Overview

What is wargaming?

The best way to approach wargaming for complete newbies is to think of it as ‘glorified chess’.[1] Wargaming is an activity that at some level of abstraction attempts to model and simulate conflict. It makes use of gaming paraphernalia such as boards, pieces, cards and dice to represent actions, and actions and attributes prevalent in conflict. By following more or less strict rules, participants can battle through scenarios that are relevant to their organisation and how they can discover and explore different pathways through the scenario, perhaps testing a historical outcome, or experimenting with strategies to achieve a desired outcome.

Adversarial by nature, wargaming is a representation of military activities, using rules, data, and procedures, not involving actual military forces, and in which the flow of events if affected by, and in turn affects, decisions made during the course of those events by players acting for the actors, factions, factors and frictions pertinent to those military activities.[2]

Why not a computer game?

A manual board game confers several advantages over a computer game:

• Accessible mechanics – it does not require any technical knowledge or understanding to access rules, procedures, numbers and probabilities.
• Modifiability – it can easily be changed to suit the players needs, even during a game.
• Affordability – it does not require an expensive game design and programming team, nor expensive computer hardware.
• Compatibility – there are no problems transferring it within and between organisations.
• Human expertise – conflict is, at heart, a human activity, replete with quirks and foibles which are beyond the grasp of computer artificial intelligence, and which should therefore be tackled by human players to achieve pedagogical goals.

Who plays wargames?

The military is obviously the most prevalent user of wargaming, but tools and techniques have also permeated into the civilian world. Many businesses use wargaming as part of their planning operations, and several consultancy companies offer wargaming services. This professional user base is matched, even surpassed, by a cadre of dedicated hobbyists who drive the art of wargaming forward.

Benefits and Limitations

Like any learning tool, wargaming comes with a number of advantages and drawbacks.

Benefits:

• Cost – wargaming is significantly cheaper than actual combat operations, in terms of money, manpower and political investment.
• Creativity – being a participatory activity, wargaming has an immense capacity for exercising the uniquely human capability to create and innovate. In the words of Alfred H. Hursrah, ‘Gaming challenges the competitive spirit and spurs contenders to do their best in any given situation. It stimulates the search for new and more effective ways of meeting situations and encourages innovation.’[3]
• Experience – wargaming provides a manner of eronszt experience of the real thing. Such first-hand experience is much more engaging than text or imagery relayed through a second-party. Importantly, wargaming allows players to actually make decisions, not merely imagine them.
• Flexibility – the human experience is only consistent in that it is inconsistent and attempts to reduce the world to mathematically rigorous components have been futile. Wargaming tools come in a bewildering array of shapes, sizes and configurations that can be adapted as the situation requires.
• Safety – wargaming is devoid of the actual dangers of conflict because the one place it does not take place is on the battlefield. It is a ‘risk-free environment’[4] which ‘provides an opportunity for glory without gore and defeat without destruction.’[5]

Limitations:

• Abstraction – wargames are an imperfect reflection of reality. Though this makes them more accessible, increased abstraction also makes it more difficult to learn the desired lessons from the game. The illusion of reality is also a danger and players need to be aware that the game is an abstraction.
• Opponents – it takes two sides to make a wargame, and the success of the game hinges heavily on the ability of the opposition players to fill their roles well. This places great stresses on finding knowledgeable players. Sometimes these stresses can be transferred to the umpire, but it will never be possible to completely rid the game of personal opinion.
• Outcome – players can become too fixated on the final result of the game (victory or defeat) and lose sight of the subtler lessons learnt along the way.

Difficulties of Modelling Cyberspace

Cyberspace presents peculiar characteristics that make it difficult to model for wargaming.

Modelling Non-Space

The US military’s description of cyberspace as the fifth domain of warfare demarcates it as something – and somewhere – separate from the traditional domains of land, sea, air, and space. Unlike these, cyberspace is man-made and actually pinpointing what cyber components have and where it resides is contentious. Traditional methods for creating game boards do not translate to cyber, because cyberspace has no terrain features, let alone any maps to trace. Network maps are seldom useful as they are too technical and more indicative graphic representations than accurate geographical plots.

Non-Linear Time Progression

Traditional historical wargames are designed to cover a set time span, and the characteristics of the playing pieces, game board and rules are adapted to realistically emulate what could happen within this span. Each turn in the game represents the same amount of “real” time. The exact amount of time varies depending on the scale of the game, but the important thing is that they are consistent throughout the game. In cyber, while actual operations may be extremely fast moving, the build-up and after-effects can be long drawn out affairs. Dividing turns evenly across this time span is incredibly difficult, and turns at different stages of the game may represent different “real” time. Manipulating time like this is disorienting for players, potentially leading to disillusionment and disengagement.

Difficulties of Determining Capabilities

Designers of historical wargames have a wealth of information at their disposal, including accurate data about capabilities and performance. For cyber, no such information is available. Not only is there a dearth of historical data, but knowledge about adversarial capabilities are notoriously difficult to ascertain. Unlike rifles, tanks or cruise missiles, the weapons deployed in cyberspace have no physical characteristics which can be perceived, posing problems for intelligence gathering. Without good information about the ‘artefacts’, the representation of adversaries in a wargame becomes particularly complicated. Furthermore, computer hardware is not necessarily indicative of cyber capabilities, meaning this is not a useful measurement.

The Game

The Scenario

Shell is caught in the cyber-crossfire in a deteriorating geopolitical situation between Russia and Turkmenistan.

Materials Required

Three game boards (one per player and one for the umpire), loot and firewall markers, and attack cards found on this poster. Additionally, two playing pieces and one six-sided dice. Fog markers optional (manufactured from spare game board).

Objectives

• Russia player – infiltrate Shell side of game board, locate and extirpate loot, reach Shell starting point, avoid Shell playing piece.
• Shell player – prevent Russian player from reaching or extracting loot, prevent Russian player from reaching Shell starting point, capture Russian player.

How to Play

• Game lasts 10 turns
• Each player takes turns moving between connected nodes; Russian player may move two hexes per turn, Shell player one hex per turn.
• Shell player may place firewalls on any node links on their side.
• Russia must roll 4+ to pass through firewalls, 2+ if attack card played.

Results

• Shell = 2 points for every loot marker not captured.
• Russia = 2 points for every loot marker captured, 3 points for every loot marker exfiltrated, 5 points for reaching Shell starting hex, -1 point for finishing ending game on the blue side.

For complete rules or a demonstration, please contact the author.

References


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