 year-old result of Stockholm Syndrome
- Jaws of the Dragon is a wargame of a US-China crisis/war happening tomorrow.
- It is just as much a game as it is a toolbox.
- Designed/designing it because you can't get this sort of game if you don't work for a think tank/military (also why I made it openly available).
- You can download everything for free!
- Useful to keep me up to date on what's going on
- Big part of my PhD research used this game
- I've run it a lot of times!



I may or may not have ripped off
SPI's graphic design...

What is Jaws: General Info

- **Type:** Pol-Mil Free through Semi-Rigid Kriegsspiel
- **Players:** 2-80+
- **Gameplay Length:** 2-40+ hours
- **Units:** Brigade/Squadron/SAG. Long Range Missiles, Mines, Cyber, Space, SOF, and Nuclear included.
- **Time/Area:** 1 Turn = 1 Day, 1 Hex = 100 miles (161 km).
- **Actors:** Taiwan, China, US, Japan, Philippines, Australia, optionally Press, France, UK, Canada.

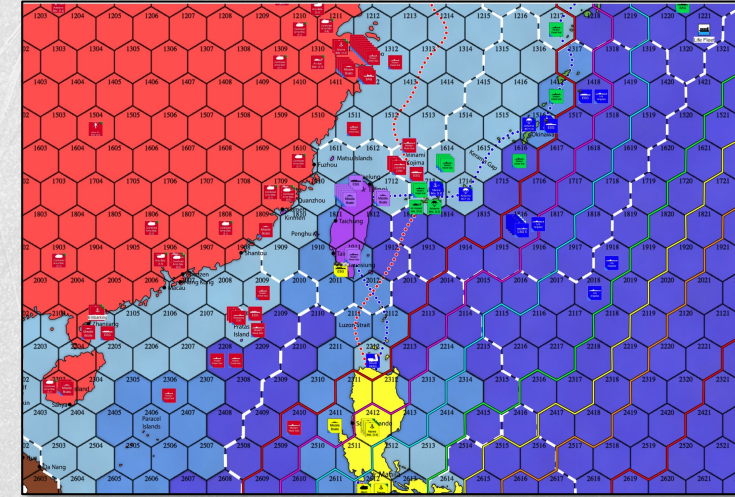
Right: The main room of a megagame run of Jaws

Below: A tactical combat variant at NATO WIN



What is Jaws: Scope

- Usual scope when running it: Military + Politics + Diplomacy
- In person or online (via Discord)
- Highest degree of representation (“realism”) that is quickly playable
- The game is exhaustively researched (but like all things imperfect)
 - For example: combat rules have 200 sources, and 40,000 words of design notes
- The main scenario (blockade) has:
 - 74 individual player briefings
 - 5 press player briefings
 - National briefings for each country
 - Supporting briefings:
 - Introductions to Chinese crisis thought
 - Information on nuclear targeting
 - Starting negotiation positions
 - Background diplomatic briefings
 - Mobilization information
 - Coast Guard rules of engagement
 - COA assessments
 - A guide to formal diplomatic language



Members of the KCL Crisis Sim after playing Jaws

The Modules (But Not Yet Discussing Modularity...)

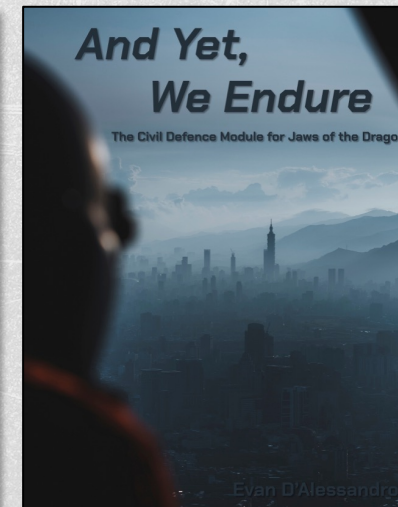
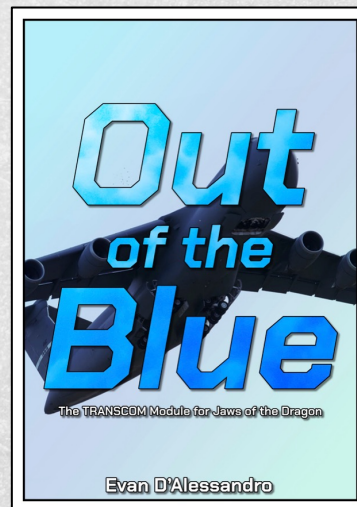
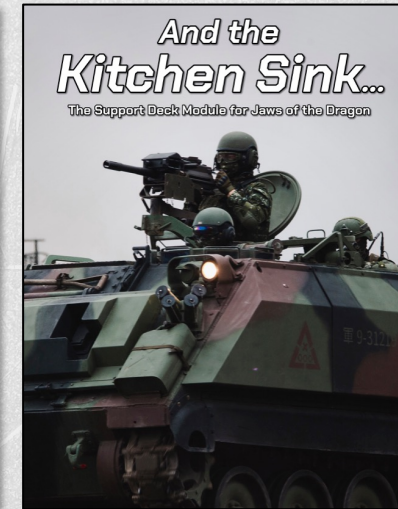
- On top of the normal combat game additional modules can be layered in for:
 - Will to Fight
 - Taiwanese Wartime Politics
 - Space Operations
 - Taiwanese Civil Defense
 - Additional Military Capabilities
 - National Intelligence (Megagame)
 - People's Armed Police
 - Nuclear Signaling (Megagame)
 - TRANSCOM
 - Chinese Mobilization (Megagame)



Some of the Modules set up for use by control in a 15 person game.

The Modules

- Will to Fight (*Only You Can Give Up*)
- Taiwanese Legislative Wartime Politics (*War, by Other Means*)
- Space Operations (*Super Smash Sats Ultimate*)
- Taiwanese Civil Defense (*And Yet, We Endure*)
- Additional Military Capabilities (*And the Kitchen Sink...*)
- National Intelligence (Megagame)
- People's Armed Police (*Amongst the People as a Fish*)
- Nuclear Signaling (Megagame)
- TRANSCOM (*Out of the Blue*)
- Chinese Mobilization (Megagame)
- **Not all modules here are in a finalized state (and thus not uploaded!)**



Covers of various modules for Jaws of the Dragon. *Amongst the People as a Fish*, as well as *And Yet, We Endure*, and *War, by Other Means* are practically stand-alone games.

Game Systems

- Each part here is a separate system. Interlinkages not discussed.
- *Combat Rules Systems*
 - Weather
 - ISR
 - Air
 - Naval
 - Ground
 - Missiles/Long Range Strike
 - Mines
 - SOF
 - Tactical Nuclear Weapons
- *Modules*
 - Space
 - Will to Fight
 - Will to Fight
 - Information Operations
 - Peoples Armed Police
 - Military Systems
 - Taiwan
 - Wartime Politics
 - Civil Defense
 - TRANSCOM
 - Chinese Mobilization/Lift
- *Other Elements*
 - Cyber
 - Strategic Nuclear Signaling
 - Intelligence
 - Diplomacy
 - Nation to Nation Interactions
 - UN/International Body Interactions
 - Press
 - Munitions
- *WIP*
 - US Embassy Evacuation
 - Insurgency Game
 - Systems Warfare Deck
 - Economics
- All of this is before discussing player based systems written into or addable to briefings.
 - *Examples:* Coast Guard, IHL/LOAC, Japan Article 9

How it Works in Jaws of the Dragon

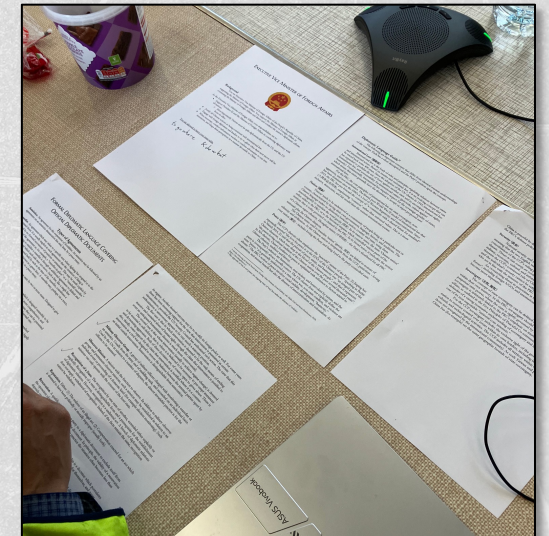
- The game is usually run as a free or semi-rigid pol-mil kreigsspiel.
- I can run it as combat only, diplomacy only, politics only, or as a combo
- Because each element is independent of the other via modulization.
 - E.g. each element produces self contained outputs that can be “spoofed” to run a game lacking that element if desired.



Combat Only



Everything



Negotiation Only

Is the Game Finished?

- **No, it is a continual WIP** (I'm aware of many things that need updating/more research)
 - It's so big it's almost impossible to keep on top of now with the PhD
- Always more to be done, to learn, and to keep updated!
- If you spot something wrong, please tell me!
- You need me to run it as a megagame...
- It's structurally agnostic! You can use this toolbox to build you own game...

What Does the Game Look Like

Show, Don't Tell



Before We Start

- Not going to talk too closely about the design (in terms of exact mechanics)
 - I'm trying to avoid yet another "here is the wargame I designed talk"
 - This is a sort of backdrop or context for the ideas I'm talking about in the presentation.
- You can see it all if you would like, and the footnotes/endnotes should contain quite detailed description of all the choices I made and sources I used.
- The following is a quick overview:

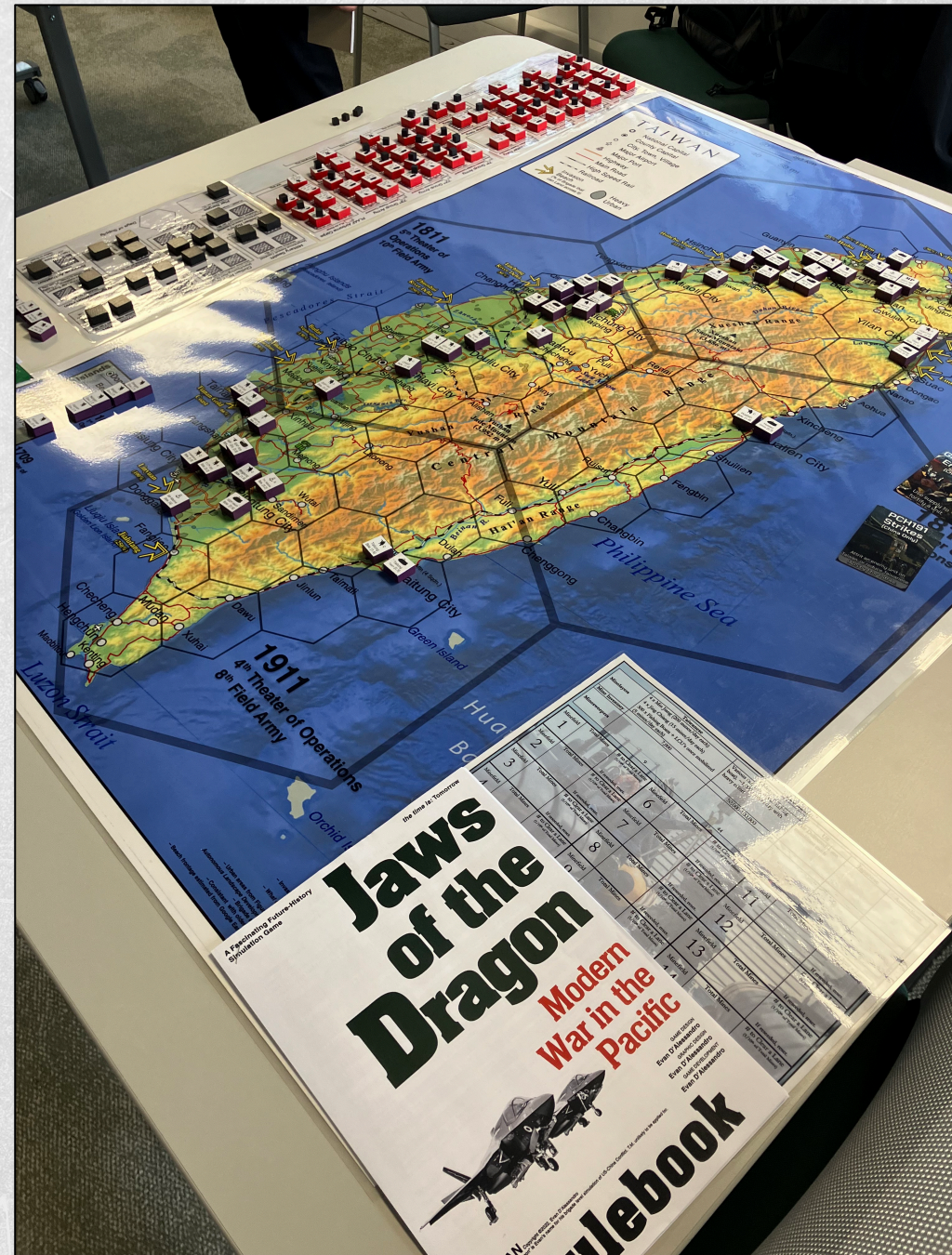
The Game: Naval Combat



The Game: Air Combat



The Game: Ground Combat



Other Rigid Components



Politics, Diplomacy, and Press

**Jaws
of the
Dragon**

*the time is: Tomorrow
the place is: Taiwan*



**Modern
War in the
Pacific**
A Fascinating Future-History
Simulation Game

BBC – PM “tired” of “Chinese stupidity”

Fayyaz

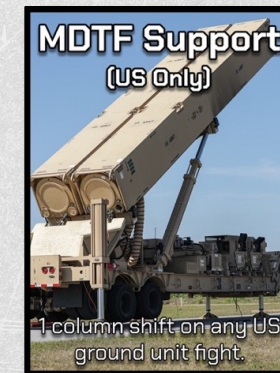
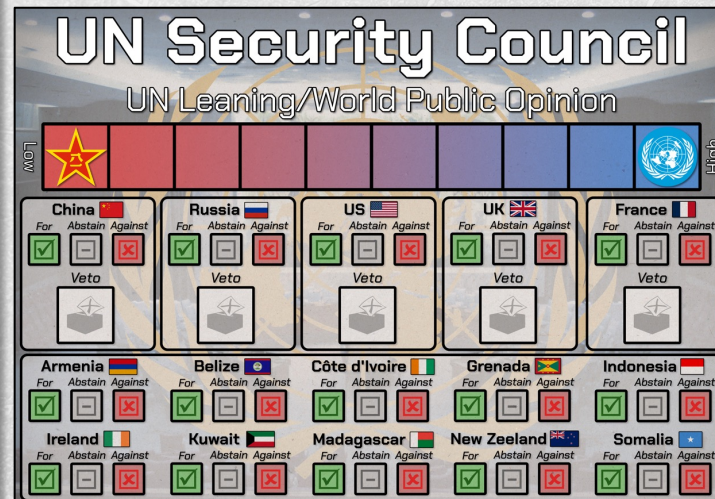
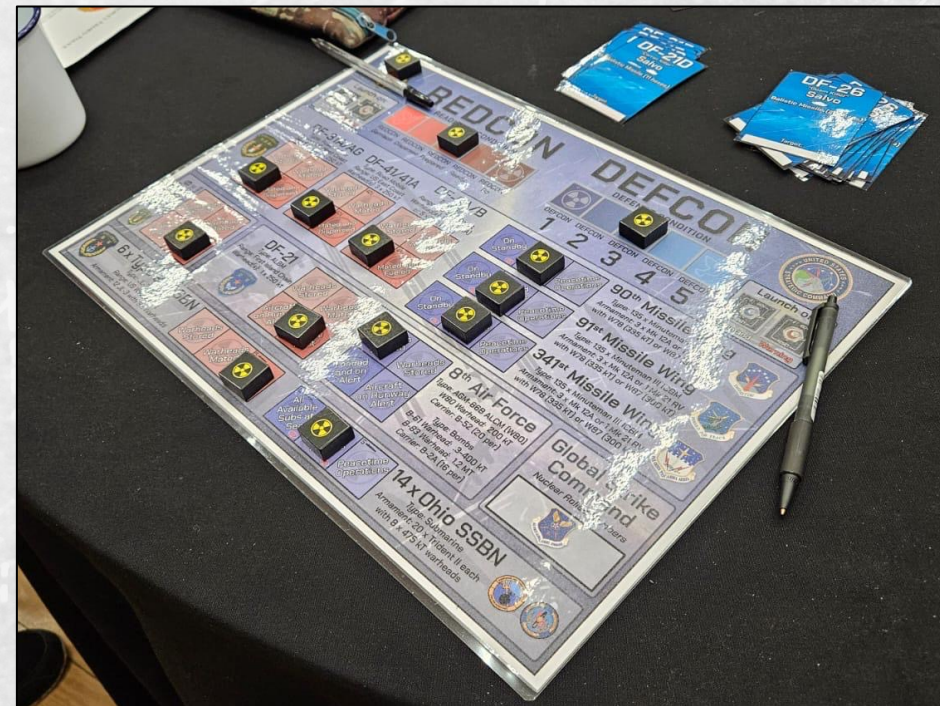
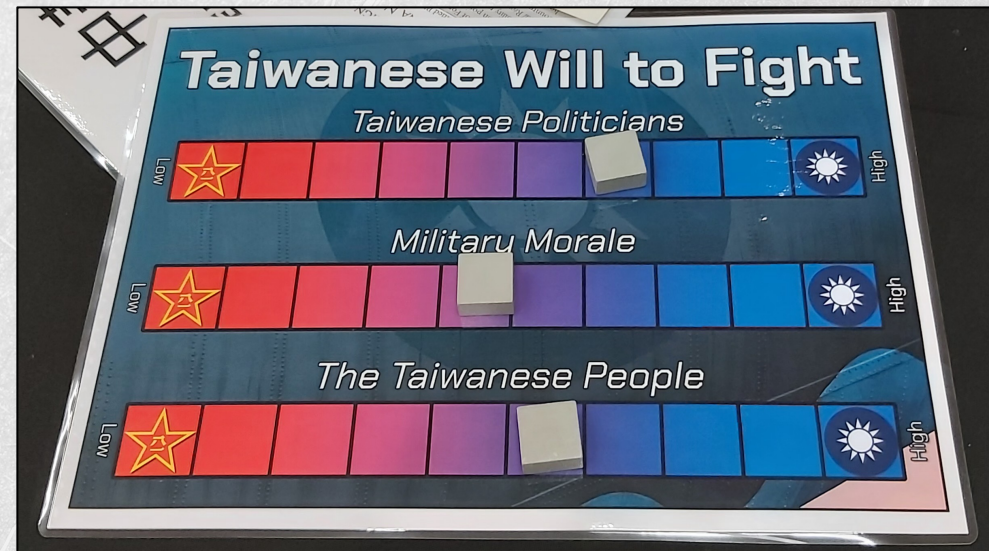
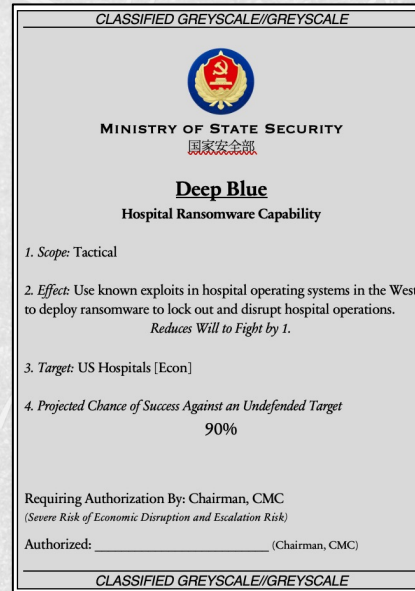
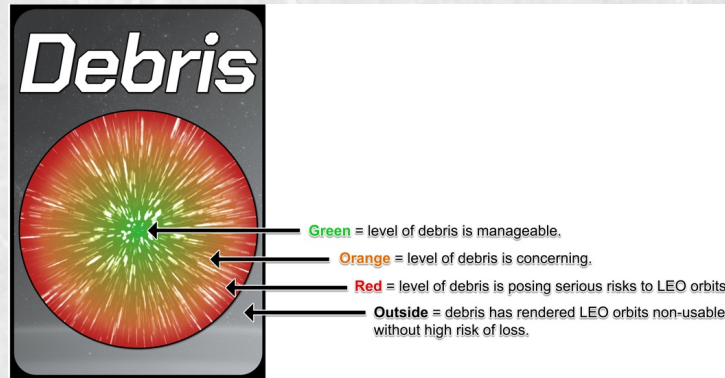
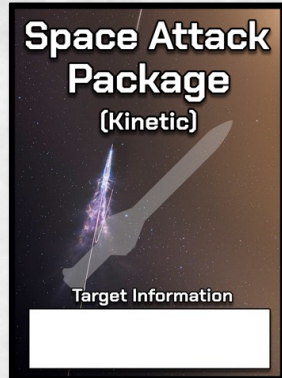
In a press statement directly given to the BBC the PM Sir Kier Starmer has expressed that he is “tired of Chinese stupidity” and their “frank disregard of the International Order”. This comes alongside an increase in alienation and pariah status for China in the global opinion.

[Read more](#)

May 10, 2025



And the Kitchen Sink...



The Fundamental Information Problem

It's not that bad really?



The Fundamental Information Problem

- Or “how can you make a game on this?”
 - With lot of work
 - And a lot of time.
- It’s not that hard to get a good first pass if you know where to look for info.
- The Classified Information Problem
 - I have been told that this is less of an issue than I think (OSINT for most stuff is decent enough)
 - Aggregation upwards means that this is less of an issue – friction, force employment, logistics, become more determinative than the physics.

The Fundamental Information Problem

- Dealing with OSINT problems
 - Where to look? Lots of stuff online
 - Technical:
 - DTIC, Military Journals, Think Tank Reports (RUSI on War in Ukraine, RAND, etc.), Operational Analysis (Dupuy, MORS Journals, etc..)
 - General China Stuff
 - China Brief
 - CMSI, CASI, CLSI
 - Wargames
 - Talks on lots of wargames at Connections and GUWS on these sorts of topics.
 - PAXSIMS sometimes has rulesets and games

Sometimes You Can't Know: An Example

- Modeling SOF – very few data sources in the public domain to use.
- Sometimes you can make your own data:
 - Compare what other wargames do (not great but in a pinch, tells you a lot about modeling!)
 - Look at what is happening in current conflicts
- Example: SOF Mission sets in LSCO?

SOF Missions	Wargames	(Lim 1995)*	SOF Conducted in Ukraine?†	Partisans Conducted in Ukraine?	Unclear if SOF or Partisans
Operational/Strategic ISR Collection	Landpower, OWS	X	Pre-war: (Livermore 2025), 2023 (Borsari 2023), 2024 (Tucker 2024)	Likely	
Reconnaissance for Amphibious Operations			Russians (Watling et al. 2024) pg. 30, Ukraine at Snake Island (BBC News Україна 2022) and Krynyk (Tucker 2024)		
Targeting for Fires	OWS, C-WAM		Early War: (Sladden et al. 2024), (Hoprax «Tucso» 2022), (Stringer and Vivdych 2025), 2023 (Borsari 2023), possibly later war (unclear) (Livermore 2025), later war (Livermore 2024), (Tucker 2024)	Early war: (Kramer 2022), (Schwartz and Santora 2022), 2023 (Cotovio et al. 2023), “Most important function” of partisans in Ukraine (Danylyuk 2023)	
Destroy Infrastructure	Landpower				(Borsari 2023)
Direct Action			Ongoing limited amounts: “sabotage activities” (Hoprax «Tucso» 2022), (Boffey 2023), (Danylyuk 2023), “operations in the deep rear” (Bezpalcko and Oleniak 2025), actions in Crimea (Tucker 2024), and in Kursk (Stringer and Vivdych 2025)	Early war occasionally supporting SOF: (Danylyuk 2023), likely minor amounts in 2026 (Taradiuk 2026)	
Direct Action (Assault/Ambush)	Landpower, C-WAM	X	Yes early war: (Hoprax «Tucso» 2022), (Sladden et al. 2024) pg. 37, in Kursk (Stringer and Vivdych 2025), later war small scale raids for prisoners or to retake key positions (sources: released combat footage from 2024-2026)		
Direction Action (General Infrastructure)	Landpower		(Boffey 2023), (Danylyuk 2023) “sabotage” (Bezpalcko and Oleniak 2025)		
Direction Action (HQ)	OWS, C-WAM	X			
Direction Action (C2)		X	(Livermore 2024), (Stringer and Vivdych 2025)		
Direction Action (Aircraft Squadron)	OWS, C-WAM	X			
Direction Action (Sabotage Airfield)	OWS, C-WAM	X			
Direction Action (Missile Units)	OWS, C-WAM	(implied, attacking TELs)			
Direction Action (Radar)	OWS, C-WAM	X			
Direction Action (IADS)	C-WAM	X			
Direction Action (Sabotage Port)	OWS, C-WAM	Implied			
Direction Action (Sabotage Ship)	OWS, C-WAM (Implied)	X			
Direction Action (Sabotage Ammunition Dump)	OWS, C-WAM (Implied)	X			
Direction Action (POL)		X	(Livermore 2024), (Stringer and Vivdych 2025)		
Direction Action (Sabotage Bridge)	OWS	Implied			
Direction Action (Sabotage Rail)	OWS	Implied	(Danylyuk 2023), (Livermore 2024), (Stringer and Vivdych 2025)	(Kramer 2022), (Danylyuk 2023), (Daly 2024)	
Direction Action (Sabotage LOC)	C-WAM	Implied	(Danylyuk 2023), (Stringer and Vivdych 2025)		
Battlefield Support	OWS (bn level)		Brigade level early war (Sladden et al. 2024) pg. 37, support in Kursk operation (Livermore 2024), poor use in later war attritional fights (Bezpalcko and Oleniak 2025)		
Partisan/Insurgent Training	C-WAM (Sensitive Actives teams only)		Pre-War: (Kramer 2022), (Danylyuk 2023), (Livermore 2025), cooperation with: (Stringer and Vivdych 2025)		
VBSS	C-WAM				
Attack Political Targets/Morale				Early war: (Kramer 2022), (Danylyuk 2023), (Borsari 2023), 2026 (Taradiuk 2026)	Attacking collaborators (Borsari 2023)

* Lim provides much more complex lists of targets (for example shelters and aircraft at an airfield), but I aggregate up here for clarity.

†Occurred in the sense of the use of on the ground operators conducting this mission, not SOF using drones in long range standoff from behind the FLOT.

Sometimes You Can't Know

- Despite reading the publicly available information, missing clear answers on:
 - Chance of SOF team compromise
 - Outcome of compromise
 - Chance of success of direct action
 - Level of effect of action
 - etc.
- Sometimes you have partial information
 - Very good RAND study on SOF attacks on airbases, but only for that type of direct action.
- Sometimes you can use proxies:
 - Little Public Work = What is chance/outcome of a compromise of a SOF team?
 - Lots of Public Work = What is the chance of the capture of downed aircrew in enemy territory
 - The full argument is that this approximates somewhat as both SOF and aircrews are trained in SERE, are small groups or individuals, and when detected are aggressively searched for. The difference in fitness between SOF and aircrews is probably offset by a greater difference in size between individual pilots and small groups of SOF, meaning that aircrew numbers may present a better outcome that would occur for SOF. Furthermore the “discoverability” of a crashed pilot is lower, functionally the pilot was known to be downed in an approximate area, while if a SOF team is comprised its exact location is likely to be known (if compromised by enemy military forces, this may not be the case if they are compromised by civilians and then attempt to evade). This biases the data in favor of the aircrew again providing a higher overall bias towards a good outcome for the aircrew.

Outcomes of Compromise

- When compromised (Center for Army Analysis 2016) gives a 50/50 chance of the SOF unit being killed. (Lim 1995) gives 20% attrition of the SOF unit if detected though states that this “is arbitrary” (pg. 24).
- Another method to calculate this would be to use a proxy: how long do downed pilots manage to evade when shot down in enemy territory? This approximates somewhat as both SOF and aircrews are trained in SERE, are small groups or individuals, and when detected are aggressively searched for. The difference in fitness between SOF and aircrews is probably offset by a greater difference in size between individual pilots and small groups of SOF, meaning that aircrew numbers may present a better outcome that would occur for SOF. Furthermore the “discoverability” of a crashed pilot is lower, functionally the pilot was known to be downed in an approximate area, while if a SOF team is comprised its exact location is likely to be known (if compromised by enemy military forces, this may not be the case if they are compromised by civilians and then attempt to evade). This biases the data in favor of the aircrew again providing a higher overall bias towards a good outcome for the aircrew. (Kraus 1986) pg. 121 says that “99 percent of the crews to evade three days or less, which reasonably approximates historical data.” Looking at historical data, a RAND Report found the following (relevant conditions only were transcribed below) (Mouton et al. 2015) pg. 48. Note study methods and assumptions on pg. 7-8.

Condition (all assume ejection seats)	Recoverability % (Approximate)		
	Immediately After Aircraft Loss	2 Hours After Loss	12 Hours After Loss
Darkness, Terrain Good for Hiding	70%	52%	42%
Darkness, Terrain Not Good for Hiding	60%	44%	34%
Daylight, Terrain Good for Hiding	56%	36%	26%
Daylight, Terrain Not Good for Hiding	47%	28%	19%

- Assuming SOF teams make use of the night for operations (assume 75% of operations occur at night), and they try to use terrain good for hiding (assume 75% of Terrain is Good for Hiding). Given day long turns in this game and the flattening out of the trend line after 12 hours (the slope is very minimal), we can assume that the “12 Hours After Loss” category represent pilots that escape successfully, about 36% of teams would evade detection. The problem of course is that in the data many pilots are dying immediately from crashes. Using data from pg. 13-21, we see that 241 of 441 individuals in the dataset were killed immediately, so only 45% of the total cases have a chance to escape and evade. Accounting for this, 66% of individuals who made it to the ground were still not captured or killed after 12 hours. As above this data is likely biased higher to be higher than for SOF teams, but such is the nature of using a proxy. With this caveat this data can then be used to determine what percentage of SOF teams might be able to evade after contact with the enemy (less than 66%) and how many are lost (greater than 44%).
- (Willson 1995) calculated possible attritional outcomes of SOF direct action raids and meeting engagements against enemy forces of 3, 6, 12, and 24 enemy against 12 SOF (of which the meeting engagements are relevant here). The casualty rates for meeting engagements are as follows (note the last assumption on the list below is why no casualties are taken at night):

Time of Day	Number of SOF KIA Taken			
	3 Enemy	6 Enemy	12 Enemy	24 Enemy
Day	.15 (1%)	.75 (6%)	3.55 (30%)	4.15 (35%)
Night	0	0	0	0

%’s are total % of the force of 12 SOF

- Note some key assumptions of the work:
 - Once the team moves out of the meeting engagements, they are assumed to have evaded and are not reengaged (e.g. the study modeled only single engagements)
 - JANUS (the modeling software used) only has KIA outcomes (e.g. individuals on either side cannot be wounded, only killed)
 - The missions and scenario are against a low intensity threat (third world military) in support of conventional forces conducting contingency operations (pg. 14-5, 17)
 - The work does not model attrition during infiltration/exfiltration (pg. 20)
 - Issues with the model used and attempts to modify it for better fit (pg. 8-11)
 - The enemy patrols only roads and major trails and conducts no aggressive patrolling (pg. 20)
 - Night operations in the model are under quarter-moon illumination (pg. 8), and enemy forces did not have NVG’s or other night sights (pg. 18)
- It is now however sufficient to look at the loss rates from a unit being detected, however. If they are conducted a direct-action mission, the total attrition is going to be a combination of times they are compromised and casualties taken in conducting the mission itself. This brings itself to the next section

The Solution

- Be clear about your sources
- Be clear about your assumptions
- Be clear about how/why you are modeling things
- It allows you to easily update things when you find better information or have a new idea!
 - Allows easier iteration.

The Modular Mindset

A Way of Thinking About Designing Games



The Modular Mindset

- Make the game structurally agnostic
 - You should be able to plug and play parts of it into any game structure
- Write chunks of games to be as self-contained as possible.
 - The game is not a landmass, but a set of interconnected islands.
- Upsides
 - Allows you to focus on the problem at hand
 - One thing at a time
 - Allows easy re-writes/fixes/updates
 - Allows you to add/drop/simplify/complexify as needed
- Can be small chunks such as missile rules or naval rules, or whole chunks such as combat, diplomacy, politics, etc.
 - Each type of combat is 1 page in the combat rulebook
 - Diplomacy can be dropped by simply not having diplomats and a UN

A Caveat

- This discussion for the most part will assume that the game is going to be run more than once, in varied conditions.
- If a game is going to be one and done, some of the Modular Approach I discuss here will be less applicable (though may still be of value).

Modularity: Rules Rigidity

Running the same game as both free and rigid kriegsspiel

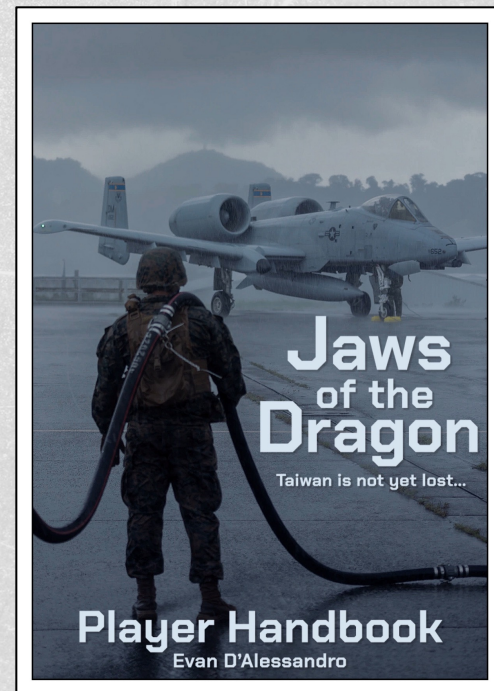
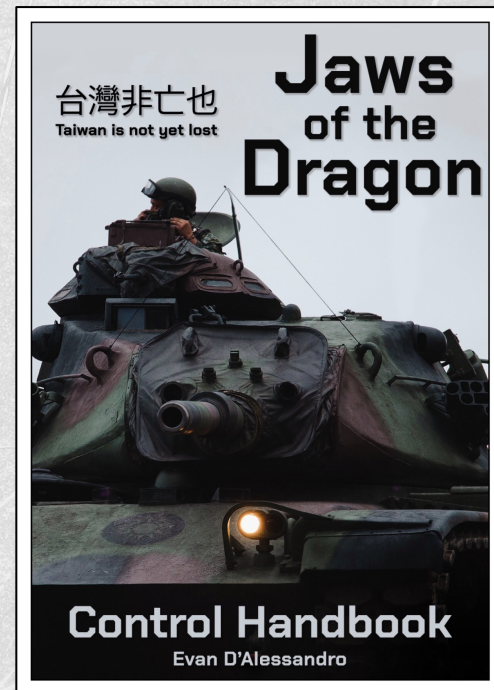


Rules Rigidity

- Spectrum of Rules Rigidity (Graham Longley-Brown, modified) is:
Rigid (*Board Games*) $\triangleleft\triangleright$ **Semi-Rigid** (*Matrix, RPG's*) $\triangleleft\triangleright$ **Free** (*Free Kriegsspiel*)
- Design the game from the outset to have the ability to run in any way you need it to (be that Rigid or Semi-Rigid or Free).
 - E.g. design a “modular mindset”
- You can always run a game with less rigidity than more!
- Not all parts have to be run the same way.
- Not all parts have to be run the same way all the time.

Game Structure and Rules Rigidity

- Game structure will change from game to game
 - A 15-person game with just me will be “tell Evan what you want to do.”
 - A 60-person game with 10 facilitators will have some prescribed rules
 - An 80-person game with 25 facilitators will have prescribed rules.
 - Different games require different game structures
- Flexibility of rule options (Rigid, Semi-Rigid, Free), lets you keep the game element (combat, diplomacy, etc.) even within a changing game structure.



Example: Information Operations

- *Rigid Rules* - Provided in module *Only You Can Give Up!* – optimal for games where inclusion is wanted, but decision space is relatively simple and fast!
- *Semi-Rigid* - Provided in Control Handbook, used when you want a large decision space, adjudicated in semirigid or free method, but placement in the game structure is rigid (e.g. how players submit and conduct operations is rigid, adjudication is free/semi-rigid).
- *Free* – Used when I’m running a game on my own. Adjudication is by the HWA method (“Hand Wave Adjudication”).
- Each of these slots into a different game structure better than the others!
- The less rigid rules are based on the more rigid ones, and the free rules are based on the research and reading for the rigid rules!



Top: Rigid Information Warfare Cards
Bottom: Semi-Rigid Info. Domain Rules

Information Domain Rules																											
More or less this is going to be adjudicated on vibes and vibes alone. When players are ordering an information campaign, you should consider: • Do they have a clear target, is that target persuadable? • Is the message clear? • Is the way they are going to message + is the message itself likely to change minds? • Are there ongoing things that will affect the message? • If the campaign is found out will it be bad (e.g. a friendly nation using covert means to influence an allies population?)																											
You can then adjust trackers as you wish. In most cases I do not expect there to be great movement from information campaigns rapidly though perhaps over a couple of days it may have an effect, perhaps roll each day, looking for a 6 on a d6 or so, but use your judgement!																											
I expect most of the movement to come from the Will to Fight (WtF) Morale Effectors Sheet effects (see right), and from other controls notifying you that something that has occurred in their area that will affect you. Other controls will tell you what has happened and what effect it has (either they will have a given effect written down, or they will have discretion as to what happens).																											
Note that you will need to liaise with the military to fill out the Will to Fight (WtF) Morale Effectors Sheet (it's noted on the sheet where). You will also need to pick up any destroyed units from the Destroyed Units box (things that might be affected by destroyed units are marked with a #).																											
Each turn you should track the changes that turn on the Change Sheet (see below right) so you can update all team trackers during team time (Don't forget to update the UN sheet too!), and so players can see what happened last turn.																											
If players ask for updates, do not use prescriptive language and explain in general vagaries/uncertainties of public opinion, be descriptive about sentiments!																											
Effects The trackers have no real impact on the game (other than a check on Japan's Article 9), though the players should not know this, and should be led to believe the opposite. If applicable to a given situation the trackers can (and should be) be taken into account.																											
<table><tr><th colspan="2">Will to Fight (WtF) Morale Effectors Sheet of 1</th></tr><tr><th>Team</th><th>Tracker</th></tr><tr><td>Taiwanese Public</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>Taiwanese Military Morale</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>The Taiwanese People</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>PLA Morale</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>US Morale</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>Japanese Will to Fight</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>US Longstanding Allies Morale</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>South Korean Will to Fight</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>Canadian Will to Fight</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>UK Will to Fight</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>French Will to Fight</td><td>1-2 3-4 5-6 7-8</td></tr></table>		Will to Fight (WtF) Morale Effectors Sheet of 1		Team	Tracker	Taiwanese Public	1-2 3-4 5-6 7-8	Taiwanese Military Morale	1-2 3-4 5-6 7-8	The Taiwanese People	1-2 3-4 5-6 7-8	PLA Morale	1-2 3-4 5-6 7-8	US Morale	1-2 3-4 5-6 7-8	Japanese Will to Fight	1-2 3-4 5-6 7-8	US Longstanding Allies Morale	1-2 3-4 5-6 7-8	South Korean Will to Fight	1-2 3-4 5-6 7-8	Canadian Will to Fight	1-2 3-4 5-6 7-8	UK Will to Fight	1-2 3-4 5-6 7-8	French Will to Fight	1-2 3-4 5-6 7-8
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¹⁴ Pentagon ran secret anti-vax campaign to undermine China during pandemic, Chris Bing and Joel Scherman, June 14, 2024, https://www.reuters.com/investigates/special-report/us-anti-vax-propaganda/																											
Evan D'Alessandro	evandalejandro.com																										

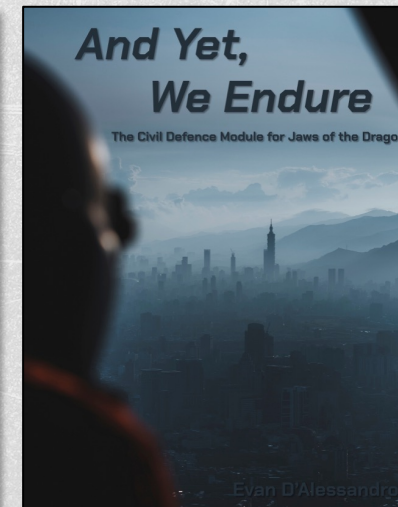
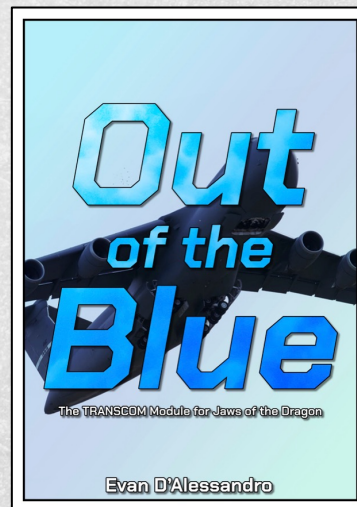
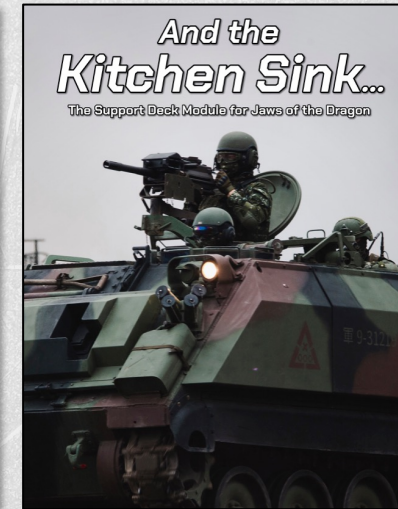
Modularity: Modules!

Methods of "modularizing" a wargame to allow for elements to be added/removed



The Modules

- Will to Fight (*Only You Can Give Up*)
- Taiwanese Legislative Wartime Politics (*War, by Other Means*)
- Space Operations (*Super Smash Sats Ultimate*)
- Taiwanese Civil Defense (*And Yet, We Endure*)
- Additional Military Capabilities (*And the Kitchen Sink...*)
- National Intelligence (Megagame)
- People's Armed Police (*Amongst the People as a Fish*)
- Nuclear Signaling (Megagame)
- TRANSCOM (*Out of the Blue*)
- Chinese Mobilization (Megagame)
- **Not all modules here are in a finalized state (and thus not uploaded!)**



Covers of various modules for Jaws of the Dragon. *Amongst the People as a Fish*, as well as *And Yet, We Endure*, and *War, by Other Means* are practically stand-alone games.

When to Make Rules, When to Make Modules

- A “module” as we are discussing in this section here is a self-contained set of rules that is not required for the overall game.
 - In some cases can be a minigame!
 - This is, in game design terms, structural Chrome (though perhaps in a more expansive sense)
- When to use a module?
 - The point of modules is that they are able to be added or removed easily
 - E.g. Scalable complexity that is not required for the game
 - This allows you to tweak the game to the purpose of the game by adding or removing modules.
 - *Modules are a great place to put the chrome in a game, without bogging down the central element of the game itself.*
- When to write rules?
 - When the thing is going to be a core game element
 - You can still “modularize” the rules so that you can do combat only, diplomacy only, politics only, etc. – but these are bigger chunks than modules.
 - Not modules, but modular
- Modules have the advantage of making you research it, and if situation comes up “I have a rule for that that!” (even if you are not using the module)

How to Make a Module

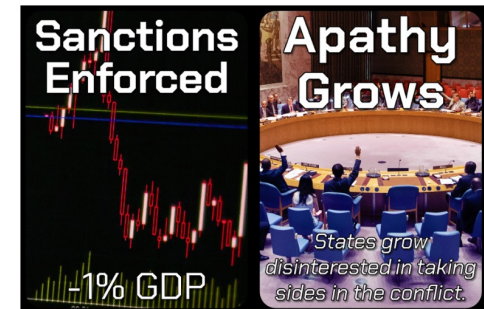
- Keep it Simple – modules should probably not be more complex than the game itself, ideally simpler.
 - The alternative is you are building an interlinking series of games – not a set of modules (*usually* a bad idea!)
- Modules should be complete within themselves – e.g. their outputs should be mostly self contained so that removing the module doesn't break things
 - Inputs and external outputs should be clear.
 - Psychological impacts on players or on non-rigidly adjudicated things are usually easier outputs for design purposes.
 - Allows self contained rules that can be different and better suited to topic at hand without needing to interface to the overall system.
 - This method also allows you to integrate other peoples' work.
 - The game is designed the be able to intake modules!
 - Example: Taiwanese Cultural Heritage Protection, Danish Economic System
- Modules should be able to interface with the game (and possibly each other), but it should be possible to “spoof” inputs if needed if the module is missing.
- If interface with other modules say “if X module is in play, then...” (see bottom of the page in the example)

Effects of Will to Fight and Morale

The trackers have few defined impact on the game, though the players should not know this, and should be led to believe the opposite. If applicable to a given situation the trackers can (and should be) be taken into account (though this mostly constrains political action).

Some rules are as follows:

- If Japanese will to fight is very low, the Diet will refuse to invoke an Article 9 existential crisis situation.
- if the Taiwanese Will to Fight tracks are at rock bottom for multiple turns *and* their frontline is collapsing during a ground invasion, they will surrender.
- **(Of Key Importance!)** If the World Public Opinion tracker reaches either end of the track, hand a card to the respective team and reset the track to the middle. If the tracker went to Pro-China give the US Team a “Apathy Grows” card. If the tracker went to Pro-Taiwan give the China team a “Sanctions Enforced” card. Neither of these have any inherent effect on gameplay, but should be factor into a discussion about the ability of either side to sustain the conflict in the long term at the end of the game. For a full discussion on these cards, see Appendix I



Some optional rules are as follows:

- If a nations Will to Fight or Morale tracker is 1 away from the bottom attrit 1 ground unit in active combat by 1. If it's at the bottom, attrit 2 different units by 1 instead.
- If the Support Deck Module (*And the Kitchen Sink...*) is being used, each turn (or every other turn) the Taiwanese People's morale is at highest the Taiwanese team gain 1 *Volunteer* card and 1 *Civilian Resistance* card (max 5 *Civilian Resistance* cards over the course of the game).

The entire rigid rules interlinkage between the Will to Fight Module and rest of the game is just 1 page (5 things to do), but also it may have other effects as desired by control!

Example: US Reinforcements

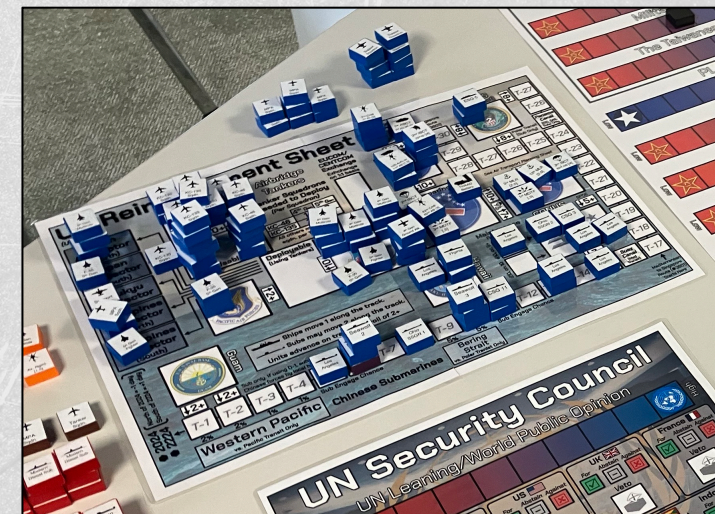
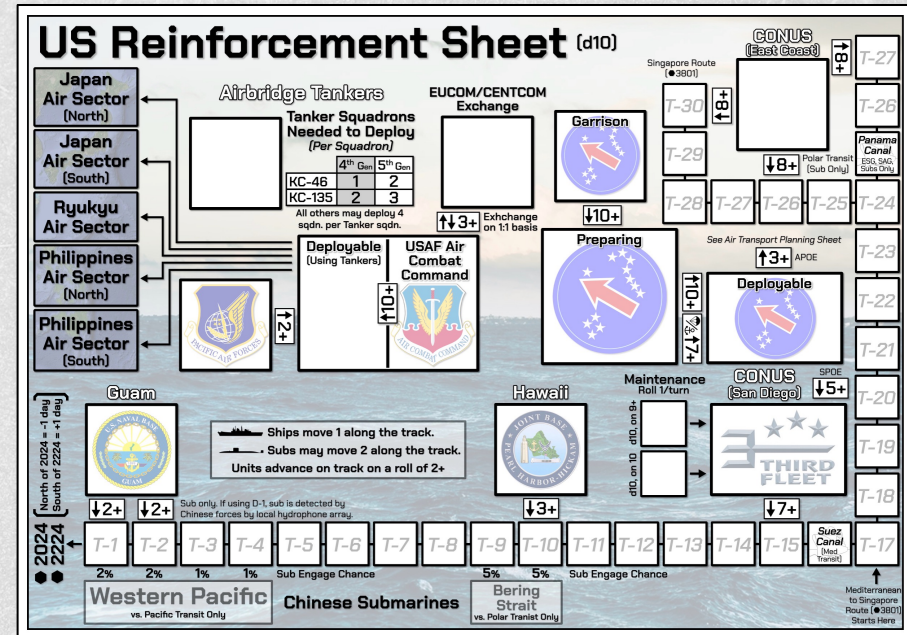
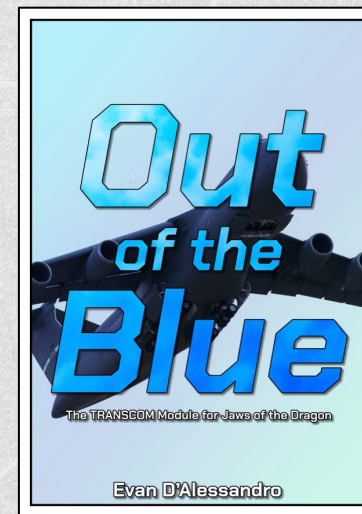
- Can use the module
- Can just use the pre-generated sheet

The arrival days here represent the most optimal, perfect scenario timings, and assume that units are already on alert due to intelligence indicators or an increasing crisis. In reality, these numbers should be much longer. For more realism, add 1d10 days to the reinforcements arrival per week they are from the start of the reinforcements sheet. Thus, units coming on days 1-7 add 1d10 to their initial arrival date. Ones on week 2 (days 8-14) would add 2d10 to their initial arrival date, 3d10 for the 3rd week and so on.

Day 1		
Day 2		
U.S. 1 x F-22A (5 th Gen Fighter)	Day 2	Coming from Hawaii. Based on expert advice ¹
Aus 3 x F-35A (5 th Gen Fighter)	Day 2, any air sector	Assuming 1 day prep.
Day 3		
Aus ESG	Day 3 (3811)	Setup w/ 3 Missiles. Assume 1 day prep and then steaming at 25 knots. Assuming 1600 km journey.
[Optional] ² Aus/NZ SAG	Day 3 (3811)	Setup w/ 3 Missiles. Assume 1 day prep and then steaming at 25 knots. Assuming 1600 km journey.
Aus 4 x Collins SS	Day 3 (3811)	Assuming no prep time and transit to area at 15 knots. Assuming 1600 km journey.
U.S. 3 x Los Angeles SSN	Day 3	Coming from Guam about ~1200 km at speed of 15 knots + 1 day for organization to move out.
U.S. 1 x F-22A Squadron (5 th Gen Fighter), 1 x F-35 (5 th Gen Fighter), 1x F-16C/D (4 th Gen Multitrole)	Day 3	Coming from Alaska. Based on expert advice ¹
[45% (9+ on a d20) Optional] ³ Canada 4 x CF-18 (4 th Gen Multitrole)	Day 3	Given coming from Alaska is roughly 3 days, I assume that coming from various Canadian airbases is about the same.
Japan 1 x SSK	Day 3 in Kure	Assume crash maintenance to get them out
Japan 1 x SSK	Day 3 in Yokosuka	Assume crash maintenance to get them out
China x 1 SS	Day 3 in Qingdao	Assuming crash maintenance to make ready
China x 2 SS	Day 3 in Ningbo	Assuming crash maintenance to make ready
China x 1 SS	Day 3, Sanya (2303)	Assuming crash maintenance to make ready
Day 4		
UK 1 x Typhoon (4 th Gen Multitrole), 3 x Typhoon (4 th Gen Fighter)	Day 4	Based on expert analysis by Paul Kendal OBE and Mobility Guardian 2023 numbers (which state 21 hours, but I think it would likely be slower in practice) ⁴

¹ Paul Kendal OBE made an educated guess it would take 4 days to deploy a squadron from Continental Europe to the Pacific, as Hawaii is closer, I estimate 2 days
² Only include if the NZ player wants to commit to fighting. Otherwise the unit enters 3 days from when NZ decides to commit.
³ Paul Kendal OBE made an educated guess it would take 4 days to deploy a squadron from Continental Europe to the Pacific, as Alaska is closer, I estimate 3 days.
⁴ Operational rate of Canada's Air Force, <https://warontherocks.com/2024/04/dont-count-on-us-canadas-military-unreadiness/>
⁵ Only include if the Canadian player wants to commit to fighting. Otherwise the unit enters 3 days from when Canada decides to commit.
⁶ Inside the Air Force's massive mobility war game in the Pacific, Rachel S. Cohen, Aug 9, 2023, <https://www.airforcetimes.com/news/your-air-force/2023/08/09/inside-the-air-forces-massive-mobility-war-game-in-the-pacific/>

Left: Pre-generated US Reinforcement Sheet
 Right: TRANSCOM module to do US reinforcements in more detail



Modularity: DIME/PMESII Part I (The Cognitive)

**Including full representations of Political, Military, and
Diplomatic elements, or how to spin them out into their own
game**



Modeling Humans

- Diplomacy, Politics, the Press, and Intelligence are less physics-based problems, and are more “human” domains than military operations
 - Or at least we know how to quantify, model, and represent military operations better...
- Thus, it seems logical, or at least best to use humans to bring in the human element as much as possible.
- E.g. to represent non-military aspects (compared to military), you usually need a human!
 - Some military aspects require a human – you cannot make a computer feel shock effect!



Above: Despair and Joy as the USS Ronald Reagan is sunk
Below: Focus (and rabid vitriol) in negotiation at the UN



Modeling Humans (by Using Humans)

- *Pro*: The best way to represent a human is another human!
- *Pro/Con*: Rigidizing humans prevents human mistakes and strokes of brilliance
- *Con*: Players are mercurial - Any individual run can become invalid
- Methods:
 - Cast your players to their roles
 - Prime them to act specific ways (briefings)
 - If needed manipulate your players
 - It is hard to be too blunt in your briefing!
- *Personal Research Plug*: There is some value to immersing players here!



The image shows a large, complex spreadsheet titled "Jaws of the Dragon". It appears to be a casting file for a game, with many columns containing names, roles, and other details. The spreadsheet is organized into sections with colored headers (pink, green, blue, yellow). The data is dense and spans many rows, with some cells containing multiple lines of text. The overall layout is that of a professional casting document.

My 80 person casting file from one run of Jaws of the Dragon. Casting is essential to megagames!

Examples:



The Japanese Team psychs itself out of taking any activity



The Taiwanese Political Team in the Tri-Service Command Center Bunker, psychology cut off from the outside.



The US military team experiencing shock as things are not going very well for them

Modularity: DIME/PMESII Part 2 (The Models)

**Including full representations of Political, Military, and
Diplomatic elements, or how to spin them out into their own
game**



Skipping the Military Aspect

- I'm mostly skipping talking about the military here, as that is relatively well understood and less novel.
- Not enough time to get into the interesting bits of it
 - Would be a whole different presentation in and of itself
- Important point – each domain is pretty simple and intended to be run in a semi-rigid format.
 - Writing as semi-rigid lets me make it more free or more rigid if desired (semi-rigid can also be a lot shorter than rigid rules!)
- Can look at the rules yourself.

Land Movement

Unit	Movement (Op Map) ⁸⁷	Movement (Taiwan Map)	Notes
Land Units (Rotating)	0 hexes/day	1 hexes/day	
Land Units (Cross Country)	1 hexes/day	5 hexes/day	
Land Units (Road)	2 hexes/day	11 hexes/day	
Land Units (Rail)	5 hexes/day	27 hexes/day	Requires 1 day to load and 1 day to unload.
Helicopter Unit (Range/Move)	3 hexes/day	15 hexes/day	Must start/end at Airport/FARP (FARP available at Control discretion)
(Dis)Embark Brigade on Ships	½ Brig/day/port		Assumes simultaneous loading of all ships for the brigade, and that ships are good ships for such use ⁸⁸

Land Combat (d4, d6, d20)⁸⁷

Land units can take points of damage up to their combat power.⁸⁸ Every 20 attrition⁸⁹ = 1 point of damage. 1 point of attrition can be removed every 2 days by rotating the unit off the front line (artillery/helicopters do not regenerate).⁹⁰ Each point of damage subtracts 1 from the unit's combat power. A unit with no combat power is destroyed.⁹¹

Procedure:

1. Pick units to attack, each unit may only attack 1 unit in an adjoining hex.⁹²
2. Determine Combat:
 - a. Atk. vs. Defence Ratio Column = Sum Attacker Power vs. Sum Defender Power
 - i. Unsupplied units halve combat power⁹³
 - b. Note any column shifts from other factors
 - c. Then roll 1d4⁹⁴ for each side and shift that number of columns in each side's favor
3. If a unit forces a retreat on the enemy, it can attack another enemy in the sector at 1 unfavorable shift.

Attritional vs. Maneuver Combat⁸⁵

When attacking decide if the attack is an attritional or maneuver attack. *Attritional* resolve as normal on the table below. If the attack is *Maneuver* when a result states that the unit was attritted, it takes d6 attrition (exploding dice, 5 or 6)⁹⁵ instead of just 1, and the other side takes the same amount rolled on the first dice -1.⁹⁶ All other attacking units involved in the maneuver combat take 1 attrition.⁹⁷ Helicopter units (not air assault) take 3x normal attrition, artillery 2x.⁹⁸

Breakthroughs⁹⁹

A breakthrough may be attempted on a maneuver attack. Roll a d20, on 19+ breakthrough occurs (DRM +11 for surprise, +2 for air superiority, +1 if successful air assault). On success enemy ☹ + take ½ attrition of that inflicted, on failure all attacking units take an extra 2d6 attrition.

Ratio = Sum Attacker Power vs. Sum Defender Power

Then roll 1d4 (if Maneuver), or don't (Attrition)¹⁰⁰ for each side and shift that # of columns in each side's favor.

Atk vs. Def Ratio: ¹⁰¹	1:4	1:3	1:2	1:1	2:1	3:1	4:1	5:1	6:1	7:1	8:1	9:1	10:1	11:1
Meeting Engagement	▲ ☹	▲ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹
Prepped Atk. vs. Prepped Def	▲ ☹	▲ ☹	▲ ☹	▲ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹
Prepared Atk. vs. Breaching	▲▲ ☹	▲▲ ☹	▲▲ ☹	▲▲ ☹	▲▲ ☹	▲ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹	☹ ☹

▲ = Attacker attritted, ☹ = Defender attritted, ☹☹ = Attacker and Defender attritted. *Attrition is divided between units involved in the combat.*

☹ = Number of hexes damaged unit must retreat (cannot be mitigated). If unit cannot retreat to friendly hex it is destroyed.

☹☹ = Number of hexes damaged unit must retreat. A unit can choose not to retreat (or to retreat some) and is attritted for each ☹ it chooses to ignore.¹⁰² If unit must retreat and cannot retreat to friendly hex it is destroyed.

Factors	Column Shift	Other Effects
Infantry Only vs. Mech/Armor (Maneuver Attack Only) ¹⁰³	1 favorable shift for Armor	
Friendly Air Superiority/Supremacy	1 favorable shift ¹⁰⁴	
Light Urban/Rice Paddies/Hills (Rough)	1 favorable shifts for Defender ¹⁰⁵	
Mountains ¹⁰⁶ /Heavy Urban ¹⁰⁷ (v. Rough)	3 favorable shifts for Defender	May ignore 1 ☹. Attacker takes ½ casualties.
Fortification (per lvl., max 2) ¹⁰⁸	1 favorable shift for Defender ¹⁰⁹	May ignore 1 ☹ per fortification, Attacker takes 2x casualties. ¹¹⁰
River Crossing ¹¹¹	1 favorable shift for Defender	+1d6 attrition if attack not successful
Amphibious Assault ¹¹²	2 favorable shifts for Defender ¹¹³	For each ☹ Attacker takes a <i>Damage</i> .
Air Assault ¹¹⁴	Use Infantry Only vs. Mech/Armor if applicable.	Unit takes losses equal to IADS Value + 1d3 x 10%. ¹¹⁵ Unit can't move this turn.
Naval Gunfire Support	1 favorable shift	
Unit can't do Brig. lvl. combined arms*	1 unfavorable shift <i>when attacking</i> ¹¹⁶	
Surprise + Successful Deception ¹¹⁷	4 favorable shifts <i>when attacking</i>	If defender attritted, attritted by 5x rolled amount.

* This applies to Taiwanese C-Level reserve units, and to PLA units during amphibious attack¹¹⁸

⁸⁷ E.g. if a 5 or 6 is rolled on the dice, roll again and add that to the total, if another 5 or 6 is rolled, roll again and add to the total, and so on...

On Diplomacy: It's Not Just Talking

- Diplomats disagree with each other, and have internal fault lines, solutions, and negotiation tactics and methods
- Diplomats are concerned about a different set of issues than militaries are
- Negotiating is going on even while the shooting is ongoing
 - Lower-level deals (POW swaps, humanitarian corridors)
 - Attempts to influence other countries/the UN + the adversary!
 - Attempts to gather information on the mood of other countries/the adversary
- Easy Methods of Modeling:
 - Briefings (Individual Role Briefings, Negotiation Position, Legal/Institutional Manuals, Diplomatic Language Guide)
 - Dedicated “Show up and Negotiate Time” (and a separate space)
 - Negotiation Position Documents (*absolutely key!*)
 - World Public Opinion/Role Players

MINISTRY OF FOREIGN AFFAIRS OF THE PEOPLE'S REPUBLIC OF CHINA NEGOTIATION POSITIONS



The following is classified PURPLECOVERT//PURPLECOVERT:

Work by the MFA has determined that in the event of hostilities a number of possible negotiation positions exist. These are given in order of best to worst both in terms of outcome, but also the ability to avoid the humiliation of the CCP.

1. *US Surrender*: The United States (and/or other actors) agree to a formal surrender of forces engaged in the conflict, and cessation of hostilities.
2. *Ceasefire – US or Taiwanese Withdrawal*: The United States (and consequently other combatants) or Taiwan agree to withdraw from the conflict, leading to cessation of hostilities and CCP dominance over the region.
3. *(Limited Conflict Only) Recognition of Outlying Islands*: The sovereignty of Taiwanese outlying islands is ceded to the CCP, and a cessation of hostilities occurs.
4. *(Invasion Only) Recognition of Chinese Enclave*: The control of liberated territory on Taiwan (and outlying islands) is ceded to the CCP creating a Chinese enclave on Taiwan. A cessation of hostilities occurs.
5. *Permanent Ceasefire – Conditions Imposed*: The US and/or Taiwan will respect certain political conditions imposed on them in exchange for a permanent ceasefire and (if applicable) withdrawal of PLA troops from mainland Taiwan.
6. Depending on if the War is going Favorably:
 - a. *(If Favorable) Temporary Ceasefire*: All forces maintain current positions for the duration of the ceasefire. If troops are present on mainland Taiwan this would allow consolidation of a PRC-controlled beachhead or enclave on Taiwan depending on the length of the ceasefire.
 - OR
 - b. *(If Unfavorable) Permanent Ceasefire – POW Exchange*: A permanent ceasefire intended to end the conflict (like the Korean War). As above this would allow a PRC enclave on Taiwan. Prisoners of war (POW's) are exchanged through a mutually agreed upon 3rd party country.
7. *Permanent Ceasefire – PLA Phased Withdrawal*: The United States (and other actors) allow PLA troops to withdraw from any liberated ground, and any Chinese prisoners of war are returned in stages. A cessation of hostilities occurs.
8. *PLA Surrender*: PLA troops ashore on liberated ground surrender and become prisoners. Hostilities cease.

As part of a larger agreement or a separate agreement, exchange of POW's, captured personal, or detained individuals (spies, businessmen, civilians, etc.) may occur. Exchanges may occur in any desired manner and may be publicized or unpublicized as required by the situation. It will

Politics: It's Also Not Just Talking

- Politicians disagree with each other, and have internal fault lines
- Politicians are concerned about a different set of issues than militaries are (both good and bad) – they are often less narrow
- Politicians have significant effects on military operations at strategic and operational levels – important to model!
- Easy Methods of Modeling:
 - Briefings (How they should act, what they are concerned about)
 - Public Opinion
 - Someone on their team dedicated to reminding them of the upcoming elections or “their legacy”

The Press: It's Not Just Talking to People

- The press acts in specific ways: they do not lie, print things said off the record, or quash stories under pressure (at reputable publications)
- Politicians, diplomats, and the military love/hate the press
- The public is informed by the press, politicians and military may be too
- The opponent may be informed by the press (Falkland's OPSEC leaks)
- Militaries, diplomats, and politicians react to the press
- The press is not just the press, press spokespeople attempt to get messages across too!
- Easy Methods of Modeling:
 - If 1 or 2 press people – press update at start/end of turn
 - If more press players + spokespeople – WordPress site
 - Dedicated speech/statement time
 - Tied into information operations/information domain – morale and will to fight are important and is affected by messaging!



The Press on the Right, watching menacingly

Intelligence: It's Not Just Listening to Other People Talking

- Intelligence does not need to be represented granularly
- At operational/strategic level in a governmental context decisionmakers are looking at finished products in response to their requests.
- What do you want to know?
- Easy Methods of Modeling:
 - PIR Cards
 - Agent Cards

Right: Collections means quality for adjudicating PIR cards

National Collection Means Quality						
	Counter Intel.	HUMINT	SIGINT	IMINT	MASINT	FININT
US (5 🍷s)	Good	Good (OK vs. China)	Good (V. Good if COMINT)	Very Good	Good	Good
China	OK (V. Good vs. Taiwan)	Poor (V. Good vs. Taiwan)*	OK (Good if COMINT)	Good	OK	OK
Taiwan	V. Good	Poor (V. Good vs. China)	OK (Good vs. China)*	Poor (OK vs. China)	OK (Good vs. China)	Poor
Japan	OK	OK	OK (Good in ECS) ¹	OK	OK	OK
Philippines	Poor	Poor	Poor	Poor	Poor	Bad
Australia (5 🍷s)	OK	OK	Poor V. Good (5 🍷)	OK V. Good (5 🍷)	OK	OK
UK (5 🍷s)	OK	OK	Poor V. Good (5 🍷)	OK V. Good (5 🍷)	Poor	Good
Canada (5 🍷s)	OK	OK (Good v. China)	Poor V. Good (5 🍷)	OK V. Good (5 🍷)	Poor	OK
France	OK	OK	Poor	OK	Poor	OK

*Downgrade Poor in wartime.
¹East China Sea



Above: an Agent Card
Below: A PIR Card

Priority Intelligence Request(s)

Turn: Agency:

PIR 1:

Means Used _____

☐ Counter Intel.
 ☐ HUMINT
 ☐ ELINT
 ☐ COMINT
 ☐ IMINT
 ☐ MASINT
 ☐ FININT

Human Intel. Electronic Intel. Comms. Intel. Image Intel. Measurement and Signature Intel. Financial Intel.

Return: _____

PIR 2:

Means Used _____

☐ Counter Intel.
 ☐ HUMINT
 ☐ ELINT
 ☐ COMINT
 ☐ IMINT
 ☐ MASINT
 ☐ FININT

Human Intel. Electronic Intel. Comms. Intel. Image Intel. Measurement and Signature Intel. Financial Intel.

Return: _____

Modularity: Player Knowledge

Ways of including players of all levels of experience/knowledge on the topic



Player Knowledge

- Player Outside Knowledge (knowledge about the topic)
 - Casting
 - Use experts as a cadre to stiffen non-experts
 - “This isn’t how this works” – very often a statement of “I know a lot about this, and I want other people to respect my knowledge” (a reasonable request). Putting them in charge allows for this!
 - Risk that if they don’t like adjudication then they can be a real problem by spreading it to the team
- Player Game Knowledge (knowledge about playing games)
 - Place in areas of high mechanical difficulty to allow for smooth gameplay

Some Broader Thoughts

- Modular Approach helps
 - Outside knowledge
 - Low = brief more, use more prescriptive rules
 - High = brief less, use more free rules
 - Game Knowledge
 - Low = move towards more free rules, rely on SME adjudication
 - High = can use more rigid rules
- Modular approach lets you jettison rules easily when you have experts to adjudicate or play without being forced to teach them rules they might disagree with!
- Lets you scale the rules/knowledge complexity of the game easily to match the players rules experience/knowledge.

Briefing

- Briefings are specific to the type of players you have!
- Briefing is about 3 things:
 - Basic info the player needs to play the game (mechanical and/or background knowledge)
 - Priming them to act certain ways
 - Stopping them from acting in certain ways
- Clarity is key
- Short is better than long, but don't be afraid of length (dedicated reading time can also be used!).
 - Players are happy to read stuff if they think it will help them win!
- It is hard to be too blunt in your briefing!

Modularity: Open Source

The Value of Knowing How Everything Was Done

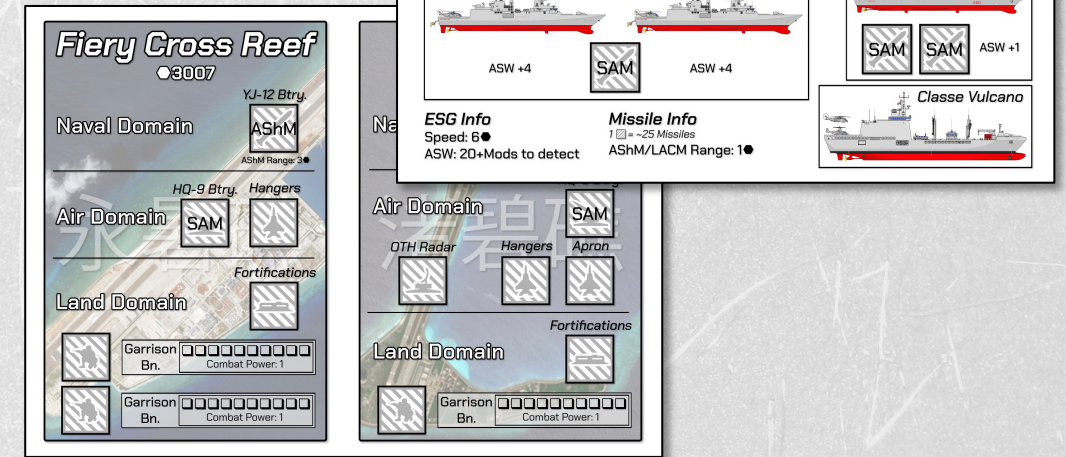


“Open Source”

- “Open Source” in this context = put the game out there and explain how you did it with footnotes and design documentation.
- As Josh Kovan and I talked about last year about the litany of benefits:
 - Real World Importance
 - CYA (Show how and when others poisoned your work)
 - Increase credibility of methods and outcomes
 - Reduce stakeholder belief in methods and outcomes
 - Increased support/leeway from boss/sponsor
 - Demonstrates amount of work done for boss/sponsor
 - In educational settings, players walk away with more than face value takeaways (higher reflexivity)
 - And they have sources they can use to continue their education
 - Easier to bring additional people onto the project (process/design is more transparent)
 - Easy to peer review
 - Ease of update + adaptation from and to other wargames (design and research is more portable)

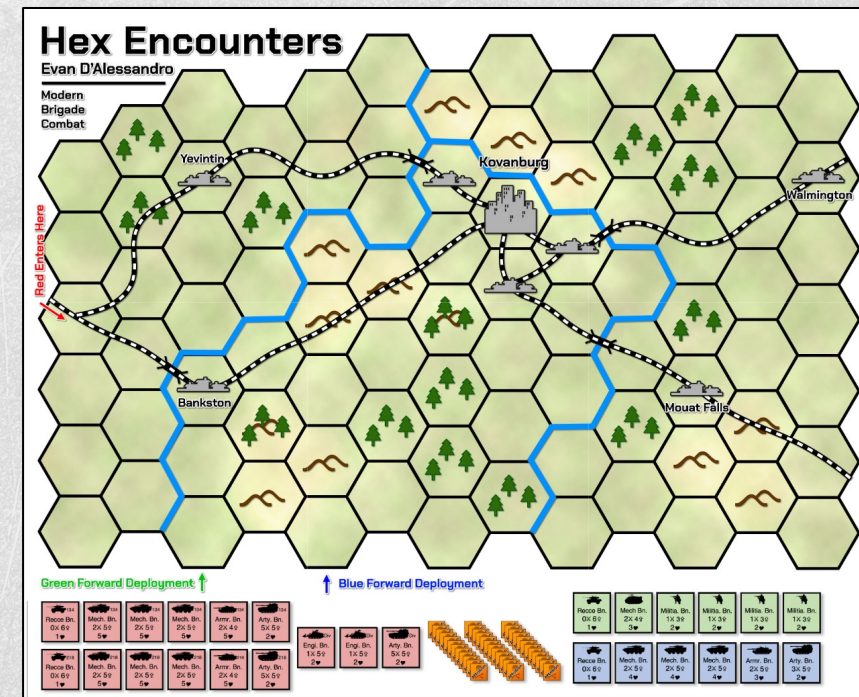
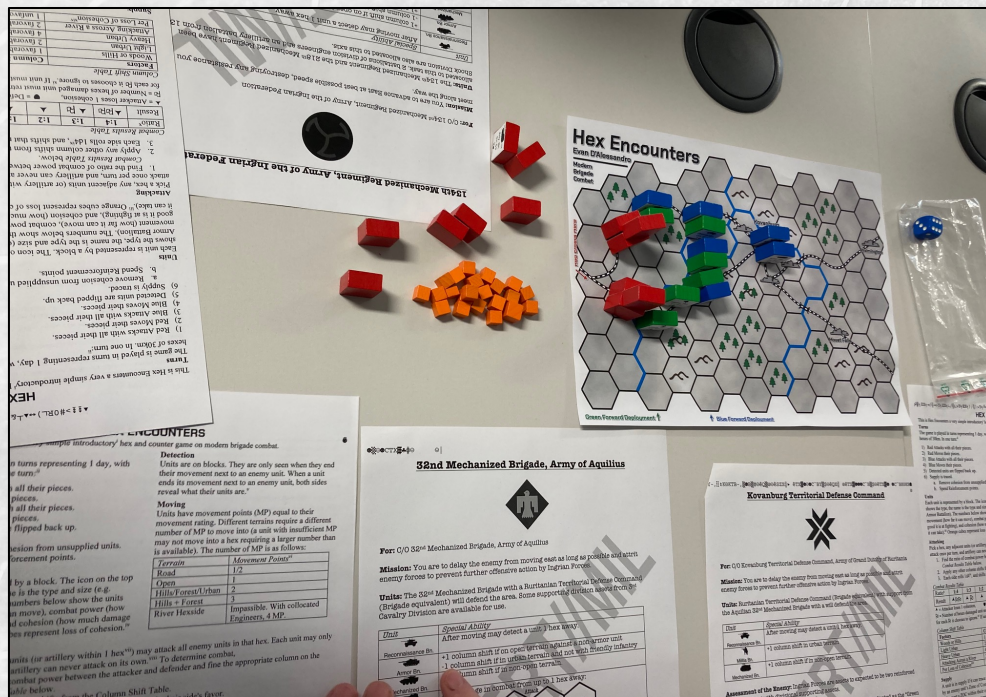
An Example: NATOized Jaws

- Taking game to NATO WIN Conference = need to have NATO Forces
- Easy to do: What is in a unit, combat power calculations, and data easy to find and re-do (and then tweak for NATO navies as they have a lot less firepower)
- Easy to add some more tactical modification like specific equipment on Chinese SCS islands due to open architecture and simple rulesets (each type of combat is mostly self-contained).



Big Benefit of Modular Approach for Design

- Modular Approach = can steal stuff wholesale for other games.
- Because each part of the rules is not massively dependent on any other part!
- Save time + work, and can ease facilitation (facilitators may already know the rules)
- I do this often!



An Example: Jaws of the Bear

- Thomas Danger has done this for a PME capstone wargame at the Royal Danish Defense College.
 - Master of Military Studies (Cpt. to Major PME course)
- It is not the same game, but is similar
- Easy for him to take this and use this because he can take the modularized parts he wants and throw away the others.
- Cut down development time massively.

JAWS OF THE BEAR FULL RULEBOOK

Version AUG 2025

Thomas Danger



Structural Decisions

Big Decisions with Big Impacts



What to Leave Out?

- Models are more about what we leave out than what we leave in!
 - 1 vs. 100 page rules have more in common with each other than reality!
- What domains of the world are we representing?
 - Diplomatic?
 - Military?
 - Economic?
 - Information?
- My debrief questions I always ask:
 - Were you winning or losing? Why?
 - What is wrong with this game?
 - What is missing from this game?
 - This is the key question to get players to think structurally.

Teams and Players

- What teams do you have? What nations are important?
 - Do you put some nations together? Do you build internal teams within teams?
 - Real-world constraints often drive this, but it is a big effect!
- Who is actually important and has stuff to do?
 - Changes based on the purpose of your game
 - Span of Command
 - Determined by rules complexity and unit sizes and player game knowledge and player real life knowledge, etc...
 - Are they making Tactical decisions or Operational ones?
 - See Thomas Danger's presentation last year
- Who is on the US Military Team?
 - CJCS? SECDEF?
 - INDOPACOM Commander
 - Deputy Commander?
 - J2? J4? Component Commanders?
 - JAG? Info-Ops? CIMIC?
 - STRACOM?
- Who can talk to who?
- These are not agnostic choices – these are core to the way the game plays!
 - Example: If the team is only military players they will likely do only military things!

MINISTER OF FINANCE OF THE PEOPLE'S REPUBLIC OF CHINA



Background

You are the Minister of Finance of the People's Republic of China, overseeing the fiscal policy of the People's Republic of China.

Department of the Treasury

The Ministry of Finance oversees multiple areas working alongside other Ministries of the State Council on economic matters. The Ministry of Finance's explicitly obligations are:

- Policy
 - Economic and public finance policies
 - Fiscal and tax policies
- Distribution and Expenditures
 - Government revenue distribution
 - Central People's Government expenditures
 - Economic development expenditures
 - Social security expenditures
- Finance and Debt
 - Administration of public finance and external debt
 - Domestic government debts
- Budgeting
 - Annual budget for Central People's Government
- Legal Activities
 - Accounting Regulations
 - Revenue and Tax legislation reforms
- Fiscal research and education

Role

As Minister of Finance your responsibilities are to:

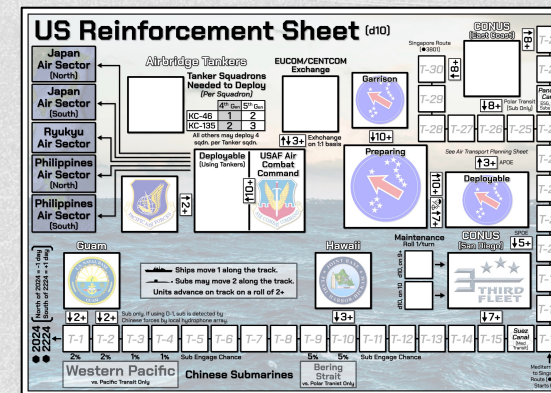
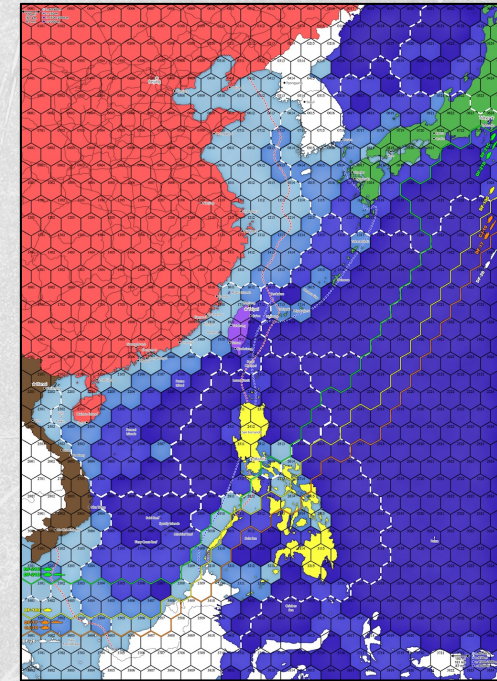
- Advise the president on all matters economic in nature.
- Work with the Ministry of Commerce, Ministry of Natural Resources, and other state organs to determine and implement economic policy.
- Ensure that China is prepared for an economic worst-case scenario.

You are allowed to leave your table to talk to non-military players.

Mapping

- Geography defines warfare
 - Where do you bound the map(s)?
 - How do you map terrain
 - Is the hex forested or lightly forested?
 - How do you include stuff not on the map?
 - Affordances?
 - A map is a representation of space, you want the most useful representation, not the most accurate.
 - Hexes or Areas?

Right: The Ops Map
Below: Real Life Bounds of the Ops Map



Right: A non-realistic depiction of geographic space!

Level of Resolution

- Turn Time
- Units
 - Individual Ships?
 - SAG/ESG/CSG?
 - SAGs w/ Amphib Ships and Carriers separately?
 - “Naval Force”
- Again not a neutral choice – structurally changes:
 - How players interact with the game
 - How you model things for the game
 - Thus your outcomes

Some Notes

- This is not me saying that we are making bad decisions
- Rather I think we gloss over these sometimes because we have already come to an intuitive decision on them, without thinking fully about the consequences
 - Our intuition is not bad!
 - Usually due to the Perlarian representation vs. playability criteria (correct!)
 - But intuition means we have used a schema to skip out on some thinking!
- Structural choices have structural effects!
- Which brings me to modularity...

The Solution

- If you employ a modular method, you are not locked into to these decisions as much!
 - Much lower technical debt/path dependency!
 - You are not in a state of every part of the rules being dependent on every other part of the rules (less cascading change.)
- You could always change them!
 - Though sometimes it takes a fair bit of work

Conclusion

What have we learnt?



Some Thoughts

- Open Source Approach
 - Lets you make you information:
 - Portable
 - Updatable
- Modular Approach
 - A modular approach allows you to update, port over, and change the game to the circumstances you will use it in.
 - Allows you to scale the game (add briefings, modules) or change the focus easily.
 - Lets you better meet the purpose of the game – more easily adjust the game to what is needed.
 - You don't need to fit a square peg in a round hole.

To see the game:



<https://evandalejandro.com/>

Questions?

I made Major Tom (Mouat) Ground Control...



Works Mentioned

- On Operational Wargames
 - *The operational level of war in PME wargaming* (Thomas Danger)
https://docs.google.com/presentation/d/1lnH6RsLOHyGWlwkTWgv4vh19r7SolxO7/edit?usp=drive_link&ouid=104954077817711410481&rtpof=true&sd=true
- On Showing Your Sources in Wargames
 - *The Wizards of Wargaming: The Black Box in the Whitecell* (Evan D'Alessandro and Josh Kovan)
 - <https://evandalelessandro.com/wp-content/uploads/2025/11/wizardsofwargaming.pdf>
 - *Citations for Wargames: Practitioner's Guide to Evidencing* (Evan D'Alessandro, Josh Kovan, and Sophia Chang)
 - <https://evandalelessandro.com/wp-content/uploads/2025/11/citationsforwargames.pdf>
 - *Designing For Validity: A Methodology For Professional Wargame Design* (Evan D'Alessandro and Josh Kovan)
 - <http://www.kriegspiel.com.au/connections/2024/videos/07%20kovan.mp4>

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