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Naval wargames have a reputation for being boring. One of the main facets of the game, the gunnery, is commonly decided by dice. Games can seem to consist of large numbers of dice rolls reflecting the low hit rates of long range naval gunnery. To many, the number of dice can make the game dull. Pratt aimed to change that by using estimating as a way of determining hits (he also tried shooting, darts and tiddle-winks against paper silhouettes). The inspiration of estimating the range accelerated the pace of the game and gave players control of the most important aspect of the naval warfare, hitting the other side.

The original rules were written to cover 'modern' naval warfare. Modern being the 1930's. They were largely based on the experience of World War 1, in particular the action at Jutland. The Fletcher Pratt's Naval War Game accurately reflected the problems and results of naval combat.

The game was played with model warships on a floor, the larger was seen as better. However, an entertaining game can be played with just two players. Using a dice method of firing for one side, allows an entertaining solo game. Historically, Pratt saw large encounters with 60 or more on each side. They played using model ships of 1:1200 or 1:2400 scales.

The Basis of the Game The essence of the game is the amount of damage each ship can take. This is the result of adding together the standard displacement and more points based on armour, guns, speed etc according to a simple, but elegant formula. Typically destroyers have values between 5,000 and 10,000 points, cruisers between 25,000 and 80,000 and battleships between 100,000 and 150,000.

Similarly, ships' guns are assigned damage-inflicting capabilities in rough proportion to the weight of the shell fired by the gun. So six inch guns do 250 points damage per hit while the 16 inch rifles of battleship inflict a staggering 10,550 points per hit.

As the game progresses, the value of hits each ship has received is deducted from their point value. The speed and offensive power of the decrease is in direct proportion to accumulated damage. So when a ship has received damage equal to half its point value, her speed is cut by 50 percent and by half its guns (of each calibre) are out of action. The speed and guns remaining to a ship are determined by references to her ship card, on which is a pre-computed table of damage and effect. Below is an extract from a ship card for a British battleship.

BB King George V Class (class includes KG5, Duke of York, Anson, Howe) RN battleship

Guns	10 * 14” guns	range 74"	16 * 5.25” guns	AA 134 guns
Torpedo Tubes	0	points value	143,047	
Armour	Turret	8.5	Planes	3
	Belt	9.75	Speed	29 kn
	Deck	4.2	Tonnage	33,900

Damage received	knots
4,933	28

9,865	27
17,881	-2 * 5.25" secondary guns
47,682	-1 main turret (4 guns)

Until

Damage received	knots
133,182	2
138,114	1
143,047	wrecked

If this ship were hit by one 16 inch shell (10,550 points damage), its speed would be reduce to 27 knots (last entry on the card above 10,550 points). After three more 16 inch hits, damage would be enough to knock out a main turret (determined randomly). Damage would continue to accumulate with succeeding hits until the ship is sunk or the battle has ended.

At short range, hits may often penetrate the target's armour. If a hit does not penetrate the armour, it does half damage. Hits on ships broadside to the firing ship are assumed to strike the belt armour. Hits which strike ships from end-on, strike the usually thinner deck armour. A chart relating size of gun, thickness of armour and range is used to determine if armour has been penetrated.

How the Game is Played Each player is given a ship card and a measuring stick for movement plus firing arrows and paper on which to record damage to his ship. Each turn has three parts: A moving phase, a shooting phase and a measuring phase.

Moving Each ship is moved against a measuring stick with knots marked on it. Each division of the scale represents one knot of speed. In the halls Pratt used, 14 millimetres to the knot was used, however in these rules 1/4 " per kn is used to allow the game to be fought in a normal domestic room.

Ships must always move at least two knots so long as it is able. They may make a turn of up to 90 degrees (a right angle) on any move, The turn must be made in a natural arc using substantially all the length of the move. That is a ship may not make an abrupt 90 degree turn, then proceed farther in a straight line. A turn may be a "S" type shape providing that the sum of all angles remains less than 90 degrees.

Shooting A player fires his ship's guns by laying a firing arrow (or arrows if there are more than one target) near his ship and sighting it at his target. On a card beside the arrow, he writes the number and calibre of the guns being fired and his estimate of the range (in inches) to the target. Accuracy in range estimation is the key to success.

Normally, the first round of his salvo will be assumed to fall at the range he has written. Each of the remaining shells will fall one inch nearer the firing ship. A player may however specify any interval they wish between shells or ask that all be assumed to fall in the same spot.

Torpedoes are fired during the moving phase before the firing ship has moved. The torpedo direction is indicated by placing a pointed card adjacent to the position of the torpedoes on the model. It is marked with an arrow to indicate the course of the torpedo(es). All ships move, then the torpedoes are moved. They have a life of four moves and move at 38 knots (9 inches per move). A ship is hit if, at the end of any move, its hull is touched by the path of the torpedo travelled on that move. Torpedoes cause heavy damage, but as in actual combat, it is very difficult to hit an alert enemy.

Measuring In large games, Pratt had the players leave the room during the measuring phase and then the referees measure shots and determine hits. Having the players stay (at a distance) and see their hits measured is quite fun. When there are only a few players, they can measure each other's shots.

The referee should measure the range from the central funnel of the firing ship towards the target. Shots which fall on the target or no more than half inch beyond are hits. Shots less than that miss. Fall of shots are marked by upside-down golf tees, red for hits, white for misses.

The referees calculate the damage done to each ship and report it to the player acting as captain for the ship. Measuring done, the players return to the room and each is informed of the damaged sustained by his ship. By reference to the golf tees, each player can observe the results of his shooting. The game ends when all the ships on one side are disabled. (Based upon Original Rules by Fletcher Pratt, Summary by Donald Featherstone in Naval Wargames)

The rules strong points are the formula used for calculating ship's defensive strength, estimating the range and their simplicity.

The formula was an excellent way of quantitatively calculating the relative defensive virtues of different kinds of ships and establishing the number of hits they could take from various types of guns. It is a challenge to the other method of the rule writer estimating a defensive value based on their perceptions.

The key to the rules was estimating the range in inches to the target when firing. This helps make the game more interesting, as well as introducing morale into the game. As ships get hit, players get excited and are forced to act under pressure, the gunnery tends to become more erratic.

Another hidden aspect of the rules is introduced when indicating shell hits/ splashes by upturned golf tees (as they are the right shape). This introduces the historical factor where too many guns firing at one ship make it almost impossible to correct the gunnery (as it is hard to work out which splash is from which gun). It also means experienced players sometimes withhold the fire of their secondary batteries in order to avoid confusing the situation for their main guns.

The rules for the torpedoes make them difficult to hit with, but they commonly force the whole enemy fleet to turn away from the torpedoes wake (as they did historically). They are also invaluable in finishing off heavily damaged ships (and therefore slow moving) enemy ships.

A weakness of the rules is that they do not cater for the wild variation in damage caused by real gunnery. If unlucky, a single hit that penetrates the armour may sink your ship (about 0.6%

chance) through a magazine explosion. The Pratt rules work on average and cumulative damage disabling ships. .

Another weakness is the rules treatment of submarines and aircraft. The latter would be impractical to run with dozens of aircraft (as each AA gun has to estimate range and height to hit the aircraft moving on poles around the room. If 60 or 70 AA guns are shooting, it would be very time consuming).

A final weakness is not necessarily apparent at a first reading. Measuring up to 20 feet (using the Pratt's original ranges) makes estimating the range to hit small ships very hard and accurate measurement of such ranges and the exact bearing is a challenge. For example a player writes down an estimate of 16 feet, three inches and uses an arrow to show the angle of firing. An error of 1/10th of a degree makes the target point move several inches. Personally, I suspect the umpires just did their best and no-one was allowed to argue with their decisions!

My minor modifications updated the rules to include World War 2 and are clearly indicated as my modifications. The main modification is to reduce the ranges so a game can be played on a domestic room's floor.

The Game at COW The game at COW was a 1941 fleet action, representing a Japanese fleet of 3 battle cruisers supported by 4 light cruisers and 6 destroyers against a British fleet with 2 KG V battleships, 6 heavy cruisers, 6 light cruisers and 10 destroyers. Unfortunately, I failed to take notes, so I apologise for inaccuracies in my account.

Referees in the Fletcher Pratt Naval wargame have to be able to work very quickly under intense pressure from the Captains. So I was very pleased to have Aleck K to agree to referee. The players have 30 seconds to move and 30 seconds to place their firing arrows so the referees must measure, place the shots and announce damage in less than five minutes for all the ships involved. If you need that special referee to work under pressure, Aleck K is your man.

The Japanese were player umpires as I needed additional manpower to run the game to get the real feel of a fleet action with as many captains as possible on one side. Bob Cordory commanded the IJN, with Tony Hawkins, Phil Barker and someone else.

The RN was led by Ian Drury, with Sharon Langridge, Tim Gow, Martin Rapier, Nick Mitchell, Chris James, Phil Steele and many others (I should have taken notes).

The battle started with an air attack by novice Japanese torpedoe bombers. As they were novices, they could not hit an island, let alone a ship (flying at 120mph, dropping a torpedo going at say 38 kn against a target doing 30+ kn, which is zig zagging takes training, lots of it. This is not taking into account the hundred AA guns firing at you). However, the RN had deployed all their light ships to either flank and were too far away to provide a flak screen, so all the big ships could do was turn away from the torpedo attack. This meant that the coordinated cruiser and destroyer attack went in 3-4 turns ahead of the supporting battleships reaching their gunnery range.

The 3-4 turns meant that the IJN turned its main guns on one of the RN flank attacks and devastated it. On the other flank, the RN beat its way through the thin Japanese screen (despite Phil Barkers ramming a British destroyer). The RN used its torpedoes against the thin Japanese screen instead of saving them for the battleships.

Bob Cordory calming replaced the ship model of a Japanese battle cruiser with that of the battleship Yamato (a formidable ship that could sink both British battleships on its own). The battleships exchanged fire, when Phil Steele and Sharon Langridge fired a spread of their torpedoes from their destroyers at the Yamato. They had arrived and fired unnoticed by the Japanese. The Yamato took 2 torpedo hits, minor damage but somewhat unsettling.

The British turned away as I think they realised that with the appearance of the Yamato that they were outgunned and their escorts had no more torpedoes to hit the Japanese with. The Japanese also turned away as the Yamato had taken two torpedo hits and their battlecruisers had taken some minor damage. Both sides decided to keep their 'fleets in being'.

The game had some interesting aspects. First it was a fun naval wargame. The size of the game (floor area and number of captains) meant that historical factors happened without rules. (1) the failure of the RN escort ships to start their torpedo run at the same time as their battleships opened fire allowed the enemy to concentrate its fire. (2) the escorts used torpedoes on each other instead of keeping them for the major enemy fleet units (3) torpedoes openly deployed on the floor hit as they went unnoticed in the heat of the battle (4) the captains actually felt they were under pressure in the game (5) uncertainty as to who had hit what during the battle. (6) Both sides breaking off the fleet action while convinced the other side was trying to carry on. (6) The British escorts actually engaged each other for two turns (and missed).

Medals were awarded on both sides, including: Phil Barker for his suicidal, but culturally valid ramming, Phil Steele and Sharon Langridge for sailing up with two destroyers to torpedo 3 enemy capital ships. Chris James for continuing to close against overwhelming enemy firepower etc…

The session was a fun game and I am happy to recommend the Fletcher Pratt Naval wargame as the best fleet action naval wargame.