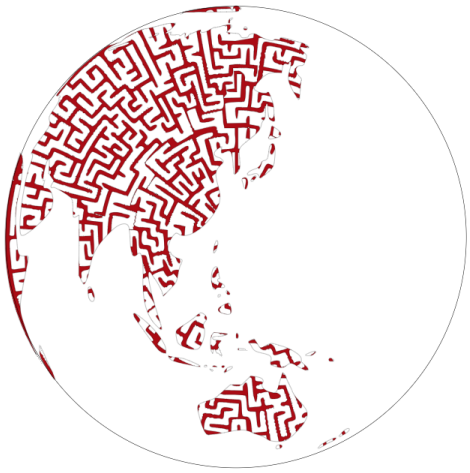

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BA'S MAZE '24

After-Action Report

July 2024

Contents

Acknowledgements:

This After-Action Report was produced by Sofia Valle, Rosetta Li, Ian Harman, General Mark Matthews and General Charles Lyon.

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About the Wargaming Lab:

The Wargaming Lab is a student-led, crisis simulation-focused research group affiliated with the Whole of Government Center of Excellence at William & Mary. At the Wargaming Lab, students create in-depth crisis simulations, wargames, and other strategy-focused research. For additional information, please visit the laboratory's website: https://www.wm.edu/offices/wholeofgovernment/for_students/wargaming-lab/

Introduction

On April 27th, 2024, the Wargaming Lab play tested Ba's Maze - a wargame taking place amidst worsening relations and nuclear tensions between the People's Republic of China (PRC) and the United States.[1] This after-action report presents the wargame's objectives and scenario. Furthermore, it details the lessons that the Wargaming Lab will adopt and develop as part of future Wargaming Lab events.

Wargame Objectives

Ba's Maze sought to obtain the following objectives:

1. Gauge how the United States would react to forced nuclear confrontation: Determine the measures (elements of national power) the Blue Team would use to control escalation and thereby limit/contain the conflict from escalating and expanding.
2. Determine how the Blue Team would interpret current US policy on use of nuclear weapons as this scenario escalated.
3. Ascertain how Blue and Red Forces would perceive and react to adversary use of artificial intelligence in strategic decision-making. Does the use of A.I. aid decision-making during a crisis situation? How do the Blue and Red Teams view the utility and efficacy of A.I. for decision-making?

Wargame Structure

Ba's Maze achieved nuclear confrontation between the PRC and the United States by presenting conditions to compel Blue to react to a nuclear event. The wargame kept to the following trajectory, which culminated in nuclear confrontation:

Move 1

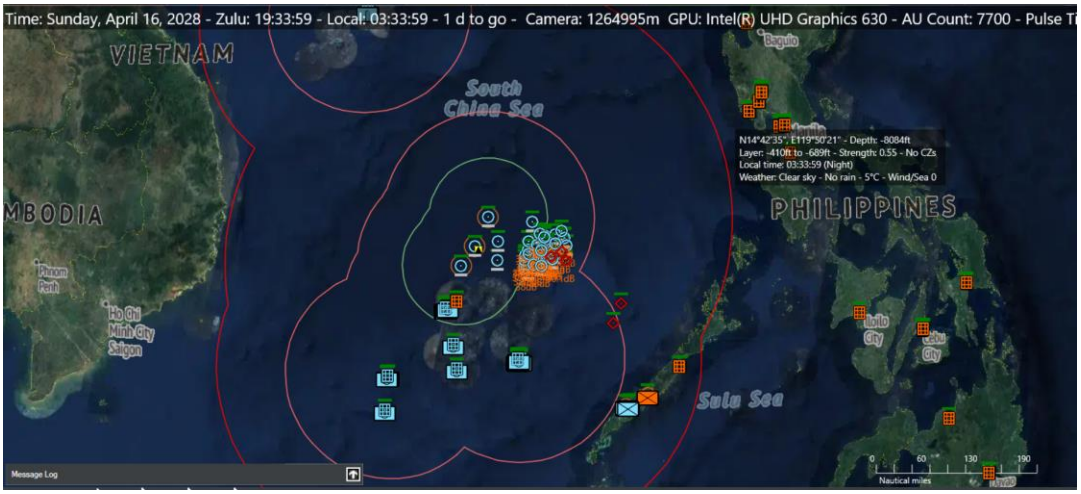
Initial state: Proliferation of PRC civilian fishing vessels results in a clash with a Filipino fishing vessel. PRC initiation of conflict leading to the loss of Filipino military and civilian personnel.

NSC Convened: Move 1

- Discussion of US response
- DEFCON 4
- US ODA supporting Filipino SOF (Special Operations Forces) attack NPA base killing 4 PLASOF Advisors, which is then publicized.

[1] The name of the wargame – Ba's Maze – is to not be confused with the commercially-developed game, Q-Ba-Maze. The name of the wargame originates from the Chinese character 霸 (ba), which means hegemony.

- Blue-Red interaction: US ODA kills Chinese SOF advisors allied with NPA, leading to a Chinese response
- **End of Move 1**



Move 1: The clash between Filipino military and Chinese civilian fishing vessels

Move 2

Initial state: PRC cyber-attack of key on-orbit Intelligence, Surveillance, and Reconnaissance (ISR) satellites.

NSC Response: Move 2

- Discussion of U.S. response
- RESPONSE TO ISR CYBERATTACK: U.S. Shifts to DEFCON 3
- Heightened U.S. presence and response: US submarine action (pinging PRC Attack Subs) leading to increased tension -
  - RESPONSE TO U.S. PINGING: PRC pings U.S. Sub in-kind
  - RESPONSE TO RETALIATORY PINGING: U.S. ISR Air FoN (P-8, RC-135, E2 flights) to compensate for loss of ISR satellite -
  - RESPONSE TO US AIR MANEUVERS: Hostile PLAAF interceptions
- RESPONSE TO PLAAF INTERCEPTIONS: Deployment of US long-range bombers (Guam)
- RESPONSE TO STRAT. BOMBER DEPLOYMENT: Heightened alert status of Chinese nuclear forces
- **End of Move 2**

Move 3: PRC Nuclear Event and U.S. response to nuclear event.

NSC Response: Move 3

- Discussion of U.S. response

- PRC kinetic removal of key on-orbit ISR satellite, threatening use of nuclear weapons
  - DEFCON 2
- USSF disables PRC on-orbit ASuW Kill Chain
- PRC initiates massive U.S. SCADA attack
  - Financial networks also cyber attacked
- U.S. Responds in kind with SCADA attack
- U.S. blockades all PRC bound shipping through Straits of Malacca - Surface
  - White Team guides Red escalation resulting in miscalculation as local PRC commander decides to use force, resulting in the loss of a U.S. ship and some personnel
- PRC issues a demarche demanding the removal of U.S. forces from strategic locations
- **End of Move 3**

Move 3: U.S. blockade of PRC bound shipping through Straits of Malacca

Move 4

Initial state: PRC initiates sub-launched nuclear torpedo attack against U.S. carrier killing 5,000 sailors.

NSC Response: Move 4

- Discussion of U.S. response
- Heightened activity at PLA missile fields. Mobile Erector Launchers are now mobile and unaccounted for
- DEFCON 1

Blue Force Observations

Takeaways:

1. Blue Force was highly risk-averse when considering climbing the DEFCON ladder. When intel reports, AI results, and White Force suggested a change in the DEFCON level, Blue Force consistently resisted until no other option existed. Fears of escalating to a nuclear exchange were the primary driver behind resisting.
2. There was limited ability to measure the effectiveness of diplomatic action; traditional containment strategy of bolstering regional allies' militaries and economies, creating regional coalitions, and attempts at bilateral communications had a limited effect on the outcome of each move (these points were all brought up in the ending plenary session).
3. There was a universal distrust and disregard for the Artificial Intelligence tool's advice. However, the "advanced" status of the Red Team's AI tool seriously influenced Blue Force's course of action. Enhancing the perceived threat of the opposing team's AI capability may be an interesting component in future renditions of Ba's Maze, as the *presence* of AI in the opposing team's decision-making was more influential on game flow than an AI tool itself.

Red Force Observations

Takeaways:

1. Red Force often opted for conventional forces, such as the deployment of carrier task forces in the Philippine Sea. This move occurred despite the White Force's suggestion of conducting a nuclear strike.
2. Red Force desired to avoid a nuclear exchange. Moreover, members of the Central Military Commission were less convinced that the PRC conducted the first strike in the scenario due to perceived incompetence.
3. Red Force capitalized on their United Nations veto power to hinder the United States, while relying on improving relationships with the Global South and regional allies to paint the United States as the imperialistic aggressor.
4. Red Force seemed to fully endorse cyber-attacks on key U.S. satellites. In the early moves, Red's key objective was to severe U.S. communication with the Indo-Pacific, leading to the endorsement of cyber-attacks on U.S. ISR satellites. Red was also comfortable with taking economic measures, such countering sanction by U.S. and Filipino companies.

Lessons Learned

The participants and the Wargaming Lab positively identified the following elements in the execution of the wargame:

1. Responsive White Force: The participants praised the efficiency and responsiveness of the White Force. In the NSC and CMC rooms, the White Force collected questions and answered them to the best of their ability. If they did not know the answer to the questions, the White Force relayed the inquiries to the White Cell via Slack. Moreover, the White Cell had situational awareness, as the White Force in the room launched separate Zoom meetings for the White Cell to listen in. By listening in, the White Cell delivered ad hoc injects to prompt Blue and Red to escalate.
2. Use of demonstrative technology: aside from Slack and Zoom, the White Force projected the movement of capabilities and troops by employing Command: Modern Operations. Aside from the projected simulation, the White Force prepared and distributed physical copies of the simulation for Blue and Red to refer to. The participants commended the visual aid for facilitating their understanding of the events as they unfolded.

The playtesting of Ba's Maze elucidated the following aspects of game design that require alteration:

1. Prepare comprehensive informational packages: the Wargaming Lab delivered informational packages with minimal information on capabilities, to familiarize the players with the conditions, without overwhelming them with detailed data. Consequently, the players relied heavily on the white cell to provide information throughout the game.[2] The Wargaming Lab will ensure that future informational packages are sent at least a week prior to the game, and are comprehensive, detailing capabilities relevant to their party. The documents will have additional sources to ensure that, if players want to deepen their knowledge of the scenario ahead of the wargame, they can do so via individual research. Moreover, the Lab will invite subject matter experts to assist the White Cell in responding to scenario inquiries during the game.
2. Alter the wargame's structure: after each move, the white cell did not have enough time to consolidate and alter the initial conditions for each move. The Wargaming Lab will ensure that the game 1) has less moves or 2) runs longer to allow the white cell enough

[2] The participants had voiced that their reliance on the White Cell derived from their unawareness of Blue/Red elements of national power (social, economic, political, and military) even after having read the read-ahead material. They particularly wanted greater insight into their Force's capabilities, both nuclear and conventional, and the deployment of Blue/Red forces.

time to adjudicate.[3] Furthermore, the Lab will host longer rehearsals to verify that the wargame's schedule allows sufficient time for adjudication.

3. Develop A.I. elements: participants were informed A.I. would be used during the game. The game, however, did not present a physical artificial intelligence tool to aid either Blue or Red. Thus, the game did not evaluate the utility or efficacy of using A.I. for decision-making during a crisis. The Wargaming Lab will ascertain whether to adapt an A.I. model in future iterations. If so, the Lab will elaborate a guideline for use and embed it into the scenario as an autonomous entity.
4. Allow greater agency to players: the structure of the game discouraged the participants as they chose to deescalate, and the initial conditions were escalatory. The Wargaming Lab will develop an alternative wargame structure that enables players to maintain their policies while driving escalation.[4]
5. Write in a third-party inject: the wargame concentrated on Blue and Red, without providing space for a Filipino representative to provide the Philippines in the escalation narrative. Future iterations of Ba's Maze will ensure fair representation of third-parties pertinent to the scenario.
6. Introduce interactions between Blue and Red: the players did not have time in the moves to interact, whether through virtual or in-person communication. Thus, the game structure did not allow diplomacy. In the future, the wargame will ensure time for diplomatic action.

[3] To fix the issue of insufficient time allocated towards adjudication and move execution, the Lab could design a one-sided game, eliminating the presence of a Red Force and focusing on a Blue Force's response to scripted CMC actions. Alternatively, the Wargaming Lab could maintain the presence of Blue and Red and design a matrix, with choices available for the teams at the end of the moves.

[4] As previously noted, the Lab will explore alternative types of wargames, such as a matrix game, to allow greater agency.