Rear Admiral Henry John May and Fred Jane's 1898 Naval War Game

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En 1898, Fred T. Jane a commercialisé un jeu de guerre naval populaire destiné aux officiers de marine professionnels et aux membres du grand public qui s'intéressaient à la marine. Afin de rendre son jeu de table aussi réaliste que possible, Jane a demandé les conseils et l'aide de particuliers œuvrant au sein des établissements de la Marine de plusieurs pays. La présente note de recherche sauve de l'oubli le jeu de guerre naval original de Jane ainsi que le rôle joué par Henry J. May dans la promotion des interactions intellectuelles entre les officiers de marine professionnels et les experts civils bien renseignés, tels que Fred Jane et l'historien Julian Corbett, dans les domaines de la stratégie et des tactiques navales.

Fred T. Jane is best known for knowledgeable enthusiasm in naval affairs and his name that inspired a lasting and trusted corporate brand in the military and defence fields. Janes, the trade name for Jane's Information Group Limited, has been amongst the most recognized commercial sources of authoritative information and structured data on militaries, armies, navies, and air forces for over a century, and according to its website, has since "transitioned from a traditional military publisher to the leading global agency for open-source intelligence."[1] The products that Janes sells have always been comparatively expensive and continue to fetch a high premium for serials, books, databases, and digital access documents catering to a professional audience. From the start, the impetus of sales and profits combined with a commitment to delivering information and analysis to a suitable standard in a form conducive to practitioners.

Fred Jane, at heart, was an entrepreneur of military thought and technical ideas. His writings, illustrated art, reference works, and series of games focussed on the material and decision aspects of deployed naval forces, during peacetime and under imagined war conditions. A tactical naval war game first introduced in 1898

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[1] www.janes.com accessed 10 December 2020.

enjoyed some measure of commercial success and acceptance within navies. The game complemented the launch and boosted sales of his opus reference *All the World's Fighting Ships*, first pulished in the same year, with text in English, French, German and Italian. In the development and marketing of the game invention, Jane drew upon certain professional and personal connections to add accuracy and improve play. Henry May, then a captain in the Royal Navy, was specifically mentioned along with others. The extent of that contribution of these two men, situated in the context of instructing naval officers for the technical and operational demands of modern warfare at sea, follows here. Fred Jane came to be considered one of the founders of serious wargaming, in terms of popularity and professional interest, although by the standards of today, the actual game is quite crude and plodding.[2] The 1898 naval war game rules appear after this introductory background in annotated full text.

Figure 1: The cover of Fred Jane's first novel, *Blake of the Rattlesnake* (author's collection)

Jane's chosen vocation of illustrator and writer offered at first glance few opportunities and a precarious existence prior to his breakout as an author and journalist of contemporary affairs. Biographer Richard Brooks provides the fullest details on the man and his life. The son of a clergyman, Jane grew up in and around Exeter within a family of modest means.[3] After finishing school, he went to London at the age of twenty and rented space big enough for living accommodation and a drawing studio. In a time before photography was mainstream, newspapers and serial magazines relied upon hand-drawn sketches and artwork to accompany topics of interest and catch the eye of readers. Despite having little formal art training, Jane persistently shopped his artistic drawing creations to various publishers, and in time gained sufficient acceptances and commissions to earn a living.[4] Out of
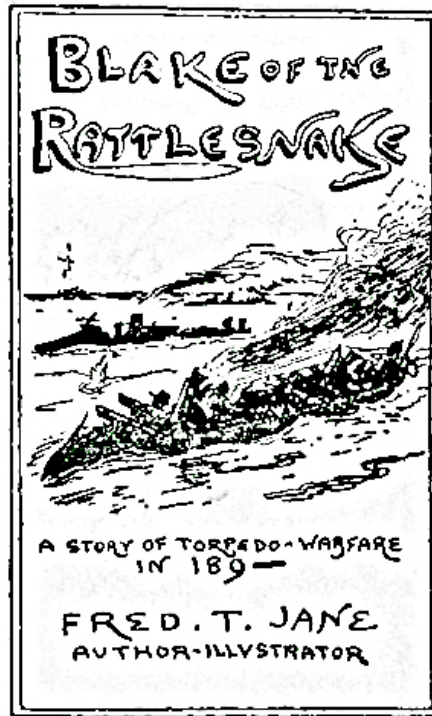
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2   Robert C. Rubel, "The Epistemology of War Gaming," *Naval War College Review* 59: 2 (Spring 2006), 108-28; Stephen P. Glick and L. Ian Charters, "War, Games, and Military History," *Journal of Contemporary History* 18: 4 (October 1983), 567-82.
3   Richard Brooks, *Fred T. Jane: An Eccentric Visionary* (Coulsdon, Surrey: Jane's Information Group, 1997), 10.
4   Richard Brooks, "How Fighting Ships Became Jane's," *Naval Institute Proceedings* 122: 12

interest and pushed in that direction by editors, Jane gravitated toward technical subjects, in particular warships. He sketched and described naval manoeuvres in the English Channel as a freelance or special correspondent, and went aboard individual ships in the fleet for shorter and extended cruises. He was interested in most ships, not the just the newest, as demonstrated in his drawing of the three-masted armoured cruiser HMS *Northampton*, an older warship in reserve and being used for training on which he sailed in 1890. Throughout his life - marriage in September 1892, father of a daughter several years later, and progressively moving up into better London neighbourhoods - Jane remained fascinated by naval craft and armaments and followed new developments in the field and across countries closely.

Already an accomplished contributor to illustrated news magazines focussed on military and naval topics, he began illustrating and writing works of fiction and non-fiction. *Blake of the Rattlesnake*, a lavishly illustrated novel with an engaging personal narrative, published in 1895, followed the exploits of a young hero aboard a destroyer conducting naval operations against attacking continental powers.

> I have not sought or attempted in this story to settle any vexed questions of theories or tactics; such matters are no concern of mine. I have tried instead to work into story-form some of the romance that clings thick around the torpedo service, to set forth some of the poetry latent in torpedo craft…
> It has been my good fortune to have had a good share of experience in torpedo craft during the naval manoeuvres of the last few years, and on incidents thus participated in I have based this tale. Manoeuvres, of course, are not war; but in the torpedo service at any rate, they are carried out with as much approximation to the actual thing as can be managed. For the rest, I have sought to work out my results from what is held by those who, in the event of war, will have to stake their lives upon their beliefs.[5]

Written from a perspective within the naval service by an informed outsider, the work was comparative, structured in consideration of data about capabilities, and comfortable with the minutia of technical qualities. Jane dabbled in writing science fiction with first *The Incubated Girl* using the same publisher as *Blake of the Rattlesnake* and then *To Venus in Five Seconds*, whilst producing a steady stream of warship drawings that would eventually form the basis for *All the World's Fighting Ships*.[6] Through *The Times* naval correspondent William Laird Clowes, whom Jane had met on HMS *Northampton* years previous and stayed in touch, an introduction was made to Richard Marston, the managing director of publisher

Sampson Low, Marston and Company.[7] Jane outlined his ambition to produce a warship recognition and characteristics reference source geared toward domestic and foreign buyers, that could be updated with the latest technical and professional details across a range of navies, in multiple languages. At the same time, he pitched a naval war game making use of data from the reference book, that he had developed for some years and engaged naval professionals in its design and play. Marston, despite taking on the risk of a new author, generally liked the idea of cross-product sales and marketing that tapped into a rising wave of navalism inside and outside Great Britain.[8] Most importantly, Jane's proven ability to produce quantity and quality of content to tight deadlines, thanks to his experience as a journalist, was priceless. The publisher needed good sellers. Lastly, the connections and standing that Jane enjoyed with persons within navies, some willing to endorse publicly his books and game, was another sweetener. The active support of naval officers conferred credibility onto Jane's published work.

Although Jane referred to himself as the inventor of the naval war game, simulation of battle and tactical engagements in warfare using artificial parameters and set rules, far away in time and distance from the field of action, received greater attention from naval officers over the previous decades. Prussian military officers, pioneered by nobleman Georg von Reisswitz and his father, developed rules for the tabletop *Kriegsspiel*, a form of wargaming intended to practice tactical movements, dispositions, and command decisions in a safe environment.[9] Subsequent editions of rules became too complex and convoluted in chasing realistic depiction of actual affairs. During the 1860s, a junior officer, Wilhelm Tschischwitz simplified and updated the rules to reflect modern advances that distinguished between rigid and free varieties of *Kriegsspiel*, the first relying on the chance of dice rolls and the second on verdicts of umpires.[10] After Prussia's stunning victories over Austria and France in the German wars of unification under master strategist Helmuth von Moltke (a strong proponent of war games), foreign militaries took greater interest in wargaming and its application in military training and education, the

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[7]   Brooks, *Fred T. Jane*, 30-31. Clowes was an established author with Sampson Low, and Marston, and published several books that included writing a multi-volume Royal Navy history. William Laird Clowes, *The Royal Navy: A History from the Earliest Times to Present*, 7 vols. (London: Sampson Low, Marston and Company, 1897 - 1903).

[8]   Jane had first engaged a Yorkshire publisher, Netherwood and Dalton, but initial sales were poor. Bert Chapman, "The Origins and Development of Jane's Fighting Ships," *Reference Services Review* 2: 1 (Spring 1993), 72.

[9]   Georg Heinrich Leopold von Reisswitz, *Anleitung zur Darstellung militäirische Manöver mit den Apparat des Kriegsspiels* (Berlin, 1824); Milan Vego, "German War Gaming," *Naval War College Review* 65: 4 (Autumn 2012), 108-09; Matthew Kirschenbaum, "Kriegsspiel," in Henry Lowood and Raiford Guins, eds., *Debugging Game History: A Critical Lexicon* (Cambridge: MIT Press, 2016), 280-84.

[10]   Jorit Wintjes, "Europe's Earliest Kreigsspiel? Book Seven of Reinhard Graf zu Solms *Kriegsregierung* and the 'Prehistory' of Professional War Gaming," *British Journal for Military History* 2: 1 (November 2015), 16-19.

Kriegsspiel rules being translated from German into English in 1872.[11] The British Army inaugurated regular war games with semi-official sanction. In 1873, the Royal Navy's Lieutenant William Castle presented a navalized version of free *Kriegsspiel* for the enjoyment and instruction of naval officers.[12] Uptake, however, was limited, and the Admiralty never officially acknowledged the value of wargaming.[13] Naval education given to seamen officers for much of the nineteenth century was largely relegated to practical seamanship, navigation, and technical subjects. Perception was that command was ingrained through service traditions and social belonging, not learned. In such an environment, wargaming faced obstacles in moving from a gentleman's pastime to useful professional tool. In 1879, the budding historian and reform-minded Captain Philip Colomb published *The Duel*, an enhanced game of tactical evolutions based on experimental play by members of the Royal United Service Institution.[14] For the most part, Colomb was more interested in the movement of ships rather than testing fighting capabilities, acknowledged as somewhat problematic in his game. The British Library has preserved in its collection several examples of subsequent short naval war games coming from within the Royal Navy, one by Lieutenant Owen Gillet in 1888 and another under the pseudonym Britannia in 1894.[15] Lacking any sort of encouragement from official channels, the initiative was left to individual naval officers to search out opportunities for broadening of intellectual pursuits and the type of experimentation that games fostered. With this in mind, Captain Henry J. May learned of Fred Jane's efforts to design a realistic naval war game and wrote him directly as an interested party.[16] The assistance from this senior officer with the right mixture of intellect and experience was instrumental in elevating the naval game to a higher form amenable to professional scrutiny.

Henry John May's service in the Royal Navy spanned several decades that featured employment in a variety of roles and appointments. Since he died early in age, a decade before the First World War, his achievements and contributions to naval education and training are still relatively under-appreciated. Available

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[11]   Matthew B. Caffrey Jr., *On Wargaming: How Wargames Have Shaped History and How They May Shape the Future*, Newport papers no. 43 (Newport, RI: Naval War College, 2019), 20.

[12]   W.M.F. Castle, "On the Game of Naval Tactics," *RUSI Journal* 17: 75 (1873), 786-805.

[13]   Christopher Yi-Han Choy, "British War-Gaming, 1870-1914," (MA paper, King's College, University of London, 2013), 30-31.

[14]   Philip H. Colomb, *The Duel: A Naval War Game* (Portsmouth: Griffin & Co., 1879); P.H. Colomb, "Broadside Fire, and a Naval War Game," *RUSI Journal* 23: 101 (1879), 507-35; D.M. Schurman, *The Education of a Navy: The Development of British Strategic Thought 1867-1914* (London: Cassell, 1965), 39-42.

[15]   Owen Francis Gillett, *Lieut. O.F. Gillett's Undine Naval War Game* (London, 1888), British Library (BL), London, general reference collection 8807.aa.40.(2.); Britannia, *Naval War Game*, BL, general reference collection 8805.aa.36.(6.). Another dice-based game titled *The Game of Naval Blockade* was presented by the secretary of the Royal Naval College at Greenwich, the retired naval lieutenant Henry Chamberlain, in 1888. H. Chamberlain, "The Game of "Naval Blockade," *RUSI Journal* 32: 144 (1888), 525-37.

[16]   Brooks, *Fred T. Jane*, 92.

information has been gleaned from genealogy records and his service records held in a few files at The National Archives in Kew.[17] Like Jane, May's father was a clergyman, a vicar in South Petherwin, Cornwall, where he was born on 20 February 1853. His brother, Arthur William May, born a year after, also joined the Royal Navy and attained the rank of surgeon vice admiral and a knighthood as director general of the medical department at the Admiralty between May 1913 and June 1917.[18] Henry May entered service in May 1866 at the age of thirteen. He had been one of ninety-five candidates nominated and successfully passed the Royal Naval College entrance exam. On graduation in September 1872 he received a prize of books for his academic achievements. This was the first of several awards he would receive over the next five or six years for high standing on courses. He was promoted to lieutenant at the end of December 1872. In September 1877 he went to HMS *Excellent* for the gunnery lieutenants course. Two years later he qualified with a first class standing. His performance reports in the junior officer ranks were consistently rated excellent. May participated in the Mediterranean fleet's naval bombardment and attack on the forts at Alexandria in July 1882, commanded by Admiral Frederick Beauchamp Seymour, for which he received special promotion to commander and the Egyptian medal with Alexandria clasp.[19] May served as assistant secretary to the Ordnance Committee from October 1882 to December 1886, giving him valuable staff experience and insights into the material side of the Royal Navy. A recorded notation dated 6 April 1883 during courses of instruction in torpedoes and gunnery at HMS *Vernon* read: "Very zealous & hardworking & serious executive officer. Trustworthy & reliable. Speaks French."[20] He took command first of HMS *Condor* in the Mediterranean, and in October 1887 transferred to HMS *Racer*, a 112-man, eight-gun sloop.[21] When Madhist forces threatened the Sudanese port city of Suakin on the coast of the Red Sea, HMS *Racer* and the gunboat HMS *Starling* arrived to support Egyptian and Sudanese military forces under British command on land. May was mentioned in despatches, and specifically in the report from Major General Francis Grenfell, for his actions during a decisive battle in December 1888, that led to the rout and withdrawal of the enemy forces investing the port.[22] Well aimed quick-firing naval guns raked opposing positions, while the imperial forces advanced

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[17]   Jorit Wintjes and Isabell Bachmann, "'Noble-minded friends and comrades': Statistical and personal network analysis of Royal Navy officers between 1840-1889," *Mariner's Mirror* 105: 3 (2019), 350-55.
[18]   Service record, Vice Admiral Arthur William May, The National Archives, Kew (TNA), ADM 196/10/141.
[19]   "The Bombardment at Alexandria," *St James's Gazette*, 9 August 1882; "The Bombardment at Alexandria," *Daily Telegraph & Courier* (London), 9 August 1882.
[20]   Service record, Rear Admiral Henry John May, pt. 1, TNA, ADM 196/39/131.
[21]   "Naval Appointments," *Hampshire Telegraph* (Portsmouth), 8 October 1887.
[22]   *London Gazette*, 11 January 1889; James Andrew Fargher, "Steam, Cannon and Wires: The Royal Navy and British Imperialism in Northeastern Africa, 1799-1899," (PhD thesis, University of London, 2018), 261-62. Later in the summer, Sultan of the Khedive of Egypt bestowed the recognition of third class Osmanieh on May in connection with the Suakin operations. *The Times* (London), 24 July 1889.

THE NEW NAVAL WAR GAME: OFFICERS PLAYING A FLEET ACTION ON H.M.S. "MAJESTIC"

Figure 2.Jane's Naval War game aboard the Channel Squadron's flagship.
(*The Graphic*, 29 January 1898)

taking fewer than forty casualties of their own. May was promoted to captain on 16 January 1889 and reported back to active service in May 1889.[23] He was appointed a member of the Ordnance Committee in October 1889, and inspector of warlike stores in May 1890, with a consolidated pay of £800 annually. In May 1892, the Queen's birthday honours list included May as a Companion of the Bath (CB), that came with a garden party invitation to Government House in Portsmouth from hosts HRH the Duke and Duchess of Connaught.[24] Following service on a committee of ships complements, May assumed command, on 10 October 1892, of the eight-gun corvette (reclassed third class cruiser) HMS *Hyancinth*, headed to the Pacific station along the western coast of North America.[25]

May's command of a Royal Navy warship, even an older one recommissioned into service for patrol and policing duties, was obviously welcome, with particular import for the Jane naval war game. In fact, he was so pleased that his fourth child, a newborn daughter on 5 October 1892, was named Hyancinth after the

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[23] HMS *Racer* left Suakin on 27 December 1888, and was relieved by another warship at the Suez on 14 January 1889. "According to the latest advices received from Suakim [sic] there is much sickness on board the *Racer*, Commander Henry J. May, and the third class cruiser *Scout*, Commander Conybeare, has been sent to relieve her. The *Racer* is to return home to Devonport to be paid off, having been commissioned at that port on the 9th of April 1885," *Portsmouth Evening News*, 19 January 1889; "Naval and Military Intelligence," *The Times* (London),7 January 1889.
[24] "Naval and Military News," *Portsmouth Evening News*, 25 May 1892.
[25] May's service record has this date, but the appointment was publicly announced from 22 September 1892. "Naval & Military Intelligence," *The Times* (London), 27 September 1892: "Naval Appointments," *Portsmouth Evening News*, 27 September 1892; "Naval Appointments," *Hampshire Telegraph* (Portsmouth), 1 October 1892. His wife Constance was expecting a child at this time.

ship and colourful lily flower native to the eastern Mediterranean.[26] Esquimalt, on the southern end of Vancouver Island in British Columbia, a province in the new dominion of Canada, was a long way from London and Portsmouth.[27] The passage out was lengthy, and the vast expanses of the Pacific Ocean made getting anywhere wearisome. Barry Gough has described the Royal Navy's activities on this distant station up to the First World War, which encompassed waters from the Bering Sea down to Cape Horn.[28] HMS *Hyancinth* belonged to a naval squadron performing imperial functions of protecting British interests, reassuring people in the territories of the British Empire fronting the Pacific, and in the event of war, sea defence and limited attack until reinforcements arrived. May's approach to Jane inquiring about the naval war game was in part to find ways to offset the boredom associated with long sea voyages and extended periods spent in one place with little to do, as much as professional curiosity. He was actually a bit underwhelmed by the draft rules that Jane sent to him, which he considered lacking in certain respects. May rewrote parts of the rules and offered suggestions for improvement. While standing by HMS *Hyancinth* refitting in the graving dock at Esquimalt, the industrious captain revised the ordnance tables governing the game's gun actions, by drawing upon his deep experience in the field and at the Admiralty with naval ordnance.[29] May and his subordinate officers then beta-tested various iterations of the game during an annual cruise to see what worked best, over and over again. Many of the glaring deficiencies in the game were therefore resolved.

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[26]   May's daughter Hyacinth May lived to age eighty-five, and died in Lloydminster, Saskatchewan in August 1978 where she is buried in the Lloydminster cemetery, Sec J block 23 Grave 7. Her husband Frank Westmoreland Wood predeceased her.

[27]   Roger Parkinson, *The Late Victorian Navy: The pre-Dreadnought era and the origins of the First World War* (Woodbridge: Boydell & Brewer, 2008), 66; Daniel Owen Spence, *A History of the Royal Navy: Empire and Imperialism* (London: I.B. Tauris, 2015), 99; Bryan Elson, *Canada's Bastion's of Empire: Halifax, Victoria and the Royal Navy 1749-1918* (Halifax: Formac Publishing, 2014), 54-56. The Royal Navy's China station, on the other side of the Pacific at Hong Kong, possessed larger strategic challenges during this period. Kwong Chi Man, "'They are a Little Afraid of the British Admiral': The China Station of the Royal Navy during the First Sino-Japanese War, 1894-1895," *International Bibliography of Military History* 35: 2 (2015), 98-118; Scott Lindgren, "A station in transition: The China Squadron, Cyprian Bridge and the first-class cruiser, 1901-1904," *International Journal of Maritime History* 27: 3 (August 2015), 462-64.

[28]   Barry M. Gough, *The Royal Navy and the Northwest Coast of North America 1810-1914* (Vancouver: University of British Columbia Press, 1971), 244; Barry M. Gough, "The Records of the Royal Navy's Pacific Station," *Journal of Pacific History* 4 (1969), 146-53; John Bach, "The Maintenance of Royal Navy Vessels in the Pacific Ocean, 1825-1875," *Mariner's Mirror* 56: 3 (1970), 259-73; Andrew Lambert, "Economic Power, Technological Advantage, and Imperial Strength: Britain as a Unique Global Power, 1860-1890," *International Journal of Naval History* 5: 2 (August 2006). The stations and squadrons supported the Royal Navy's network of world-wide coaling stations.

[29]   "The Cruise of the Hyacinth," *Western Morning News* (Plymouth), 5 October 1893.

Table 1. Royal Navy warships on the Pacific station in 1894

Name	Class Type	Tonnes	Guns	Command
HMS *Royal Arthur*	first cruiser	7,700	13	Captain Frederick P. Trench
(flagship of Rear Admiral Henry F. Stephenson, CB)				
HMS *Champion*	third cruiser	2,880	12	Captain Eustace Rooke
HMS *Satellite*	third cruiser	1,420	8	Commander Albert C. Allen
HMS *Hyacinth*	third cruiser	1,420	8	Captain Henry J. May, CB
HMS *Nymphe*	sloop	1,140	8	Lt./Commander H. Huntingford
HMS *Pheasant*	first gunboat	755	6	Commander Edward H. Blair
HMS *Liffey*	late frigate	3,915	-	
(stores and depot ship under command of Staff Commander William J. Symons)				

Source: *Daily Telegraph & Courier* (London), 5 October 1894.

For the most part, May's time spent in the Pacific was happy and fruitful. Though in connection with grounding of HMS *Hyancinth* off the coast of Peru, "My Lords concur with the decision conveyed to him by the C.in.C. that in view of the attendant circumstances more judgment should have been shown by him in the course steered." [30] Captains of warships shouldered responsibility for mishaps and ill-adventure. Rear Admiral Stephenson, during a later inspection in September 1895, commented, "Ship clean & Ship's Company fine and clean," and May was thanked by the Admiralty for a "very interesting report on French Oceania." After *Hyancinth* was relieved May took her home, arriving in April 1896. He was immediately sent to HMS *Excellent* for a brief gunnery course. Once qualified, he was appointed senior member of the Ordnance Committee in May 1896, and naval member of the inter-service Ordnance Committee, representing the gunnery branch. A newspaper correspondent speculated about his prospects: "Captain Henry J. May, C.B. is likely to be given the command of the *Cambridge*. He has been a member of the Ordnance Committee and Inspector of Warlike Stores for the Navy. His last service afloat was in that old tub the *Hyancinth* on the Pacific Station. He is a very young man for his seniority, having twice been specially promoted."[31] Talents in writing and analysis were soon on demonstration as well. During 1897, May set forth his observations on the practical and theoretical application of modern armaments on naval movement under battle conditions, in a two-part published paper titled "Notes on Tactics for Ships and Weapons of the Present Day."[32] The explication was detailed, considered, and highly technical. He

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[30]   Service record, Rear Admiral Henry John May, TNA, ADM 196/86/78.
[31]   "Naval Notes," *Globe* (London), 20 November 1896. HMS *Cambridge* was the gunnery school near Plymouth.
[32]   H.J. May, "Notes on Tactics for Ships and Weapons of the Present Day," *RUSI Journal* vol. 41 issue 227 (1897), 48-82; vol. 41 issue 228 (1897), 201-23. Arthur J. Marder, *The Anatomy of British Sea Power: A History of British Naval Policy in the Pre-Dreadnought Era, 1880-1905* (New York:

had obviously given the matter lots of thought in Esquimalt. The association with Jane and his game was renewed in May's spare-time through meetings and social occasions at the Royal United Service Institution.

The roll-out of the naval war game in 1898, in conjunction with *All the World's Fighting Ships*, occasioned much accompanying promotional activity and fanfare. Besides May, Jane identified two other naval captains, Grand Duke Alexander Mihailovitch of the Imperial Russian Navy and Prince Louis of Battenberg, Royal Navy, who had taken keen interest in the game's development at various stages. A little name dropping of famous royal cousins never hurt. Jane presented a paper at a Royal United Service Institution session on 17 June 1898, chaired by Vice Admiral William Kennedy, that gave an overview of the naval war game and the intended goals and audiences.[33] Publication of the rules preceded the availability of the felt-lined game wood box set for purchase. In that sense, the talk really represented a primer for increasing some awareness and interest amongst the professional listeners. On both points, he came away somewhat frustrated. The topic attracted little discussion afterwards, and in fact, some officers privately grumbled about the strange nature of the game's conduct. The wood paddles in the box and card scoring system for hits described by Jane did not help much. Any war game in the naval context was an artificial simulation, and represented, like reading a novel, a suspension of belief on the part of participants.[34] It was never meant to replicate actual events or actions; the value was in the dynamics of play and understanding. Later in the year, Jane used his position as naval correspondent for *The Engineer* periodical to describe the elements and workings of the naval war game to a wider audience, in the third person.[35] In the meantime, the naval war game was played in private settings and wardrooms amongst naval officers and interested civilians who had made a purchase, or borrowed from Jane or the publisher on a trial basis. He moved his wife and family to Portsmouth, and became a central figure in a naval wargaming society that met regularly in the Nelson room at the George Hotel.[36]

Overall, the naval war game's early reception was tentative. Some really liked

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A.A. Knopf, 1940), 517-19. For the ship design side, see Don Leggett, "Naval architecture, expertise and navigating authority in the British Admiralty, c.1885-1906," *Journal of Maritime Research* 16:1 (2014), 73-88.

[33] Fred T. Jane, "The Jane Naval War Game," *RUSI Journal* 43: 252 (1899), 148-60. Jane had an up and down relationship with the Navy League, toward which many RUSI members felt affinity. Bradley M. Cesario, "The Admiralty, Popular Navalism, and the Journalist as Middleman, 1884-1914" (PhD thesis, Texas A&M University, 2016), 79.

[34] Peter P. Perla, *Design, Development, and Play of Navy Wargames*, Professional paper no. 450 (Washington, D.C.: Center for Naval Analyses, 1987), 1; Maurice Sucking, "Board with Meaning: Reflections on Game Design and Historiography," *CEA* [College English Association] *Critic* 79: 1 (March 2017), 110-11; Peter P. Perla and Ed McGrady, "Why Wargaming Works," *Naval War College Review* 64: 3 (Summer 2011), 112.

[35] Fred T. Jane, "An Introduction to the Fred Jane Naval War Game," *The Engineer* 86 (9 December 1898), 581.

[36] Angus Sherlock, "The Naval War Game and How it is Played," *The Strand Magazine* 27 (June 1904), 477-79.

moving and fighting the ships around the sheets according to the rules, while most were inclined to criticize the whole exercise or parts of the game that they found convoluted and unrealistic. Thankfully, the first group generally came back for more play. May, who spoke in favour of the naval war game and encouraged its adoption by all officer ranks, took command in January 1899 of the near-new Majestic class battleship HMS *Mars* in the eastern division of the Channel squadron.[37] His new ship was handsomely illustrated in *All the World's Fighting Ships*, and a box game set was onboard. In late 1899, Jane was back at the Royal United Service Institution for delivery of another paper that explained the strengths of the naval war game as he saw them, and cautioned what it was meant and not meant to do.[38] The game, he acknowledged, was still in its infancy and needed some improvements, based on experience from played sessions and feedback that he had received. The publisher was ready to market wood ship models at 1:1200 scale, sold individually or in sets for game use. There were 104 in total representing fourteen countries.[39] This reinforced Jane's conviction that the primary utility of the naval war game was to comprehend relative characteristics of warships and armaments, and not explicitly teach lessons in naval tactics and strategy. Nonetheless, for naval officers exposed to the naval war game, those types of questions began to be raised.

Henry May was soon at the centre of the Royal Navy's nascent attempts to better educate naval officers aspiring to higher leadership positions, in applying thinking and analysis to complex problems. On 18 September 1900, he was appointed captain of the Royal Naval College in Greenwich.[40] The position involved teaching, administration and disciplinary roles. May had stepped in to lecture on history and naval tactics in a void left by Vice Admiral Philip Colomb's death in October 1899.[41] The Royal Navy was behind navies in other countries and even the British army, in providing suitably challenging advanced instruction to its mid-rank and senior officers. To correct this deficiency, the Admiralty approved a suggestion supported by the director of naval intelligence, Rear Admiral Reginald Custance, for establishment of a naval war course in October 1900. May became the director, alongside his other duties, reporting to the president of the Royal

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[37] "Naval & Military Intelligence," *The Times* (London), 18 September 1900; Eric Grove, *The Royal Navy since 1815: A Short History* (Basingstoke, Hampshire: Palgrave Macmillan, 2005), 81; John D. P. Winters, "Prelude to Dreadnought: Battleship Development in the Royal Navy, 1889-1905" (PhD thesis, Ohio State University, 2010), 154; Matthew S. Seligmann, "A Prelude to the Reforms of Admiral Sir John Fisher: The Creation of the Home Fleet, 1902-3," *Historical Research* 83:221 (August 2010), 506-19.
[38] F.T. Jane, "Tactics in the Jane Naval War Game, As Exhibited in Various Navies," *RUSI Journal* 44: 265 (1900), 248-57.
[39] Richard M. Anderson, "A Review of Small Waterline Models," *Warship International* 1: 12 (1964), 39.
[40] Service record, Rear Admiral Henry John May, TNA, ADM 196/41/0/28.
[41] Harry Dickinson, *Wisdom and War: The Royal Naval College Greenwich 1873-1998* (Farnham, Surrey: Ashgate, 2012), 70; Notes on War Courses, Edmond J.W. Slade to J.S. Corbett, 20 May 1906, Caird Library, National Maritime Museum, Greenwich (NMM), Julian Corbett papers, CB/13/2.

Figure 3: Rear Admiral Henry John May, CB, RN. (*Navy and Army Illustrated* 15, 28 March 1903, 703).

Naval College.[42] As of 13 March 1901, he started receiving a good service pension of £150 per year granted to elected captains of merit. May almost singlehandedly put together curriculum, handled arrangements for selecting and loading students, and ran annual eight-month serials, with some voluntary assistance from his eldest daughter, Constance.[43] Naval officers taking the naval war course represented good cross sections of ranks and abilities.[44] Some were even familiar with Jane's naval war game, or at least an abbreviated version making the rounds of the Greenwich and Portsmouth naval colleges after the Admiralty sanctioned official use. In late July 1902, May was "ordered to proceed overland to Mediterranean to be present at combined manoeuvres, to return in time for College Autumn session."[45] He was familiar to Admiral John Fisher, the second sea lord and late commander-in-chief of the Mediterranean fleet, who was implementing ambitious plans for reform of naval training and education in the Royal Navy.[46] For good service, May was promoted to the flag rank of rear admiral on 22 September 1902, keeping his position of war course director.[47] Rumours circulated that Fisher was eying him to be the next director of naval intelligence, following Rear Admiral Prince Louis of Battenburg.

Until that came to pass, May continued to argue for more resources to improve quality and content on the naval war course, which still consisted predominantly of lectures and a few exercises. To broaden out the faculty and take some teaching load off himself, May hired the civilian historian Julian Corbett, author of several solid naval related historical works such as *Drake and the Tudor Navy*, whom he had met through the Navy Records Society.[48] In a letter preserved at the National Maritime Museum, May offered guidance to Corbett.

Seeing that your writings show that you have made a study of naval history

[42]   Instigation of War Course for Senior Officers, 20 September 1900, TNA, ADM 203/64; Andrew Lambert, "The development of education in the Royal Navy: 1854-1914," in Geoffrey Till, ed., *The Development of British Naval Thinking: Essays in memory of Bryan McLaren Ranft* (London and New York: Routledge, 2006), 50; Donald M. Schurman, *Julian S. Corbett, 1854-1922* (London: Royal Historical Society, 1981), 32-33.

[43]   Andrew Lambert, "The Naval War Course, *Some Principles of Maritime Strategy* and the Origins of 'The British Way in Warfare,'" in Keith Neilson and Greg Kennedy, eds., *The British Way of Warfare: Power and the International System, 1856-1956* (London and New York: Routledge, 2010), 222-24.

[44]   Simon Harley, "War Course Attendance at Greenwich from 1900 to 1904," *Mariner's Mirror* 103: 4 (2017), 471-74.

[45]   Service record, Rear Admiral Henry John May, TNA, ADM 196/41/0/28.

[46]   Fisher replaced Vice Admiral Archibald Douglas as second sea lord, who also knew May well; Elinor Frances Romans, "Selection and Early Career Education of Executive Officers in the Royal Navy c1902-1939,"(PhD thesis, University of Exeter, 2012), 24-25. Fisher also wanted to improve the standing of engineering officers. Edward Dodd, "Engineering Men: Masculinity, the Royal Navy, and the Selborne Scheme," (MA thesis, Memorial University of Newfoundland, 2015), 83-86.

[47]   *London Gazette*, 10 October 1902.

[48]   Julian S. Corbett, *Drake and Tudor Navy*, 2 vols. (London: Longmans, Green and Co., 1898); Schurman, *The Education of a Navy*, 151-58. There is scant indication that the overworked May actually read any of Corbett's books in depth.

it occurred to me that it might not be disagreeable to you to give a short course of lectures to the senior officers class which assembles on Oct 1ˢᵗ. As you probably know this class is formed of Commanders & Captains & is sometimes styled the "War Course". Some of its members are already fairly well read, others are not. There may be from 15 to 20.

If it would suit you I would suggest a weekly lecture of 1 hour or if you preferred it a fortnightly one but I think the weekly are best.

The normal fee is £5 per lecture. Within reason I would prefer that you should choose your subject. It ought however to be so far modern that some lessons applicable to present day warfare should be deductible from it.

Again I think in a short course of lectures such as I am suggesting it might be desirable to treat more particularly of either the tactics or strategy of the period as apart from other considerations.

As to the number of the lectures I would suggest from 4 to 8. But I should be perfectly ready to hear what you have to say on the subject.

I could arrange for the lectures to begin in Oct. Nov. or Dec. but the former would be most likely to suit best.[49]

Corbett was also drawn into Fisher's orbit, as a person able to appreciate and articulate the fundamentals of strategy and naval power. May made the introductions: 'I rather think, now that you have in a sense joined the Greenwich Staff, that you should pay your respects to Sir. J. Fisher who specially presides over Greenwich matters at Whitehall. But I am likely to be at the Admiralty tomorrow & will find out exactly what is right & usual'.[50] The resulting relationship between Fisher and Corbett was mutually advantageous. Corbett's lectures on history and strategy and interactions with naval officers on the naval war course resulted in later publication of *Some Principles of Maritime Strategy*, amongst the best theoretical works by a British writer prior to the First World War.[51] Key themes stressed the superiority of a defensive posture and limited offensive, fleet-in-being, and navy participation in combined operations. May knew from his experience with Jane that naval officers could learn from knowledgeable civilians; however, he did not live to see the results of his lucky pick in Corbett. After a two-day cycling tour, May came down with gastroenteritis, common stomach flu, and died in Greenwich

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[49] H.T. May to J.S. Corbett, 19 August 1902, NMM, Corbett papers, CB /13/3 pt. 3. Don Schurman reads quite a bit into this simple letter. Donald M. Schurman, "Julian Corbett's Influence on the Royal Navy's Perception of Its Maritime Function," in James Goldrick and John B. Hattendorf, eds., *Mahan is Not Enough: The Proceedings of a Conference on the Works of Sir Julian Corbett and Admiral Sir Herbert Richmond* (Newport, RI: Naval War College Press, 1993), 55-58. Samuel E. Rogers, "Julian Corbett and the Development of a Maritime Strategy,"(MA thesis , East Carolina University, 2018), 33-34.
[50] H.T. May to J.S. Corbett, 30 October 1902, NMM, Corbett papers, CB/13/3 pt. 3.
[51] Julian S. Corbett, *Some Principles of Maritime Strategy* (London: Longmans, Green and Co., 1911).

on 24 April 1904, fifty-one years old.[52] Coincidently, Fred Jane died at nearly the same age twelve years later, also from the effects of suspected influenza.

In the intervening years, Jane was busy pushing out books and engaging in other pursuits that the steady income from his unconventional occupation allowed. The naval war game was refined through various versions, the rules entirely rewritten in the 1912 edition replacing those that came before. The Royal Navy developed war games for its own internal requirements, so the players progressively became more civilian than professional. Sales of Jane's books published on the imperial Russian and Japanese navies, the few of any available in the English language, rebounded around interest over naval actions during the Russo-Japanese War and the big gun fleet battle of Tsushima on 5 May 1905, when Admiral Tōgō Heihachirō handed a Russian fleet that sailed half-way round the world a crushing defeat.[53] Like his other articles, the research was subject to creative journalistic interpretation and largely based on conversations with foreign naval officers and firsthand observation. He was strongest on technical and organizational details, and weaving a colourful story with lots of rich illustrations. In the *Heresies of Sea Power*, perhaps his most serious book, published in 1906, Jane offered a critique of the concepts and theoretical ideas put forward by American writer and naval officer Alfred Thayer Mahan about the importance of decisive battle in conferring command of the sea and the dominance of the big gun battleship. Mahan's many books, including the best-selling *The Influence of Sea Power upon History*, had been distributed in Great Britain by Jane's publisher, Sampson Low, Marston and Company, before the literary rights for his own books were reacquired. Although Mahan was certainly deserving of criticism, Jane's shallow dive into the history (which he distrusted) came off as just a little hurried and uneven.[54] He possessed

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[52] "Rear Admiral Henry John May, C.B.," *The Telegraph* (London), 26 April 1904; "Rear Admiral H.J. May, C.B.," *The Times* (London), 26 April 1904. May's widow, Constance, lived in Hampshire on his service pension and private means, with their five daughters. A son, named after his father, Henry William Mends May, followed a career in the British Army, serving in the First World War as a young officer winning the Military Cross, in India, and with the Hampshire Regiment and then Devonshire Regiment. He reached the rank of major before his death as a war casualty in December 1942.

[53] Fred T. Jane, *The Heresies of Sea Power* (London: Longmans & Co., 1906); Fred T. Jane, *The British Battle Fleet: Its Inception and the Growth Throughout the Centuries to the Present Day* (London: S.W. Partridge & Co., 1912); Eric Grove, *Big Fleet Actions: Tsushima, Jutland, Philippine Sea* (London: Brockhampton Press, 1998), 10-46; Richard Dunley, "'The warrior always shewed himself greater than his weapons': The Royal Navy's interpretation of the Russo-Japanese War 1904-5," *War & Society* 34: 4 (2015), 248-62. Misreading Jane, the Admiralty already possessed a low opinion of the Imperial Russian Navy, and over-exaggerated the prowess of the Imperial Japanese Navy. Matthew S. Seligmann, "Britain's Great Security Mirage: The Royal Navy and the Franco-Russian Naval Threat, 1898-1906," *Journal of Strategic Studies* 35: 6 (2012), 861-86. Ian T.M. Gow, "The Royal Navy and Japan, 1900-1920: Strategic Re-evaluation of the IJN," in Ian Gow, Youichi Hirama, and John Chapman, eds, *The History of Anglo-Japanese Relations 1600-2000* vol 3 "The Military Dimension" (New York: Palgrave Macmillan, 2003), 35-50.

[54] Mahan was weak on tactics and ordnance effects, even attracting rebuttals from within his own

neither the higher academic education of Corbett, the trained barrister, nor Mahan's benefit of a year spent reading in the New York Public Library before taking up lecturing at the United States Naval War College in Newport. His younger brother Lionel Cecil, a later writer of many books of ecclesiastical and political history, tried to tutor Fred Jane on the finer points of the discipline. Jane, however, remained a sceptic of historical method.

Jane lived in the present and for the future and was increasingly critical of British naval policy and traditions. His retort that "Horatio Nelson should be thrown overboard" was almost blasphemy in the service.[55] *All the World's Fighting Ships* became *Jane's Fighting Ships*, thereby cementing the name brand and providing a forum for his strongly held views as editor. Healthy sales for the annual continued, as foreign navies followed the British lead in building bigger and better ships after introduction of the ground-breaking HMS *Dreadnought* and the equally controversial battlecruiser.[56] Jane wrote Corbett after *Some Principles of Maritime Strategy* appeared in print.

[I]n my many years of Naval War Game, I never once found a junior officer pay the least attention to the theory. On the contrary I've frequently seen the fleet used to screen the transport of troops before ever any fighting had taken place. Strategy of the future is extremely likely, I should say, to entail securing a base on the hostile territory as soon as possible.

Speaking generally, I have noticed that in War Games – if played with the full regulations (i.e. where you never know what damage a few lucky shots may do), I have found Mahan to have had a limited application. Played as the Admiralty do it at the War College with damage merely a matter of points which can be calculated beforehand, Mahan applies better,

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service. Wayne P. Hughes, "Mahan, Tactics and Principles of Strategy," in John B. Hattendorff, ed., *The Influence of History on Mahan* (Newport, RI: Naval War College Press, 1991), 26-27.

55   Richard Brooks, "Fred T. Jane – The Man and the Wargame," talk to Conference of Wargamers, 9 December 2007; Bradley M. Cesario, "'Trafalgar Refought': The Professional and Cultural Memory of Horatio Nelson During Britain's Navalist Era, 1880-1914" (MA thesis, Texas A&M University, 2011), 126.

56   Eric Grove, "The Battleship is Dead, Long Live the Battleship: HMS *Dreadnought* and the Limits of Technological Innovation," *Mariner's Mirror* 93: 4 (2007), 415-27; Andrew Lambert, "The Power of a Name: Tradition, Technology and Transformation," in Robert J. Blyth, Andrew Lambert, and Jan Rüger, eds., *The* Dreadnought *and the Edwardian Age* (Farnham, Surrey: Ashgate, 2011), 12-18; Crosbie Smith, "*Dreadnought* Science: The Cultural Construction of Efficiency and Effectiveness," *Transactions of the Newcomen Society* 77: 2 (2007), 191-215; Nicholas Lambert, "Righting the Scholarship: The battle-cruiser in history and historiography," *The Historical Journal* 58: 1 (2015), 275-307; David G. Morgan-Owen, "Continuity and Change: Strategy and Technology in the Royal Navy, 1890-1918,*" English Historical Review* 135: 575 (August 2020), 892-930; Matthew S. Seligmann, "Germany's Ocean Greyhounds and the Royal Navy's First Battle Cruisers: An Historiographical Problem," *Diplomacy & Statecraft* 27: 1 (2016), 162-82; Matthew S. Seligmann, "Naval History by Conspiracy Theory: The British Admiralty before the First World War and the Methodology of Revisionism," *Journal of Strategic Studies* 38: 7 (2015), 967-68.

as there is the least opening for the man who takes risks. So much is to be done with risking detachments on the off chance of some big results being achieved, i.e., as for example, using second and third cruisers as torpedo boats to charge a battle fleet at night (which is what the German small cruisers were originally designed for and very possibly are still meant for).

Your estimate of the future of the torpedo craft and submarines interested me very much. Neither are things that can be assimilated to War Game well enough to give satisfaction all round….but the line of suggestions which you take is one with which I am very much in sympathy and extremely interested in. In my own private opinion, we have two deadly errors in our Navy today, (1) classical maxims (2) Dreadnoughts, though this last is the kind of thing best kept to one's self![57]

The interaction between artificial game and plausible dispositions and actions in real life reinforced each other, in Jane's mind. Addition of silhouetted side profiles and line drawings meant that the books were often carried on ships for recognition and identification purposes. Jane unsuccessfully contested a Portsmouth seat in Parliament as a non-partisan, navy lower deck friendly candidate, and engaged in a number of publicity stunts involving sitting politicians that included the mock kidnapping of Labour MP Victor Grayson. He famously declared in an election stump one liner, "damnation to all party politicians."[58] The behaviour was attention seeking because as Jane well knew press, whether good or bad, sold books.

After his first wife died in 1908 and another marriage soured, Jane retreated to his writing, hobbies, and his prize acquisition, for the day a large horsepower Benz racing car that he joked "roared like a destroyer at top speed" on country roads. In 1912, Jane published *The British Battle Fleet* that deliberately avoided history in the title since "small space is devoted to various strategical and tactical matters of the past which generally bulk largely in more regular 'naval histories' – of which a sufficiency already exist. In such histories primary interest naturally attaches to what the admirals did with the ships provided for them. Here I have sought rather to deal with how the ships came to be provided, and they were developed from the crude warships of the past to the intricate and complicated machines of to-day."[59] An expanded two volume second edition appeared a year into the First World War, despite censorship and imposed wartime restrictions, as well as a revised study of the Imperial German Navy, a little less detailed for obvious reasons. Jane became active in the boy scout movement and funded his own local Bedhampton troop,

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[57] Fred T. Jane to J.S. Corbett, 30 November 1911, NMM, Corbett papers, CB /14/4; Theodore Ropp, "Continental Doctrines of Sea Power," in Edward Mead Earle, ed., *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler* (New York: Atheneum, 1966), 453. Tactical plans for how to use the new types of ships in fleet operations, in any coordinated fashion, were still unsettled. Stephen McLaughlin, "Battlelines and Fast Wings: Battlefleet Tactics in the Royal Navy, 1900-1914," *Journal of Strategic Studies* 38: 7 (2015), 985-1005.
[58] Brooks, *Fred T. Jane*, 136.
[59] Jane, *The British Battle Fleet*, preface.

describing himself as a "scoutmaster under military orders at Portsmouth."[60] Scouts were known to warn fast drivers hard on the accelerator, like Jane, of police speed traps thus avoiding professions of contrition before disapproving magistrates. The boy scouts manned checkpoints on roads and kept watch for German spies, one of Jane's preoccupations.[61] One night, Jane organized a fake attack on the camp of sleeping boys, using cars with darkened headlights, just to keep them vigilant and have a little fun. Under Jane, the boy scouts attended motor rallies and built their own balloons and aircraft, which rarely flew. Like the game, he remained a big boy in a middle-age body.

During a long drive to Cheltenham in his open top Benz, Jane caught a chill, retired to bed upon his return, and died quietly at his Southsea home on 8 March 1916. An attending doctor gave the cause of death as heart problems brought on by influenza. *The Times* obituary notice two days later listed invention of the naval war game amongst his accomplishments.[62] Maurice Pendergast took over as editor of *Jane's Fighting Ships* for a few years before long time editor Oscar Parkes, a surgeon and naval artist familiar to Jane before his death. Parkes, compiler of the popular *Ships of the Royal Navies*, shared the same love of ships and illustration.[63] He and subsequent editors always focussed on the core business and built the Janes military brand as much as the founder of the annuals and game.

The document presented here edits the rules for Fred Jane's original naval war game introduced in 1898 as a complement to his book *All the World's Fighting Ships* published earlier that year, annotated by updates provided in a subsequent 1901 revision and publication. John Curry, senior lecturer at Bath Spa University, as part of his History of Wargaming Project, has published the much better known 1906 rules for the naval war game.[64] Later rules eventually appeared at the back of some *Jane's Fighting Ships* annuals. The 1898 book and Henry May's personal copy of the 1901 book, inscribed "To Captain May R.N. with the Author's compliments" dated 31 January 1902, are held at the library of Arizona

[60] Brooks, *Fred T. Jane*, 159.

[61] A.J.A. Morris, *The Scaremongers: The Advocacy of War and Rearmament 1896-1914* (New York: Routledge, 2014), 156.

[62] "Mr. F.T. Jane," *The Times* (London), 10 March 1916; "Naval Author Dead: Fred T. Jane Had Also Written Many Books of Fiction," *New York Times*, 10 March 1916.

[63] Oscar Parkes, *Ships of the Royal Navies* (London: Sampson Low, Marston and Company, 1935).

[64] John Curry, ed., *The Fred Jane Naval War Game (1906) including the Royal Navy's Wargaming Rules (1921)* (Lulu.com, 2008). For the History of Wargaming Project, see the website www.wargaming.co/index.htm accessed 10 December 2020. Curry's claims that the naval war game taught tactics contradicted Jane's own views. John Curry, "The Utility of Narrative Matrix Games: A Baltic Example," *Naval War College Review* 73: 2 (Spring 2020), 35. Tactics and naval battle are inextricably intertwined according to one leading expert: "Warfare is deadly conflict. Tactics, being the devices of battle, are conceived and executed at the physical and metaphorical center of this violence. Tactics are more visceral in the consummation than policy, strategy, operational art, or logistics." Wayne P. Hughes, *Fleet Tactics: Theory and Practice* (Annapolis: Naval Institute Press, 1986), 26.

State University in Tempe, east of Phoenix.[65] Only a few copies of these books remain in public and private collections. According to existing copyright laws, published works enter the public domain seventy to ninety years after the death of the author. The document also includes several tables from the original book and photographs of the boxed (literally a rough wood box) 1898 Jane Naval War Game sold commercially. One is preserved by the Naval History and Heritage Command at the historic Washington Navy Yard.[66] Jane hoped that every warship, in many navies (he was not discriminating), would have a game box tucked away for play and amusement. Buyers could purchase, as mentioned previously, additional miniature warship models, score cards, and materials for use in play. The fighting ships reference book, game, and scale models represented a mutually supporting system for professional insight, recreational and hobby pursuits, and sales on which Jane made a good living for himself alongside his writing and artistic work.

Although the rules evolved in complexity and playability, the 1898 Jane naval war game signifies an important starting-point for a popular phenomenon during an age of navalism, that garnered significant broad and professional appeal as well as commercial success. This background and the document should interest historians, wargamers, scale ship modellers, and naval enthusiasts.

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[65] Fred T. Jane, *Rules for the Jane Naval War Game* (London: Sampson Low, Marston and Company, 1898). Jane and his publisher consistently misspelled the German word *Kreigsspiel*; Kriegspiel is actually a blind chess variant conceived by Henry Michael Temple in 1899. Fred T. Jane, *Hints on Playing the Jane Naval War Game (Naval Kriegspiel) together with all the new rules and official changes* (London: Sampson Low, Marston and Company, 1901). A plate on that book shows a coat of arms from the Sidney Burr Brinckerhoff Collection, presumably connected to the person who donated the books to the university.

[66] Jane Naval War Game, Naval History and Heritage Command, Washington, D.C., Accession 2011-33-1, Curator Branch; "Pieces of the Past," *Naval History* 27: 3 (June 2013), 72.

RULES FOR THE JANE NAVAL WAR GAME

A Sea Kriegspiel Simulating All the Movements and Evolutions of Every Individual Type of Modern Warship, and the Proportionate Effect of Every Sort of Gun and Projectile

Part I. Tactical Part II. Strategical

Invented by Fred T. Jane
Author of *All the World's Fighting Ships*, and other books

Revised and approved by Captain H.I.H. Grand Duke Alexander Mihailovitch, Imperial Russian Navy; Captain H.S.H. Prince Louis of Battenberg, Royal Navy; Captain H.J. May, Royal Navy; and Lieutenant R. Kawashima, Imperial Japanese Navy

London: Sampson Low, Marston and Company, 1898.

INTRODUCTORY NOTE

The aim of this Naval War Game is to provide a thorough sea equivalent to the Army War Game. The essential idea has been to produce something by which any problems can be worked out with the greatest possible simulation of actuality, especially such as least easily lend themselves to solution on paper. In particular, the game is designed for use in all such interesting problems as those connected with 'discriminating fire', and to that end not only each individual type of ship, but also every individual gun and projectile, method of protection, thickness, and quality of armour is allowed for. In some of these things a certain amount of approximation has, for simplicity, been necessary, but for practical purposes the differentiation will be found sufficiently ample.

The majority of the rules do not call for special comment; all represent attempts to simulate the real thing as closely as possible; all are framed with a view to avoiding any *unnecessary* complications. Comparatively few of them are needed for any one game. For such as are most frequently required summaries are provided, either upon loose sheets, or upon the pieces; there is, consequently, no necessity to learn the game. It can be played by any naval officer after five minutes study.[1]

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[1]   *Hints on Playing the Jane Naval War Game (1901) - Preface.* - No matter how much may be supplied in the way of printed directions there are always apt to be points in moving and umpiring

All the shooting targets are drawn upon the same scale, with particular attention to certain essential minutiae, consequently a gun muzzle or a sighting hood has approximately its actual chance of being hit. The particular form of striker, for localising hits, has been adopted after considerable trial with various systems. It will be found that this device affords some sort of equivalent for the moral effect on the *personnel* caused by damage to the *matériel*. It is rare to find a player shooting well after his ship has sustained heavy damage; very little is needed to make the aim wild. I must admit that this result is incidental rather than designed, the adoption of this device having been due to a desire to embody something that made direction easier than elevation, and did away with *certainty*. No tactical problem can be worked out on a basis of certainty in hitting. The accuracy obtainable is, perhaps, considerably higher than may reasonably be hoped for in action;[2] the necessity of keeping a game from taking too long to play compels that, but as a general rule, accuracy is sufficiently difficult not to interfere with any evolution. If, however, a nearer approximation to battle conditions is desired, it is obtainable by reducing the rate of fire, or countering every two guns as one. It is, however, open to the objection that the chance element and the lucky shot get thereby a possibly undue value in a game that general presupposes a *comparative* equality in gunnery on both sides, though it must be borne in mind that the game allows great scope for neutralising superior gunnery by superior evolutions.

A word is necessary about the gunnery rules. It is exceedingly difficult to make a general allowance for shell. Against armour, they are very likely to break without bursting in the act of perforation, but the pieces carried through are likely to cause considerable damage; consequently, all shell, and also shot which would carry fragments through medium armour, are given one general effect against medium armour. Another difficult problem is the behaviour of very thick Harveyised plates. There is reason to believe that if 6 inch Harvey may be considered equal to 12 inches of iron, 9 may be barely equal to 18, and 18 not equal to 36 inches of iron. There are also innumerable side issues. This is mentioned in order to draw attention to the fact that in the letter notation, an attempt is made at an *approximately general* allowance.

The turning and other manoeuvring qualities of ships are allowed for upon a convention. With a pair of dividers and a certain amount of patience, it is of course

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that tend to be a little obscure on paper, but are at once picked up in actual practice with accomplished players. The ideal of the game, and one that is fairly reached, is that any naval officer is able, without any knowledge of the game's workings, to direct the evolutions of a fleet, and habitude at playing in no way assists towards success. That is to say, the game is the antithesis of chess, billiards, etc., in that mere proficiency at moving and so on does not entail victory, which depends only upon the skilful handling of fleets. But captains of pieces must know the moves, etc., enough to realise this - that the close simulation to real warfare is the sole objective of the game, while umpires must be thoroughly *au fait* with everything.

[2] From certain experiments made, at target practice on board the *Takasago*, there is, however, reason to believe that, unless the excitement of action largely affects results, the accuracy obtainable by game methods is not much too high for modern guns.

possible to give any vessel its exact circle, but this is avoided as an unnecessary complication. In an attempt to ram, with ships of equal or nearly equal speed, it is just possible that the use of such circles might be of utility, but in such cases umpire's decision is a simple substitute. The circle selected for general use is practically the average. In the case of ships whose circle is considerably beyond the average, a perhaps somewhat unduly larger circle is given, while very handy ships have a slight undue advantage. The approximation will, however, be found satisfactory for all ordinary purposes.

Speed is also subject to arbitrary convention much as the circles are. Slight individual differences of speed do not appear to be of prime importance where the evolutions of fleets are in question; where a slighter better speed would affect results, allowance is made (*see* Strategical Rules).

Scoring tables - plan and elevation with all details as to armour, etc. - of any particular ship not given with the game can be procured from the publishers, and if necessary the corresponding shooting targets and model ships.

None of the shooting targets are named. The reasons for this will be found under the heading **GENERAL NOTES.**

My best thanks are due to Captain H.I.H. Grand Duke Alexander Mihailovitch of Russia, Imperial Russian Navy; Captain H.J. May, C.B. and Captain H.S.H. Prince Louis of Battenberg, K.C.B., Royal British Navy; and Lieutenant Kawashima, Imperial Japanese Navy, for looking over proofs of the rules, and for all the kind interest they have taken in the game. I must express my gratitude to Commander H. Russell Robinson, Commander H.H. Campbell, Lieutenant Barry, and Mr. H.W. Metcalfe, all of the Royal Navy; to Mr. Kondo, of the Imperial Japanese Navy; and generally to the wardroom officers of HMS *Majestic*, HMS *Trafalgar*, HMS *St. George* (1894-98 commission), HMS *Royal Yacht*, HMS *Mars*, HMS *Alexandra*, and HMS *Australia*, and of HIJMS *Takasago*, for their kindness in connection with many experimental games played on board their ships.

In conclusion, it should be stated that all important ships of new type will be added to the game from time to time as they may be completed for sea, and for any new invention provision will at once be made in the rules. Any such changes will be announced in the *Army and Navy Gazette*, *Le Yacht*, and one or two other papers; but, so far as possible, notice will also be sent to any ship known to be in possession of the game.

Any suggestions in the way of increased realism and simplicity, sent to me, c/o Sampson Low, Marston & Co., Ltd., Publishers, London, will be thankfully received and acknowledged. Any notes upon interesting actions will also be very welcome.

Portsmouth, June 1898   FRED T. JANE

Figure 1. The Jane Naval War Game
(Naval History and Heritage Command).

PART I
TACTICAL GAME

GENERAL RULE (to which all others are subject)

NOTHING may be done contrary to what could or would be done in actual war.

UMPIRES

If the fleets are large there should, if possible, be an umpire to each side to supervise the scoring. It is in addition advisable to have a chief umpire or referee.[3]

ADMIRALS

'Admirals' may issue any general orders they see fit before the action, but all communication during action must be by signal. In actions in which many ships are engaged, it is better that the admirals should not fight the pieces in which they fly their flags.

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[3]   *Hints on Playing the Jane Naval War Game (1901). -* All these rules and sub-rules may to a hasty glance appear intricate. Examination, however, will show that they only concern umpires, and chiefly consist of generally accepted probabilities reduced to mathematics. It must always be borne in mind that the sole object of the game is to simulate real warfare as closely as possible. Before anything else this must be borne in mind. The rules have been framed to, so far as possible, prevent any successes being secured by juggling with the letter of them. Cases are bound to arise in which the letter and spirit may differ; in all such the umpire is to follow the spirit and use his discretion.

Should any flagship receive a heavy fire where the admiral is stationed, even chances should be thrown as to whether he is placed *hors de combat*. If so, he must relinquish the command *immediately*. Unless any other position is specified the admiral will always be assumed to be in or near the forward conning tower.

Should an admiral desire to shift his flag in action, full time must be allowed for it, as directed by umpire.

CAPTAINS

It is an essential condition of the tactical game that no player should have more than one piece.

PERSONNEL

If it is desired to reckon in *personnel*, five men can be assumed *hors de combat* for every gun (big or small) disabled. It is not *necessary* to make this allowance in the tactical game, but in the strategical game, where such questions as landing parties, prize crews, etc., are almost bound to come in, the rule must be enforced.

In all cases a gun should be assumed to need five men at the gun and five below, etc., getting up ammunition. If this number cannot be kept up the rate of fire must be reduced.

Inferior gunnery can be represented if necessary by causing the inferior to use targets for 1000 yards greater distance than the actual.
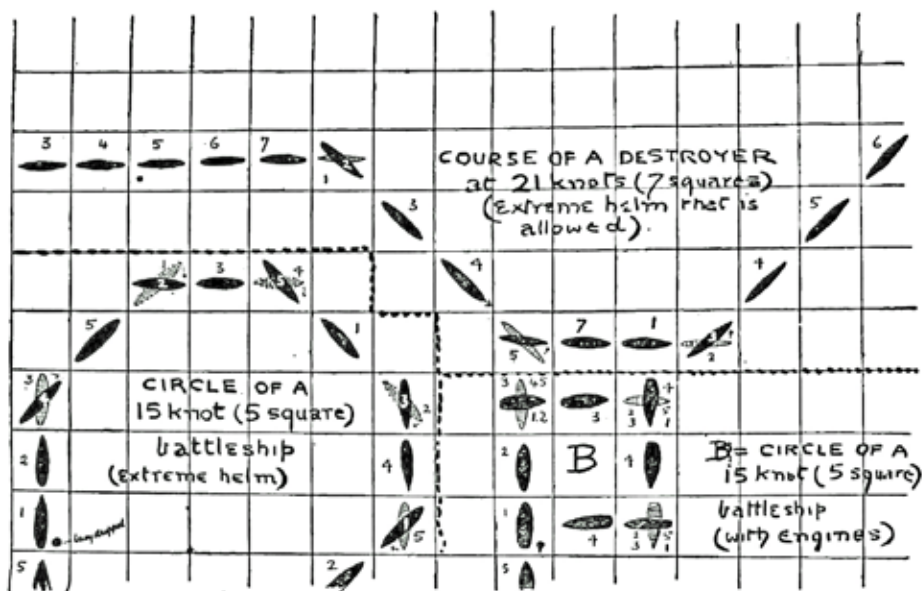
PIECES

DIAGRAM TO ILLUSTRATE TURNING CIRCLES SHOWING LOSS OF SQUARES FOR TURNING.
The figures indicate the order in which squares are covered during each move.

The pieces supplied are on scale with the squares as regards *size*, and bear a recognizable resemblance to the ships that they represent. Typical vessels only are supplied, but any particular ship or ships can be obtained, together with the necessary scoring tables and 'shooting targets', though any agent for the sale of the game.

MOVING

1. Each square represents 100 yards long by 100 yards wide.

2. Each move represents one minute, and should not occupy more than that period of time:-

3. Speeds are in 3 knot units:-

A speed of -

3 knots	=	1 square per move
6	=	2
9	=	3
12	=	4
15	=	5
18	=	6
21	=	7
24	=	8
27	=	9
30	=	10

A 1 1/2 knot unit or any lesser unit can be introduced by using a measure, but for all practical purposes the 3 knot unit suffices.

TURNING

1. *With helm only*. - A piece desirous of turning must drop a red or green buoy according to whether it desires to turn to port or starboard. On the *second* square after that on which the buoy was dropped it may turn four points, *the turn counting as a square moved* (*see* diagram). If it desires to continue on that course the buoy must be picked up, but so long as the buoy is down the ship must continue turning on every other square.

2. *With one engine reversed*. - On the second square the piece may make a turn of eight points (90 degrees), but loses *four* squares for so doing.

3. A few ships have greater circles. All circles are noted upon the individual pieces. *Optional*. - As a rule the fact that the diagonal of a square is greater than its length does not make much practical difference in the game, advantages under this head usually counterbalancing, and the gain by use of diagonal affords some sort of approximation to such circumstances as fluctuating engine room efficiency, etc. But wherever tactical problems are to be seriously worked, diagonal moves should

be by measure.

It may sometimes be necessary for the moves to be made in simultaneous fractions. In such cases moves *must be by* measure, and are always reckoned from the ship's bows. The black buoy must always be dropped on such occasions to indicate the spot the piece left.

REGULATION OF SPEED

1. As a general rule, first class battleships should be allowed 15 knots, second class 12 knots, certain older vessels 9 knots; cruisers 18 knots - a few first class ones 21 knots; armoured cruisers 18 knots and 15 knots; fast battleships, like the *Sardegna*, should be allowed 18 knot speed; catchers 18 and 15 knots; destroyers 24 and 27 knots; torpedo boats 21 and 18 knots. In any sea way the speeds of these last two should be at once reduced.

2. A ship can stop (reversing engines) in one complete move. Thus a ship going 15 knots stops dead on the fifth square after reversing engines - which should be indicated by dropping both port and starboard buoys. The next move, if engines are still reversed, she can go one square astern; two the next again, then three, and so on.

3. A ship stopped dead or going astern can gather way one square the first move, two the second, and so on.

4. A ship under way can increase its speed one square every move up to its maximum speed.

5. Ships going astern may steer, but with two extra squares for each four points turned; thus, a ship that turned every other square going ahead would turn every fourth instead.

ARMOUR

Armour is classed as follows:-

aaaa	=	proof against everything except at very close range
aaa	=	30 inches of iron or its equivalent
aa	=	24 inches of iron or its equivalent
a	=	18
b	=	15
c	=	12
d	=	9
e	=	6
f	=	thin armour

The slopes of protective deck are valued at double their thickness in order to compare with vertical armour, the flat portions at four times their thickness. Coal protection is always calculated as improving armour one grade. When the belt of a ship consists of vertical armour, coal protection and belt, the thickness given on the scoring sheets as 'protection of vitals' includes all these things.

GUNS AND THEIR PENETRATIONS

Guns are classed as follows:-

The 10 inch M.L. and all non Quick Firing 6 inch or 4.7 inch fire every two moves.

Gun.	Rate of fire.	Penetration with A. P. shot.				
		1000 yds.	2000 yds.	3000 yds.	4000 yds.	5000 yds.
A {16-in. (110 ton) .	Every 5 moves.	*a a a*	*a a*	*a a*	*a a*	*a*
13·5-in. . . .	3	*a a*	*a a*	*a a*	*a*	*b*
12-in. . . .	2	*a a*	*a a*	*a a*	*a*	*b*
11-in. (long) . . }						
16-in. M.L. . . }	4	*a a*	*a*	*a*	*b*	*c*
B {11-in. (short) . }						
10-in., 10·2 in. . }	2	*a*	*b*	*b*	*c*	*c*
9·2 (40 calibres) }						
Old 12-in. (45 ton) }	3					
C {Older 9·2-in. .	2					
8-in. . . . . }						
8-in. Q.-F. . . }	1	*c*	*c*	*c*	*d*	*d*
12-in. M.L. . . }						
D {6-in. Q.-F., old 8-in., 10-in. M.L. }		*d*	*d*	*d*	*e*	*e*
Older 6-in. (converted Q.-F.), 5·5-in., etc. }	1	*d*	*e*	*e*	*f*	
E {5-in., 4·7-in. .	1	*e*	*e*	*f*		
4-in.		*e*	*f*			
F 3·4-in., 3-in.. .		*f*				

With Palliser, Armour Piercing shell, penetrations are two grades less with A, B, C guns, with D guns one grade less. With High Explosive, or Common shell, four grades less for A guns, three less for B, two less for C and D, one less for E.

These penetrations are all for hits within 30 degrees or so of direct of impact. If the target is obviously at a greater angle than 30 degrees, the penetrations are one grade less against the side. If the angle is over 60 degrees, three grades less. The obliquity of turrets, etc., is allowed for by hits not in the centre requiring a grade extra penetration.

At close range (well *under* 1,000 yards) all guns (*with direct impact*) can do one grade better with solid *shot*. A guns at 700 yards go through everything.

Sheets are provided with all the normal penetrations printed on them, as well as the amount of damage; there is therefore no occasion to learn the figures here given.

The number of lateral unarmoured sections destroyed by the various shell, etc., are as follows:-

Fire from the smaller guns represents continuous fire for one minute, not individual shells as with big guns.

Gun.		A. P. Shell.	Common.	H. E.
16-in.		4	8	10
13·5-in..		3	6	7
12-in.		2	4	5
11-in.		1½	3	4
10-in.		1	2	3
9·2 or 9-in., or 8-in. Q.-F. . .		1	1½	2
8-in.. . . .				
6-in. Q.-F. . .				
Two 4·7-in. Q.-F.	. . . .	½	1	1½
Three 4-in. Q.-F.				
Eight 3-in. Q.-F.				

FIRING

Every ship is allowed an amount of shot and shell - the proportion determinable by choice beforehand. The various sorts of these are marked on the tickets supplied, together with notes as to the damage they do. A player wishing to fire drops one of these for every A, B, or C gun fired, while he is moving, and on the particular square he fires from, at the same time indicating the ship fired at.

The ticket should be in readiness *at least one move beforehand*, and *no change of projectile may be made without allowing time for reloading*.

When the move is completed the firer used the 'shooting target' of the ship fired at, as directed.

SHOOTING TARGETS

1. At the end of each move, big guns are to be fired in the order in which players have dropped their 'firing tickets', any torpedoes that may have been fired taking turn. No gun disabled may score a return fire. In the same way if a ship wished to fire a torpedo, but received a fire first which sank or water logged that ship, the torpedo could not be scored.
2. To fire, a player strikes at a shooting target of the ship fired at, with one of the strikers provided, using target according to range. For each big gun separate shots may be made. Quick Firing guns should be struck in rapid succession without stopping to see result.

When a ship is at an angle of forty-five degrees, all hits to count must be on the half nearest to the enemy, and hits beyond count as misses. At sixty degrees, one quarter of the target is used.

SCORING[4]

1. Each ship is divided vertically into sections of 25 feet in length. These are always numbered from the bow, and correspond with the 'shooting targets'.

2. Laterally, ships are divided into 'decks' which, save in certain specified cases, limit damage.

3. A bulkhead or armour is the only limit to damage along a deck. Where the damage of a big shell is thus limited, the balance is to be scored on the decks immediately above and below; but a protective deck itself cannot be injured by a shell on the deck above.

4. Damage is scored by scribbling over the area affected; the centre of the damage being always the point hit on the shooting target (*see* diagram).

Optional. - Ships doing less than 6 knots speed, or turning with engines, are to be fired at as though 1,000 yards nearer. Ships *passing* at a combined speed of 30 knots or over will both fire at each other with the target for 1,000 yards greater than the actual. When a ship is turning, if the rate of change in the hearing of the enemy is thereby materially increased or diminished, the umpire may direct that ship to be fired at as if 1,000 yards farther from or nearer than the actual.

When weather is included, any ship getting between the enemy and the sun (when the sun is low), or firing to leeward in a moderate sea, is to be fired at as though 1,000 yards more distant than that ship really is.

EFFECTS OF GUN-FIRE ON GUNS

One penetration disables a turret, barbette, or casemate.

The umpire must decide about shot or shell that jamb a turret.

Shot that penetrate below a turret do no harm unless they hit the hoist, when they halve the rate of fire. Unless marked, the hoist is presumed to be directly under centre of gun position.

Any gun actually hit is totally disabled.

Against *unarmoured* parts and also *against the armour that they can just penetrate* solid shot do *half* the damage of Armour Piercing shell. Against any thinner armour they do the same damage as Armour Piercing shell.

All shell score as Armour Piercing shell against armour that they penetrate.

Common and Armour Piercing Shell score their damage on the far side of the battery.

High Explosive Shell (Lyddite, Melinite, etc.) score on the side hit.

Any barbette, turret, or casemate under which shell doing three or more sections' damage burst, is out of action for five moves (any further shell bring it down if the base is unarmoured).

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[4] *Hints on Playing the Jane Naval War Game (1901)*. - The umpire should always remember that he is empowered to use his own discretion fully, and that so long as the system of scoring is uniform for both sides considerable latitude should be allowed to the umpire. This is particularly the case with big, high explosive shell, on the probable effects of which opinions vary greatly.

Every gun within the area of a common or Armour Piercing shell explosion is disabled. With High Explosive shell it is out of action for five moves, and at the end of that time it may fire again, using targets for 1,000 yards greater distance than the actual. A second explosion silences the gun.

All guns in a closed battery in which a shell or shells burst simultaneously, doing three or more sections' damage, are out of action for five moves, even though not within the area of explosion, the battery being presumably full smoke and fumes.

For unarmoured parts, in which no guns are carried, only the elevation of one side is given. It suffices to score here without regard to the side hit (*see* scoring diagram).

EFFECTS OF GUN-FIRE ON SPEED, ENGINES, ETC.

Ships lose speed as follows:-

3 knots, loss of sections one quarter total length at waterline in the bow. Thus, a 300 foot long ship, which is divided into twelve sections, would lose 3 knots speed for destruction of the first three; a 400 foot long ship should lose first 4, and so on.

3 knots if all funnels are brought down.

3 knots for damage to all the uptakes between decks by shell.

3 knots if a mast is brought down, until wreck is cleared (three moves, or if Quick Firing guns play on wreckage, the time may be increased).

Half all remaining speed for one shot in engines or boilers

All speed for a second shot, or a single shell in engines or boilers.

Note:- The vitals of most modern ships, what with belt, coal protection, and deck, cannot be penetrated except by a shot that hits low on waterline at very close range. Chances of reaching the boilers or machinery one in six to two in six, according to whether 'protection to vitals' is two or one grade better than penetration at 1,000 yards. If total protection equals penetration, chances are even.

EFFECTS OF GUN-FIRE ON STEERING

1. When the bow waterline sections have been destroyed sufficiently to affect speed, an extra square must be taken for turning. If the after ones are also destroyed then two extra squares are necessary to turn.

2. If conning tower is hit and penetrated the ship may not steer for three moves. If hit by a big *shell* that fails to penetrate, the same result obtains.

3. If the protective deck right aft is penetrated, the ship may not steer for three moves, *except with engines*.

EFFECTS OF GUN-FIRE ON FLOTATION

1. If bow waterline sections, enough to reduce speed 3 knots, are destroyed, all the forward part of the ship must be considered submerged one 'deck', and the after-

part correspondingly raised. If the after-part is also destroyed, the whole ship is to be considered submerged one 'deck'; in other words, the lower deck will become the waterline.

2. Two *penetrations* of armoured deck, belt, etc., per thousand tons of displacement, shall be considered sufficient to sink a ship. Thus, 20 penetrations will sink a 10,000 ton ship; 12 penetrations will sink a 6,000 ton ship, etc.

3. But in case where ships have become submerged a deck, through destruction of the ends, then penetrations of the remaining sections, equal in number to half of those sections, shall be considered enough to capsize the ship; thus, if eight sections remained, four penetrations would capsize.

EFFECT OF GUN-FIRE ON MASTS, FUNNELS, GUNS, TORPEDO TUBES, ETC.

1. Only High Explosive shell can burst inside a funnel. One big High Explosive shell, one minute's Quick Firing, High Explosive fire, will bring down a funnel; otherwise, it must be hit five times by shot or shell.

2. One A, B, or C projectile hitting a mast fair and square will bring it down. Two D or E have the same effect. The blocking of guns by wreckage and consequent limitation in training, etc., must be at the umpire's discretion.

RAKING

Common and Armour Piercing shell count double. Shot damage every section all along unless stopped by a bulkhead. High Explosive shell nothing extra. At 45 degree angle, common and Armour Piercing shell half as much again as usual, shot three times the usual, High Explosive shell nothing extra.

FALSE MOVES, MISTAKES, ETC.

BREAKDOWNS

1. If the wrong shooting target is used, it is to count as a miss.

2. Any mistakes in a player's own favour are to count as engine room breakdowns. As such mistakes are unavoidable now and again, and vary in seriousness, they form an easily adjustable scale of breakdowns at option of umpire.

RAMMING

1. The umpire must supervise all attempts to ram, also take note of accidental rams when station has been lost.

2. Any rammed ship is sunk. If ships ram bow to bow both are sunk.

3. Damage to the rammer must be settled by umpire; the case of the player who omits to reverse engines being especially considered.

4. Full time must be allowed for going astern after a ram, and this evolution properly moved. The fall of damaged masts must be taken into account.

5. As a general rule, it may be laid down at least 6 knot superiority of speed is needed to ram.

6. Torpedoes fired at a ramming ship coming end-on do not stop that ship (*see* rule 7 under **TORPEDO (SHIP)**).

BOARDING

Is liable to be claimed. It can only be decided by the umpire after a calculation of the number of men available in both ships.

TORPEDO (SHIP)

1. If above water, tubes are loaded, the fact must be duly noted on the scoring sheet, and the chances of an explosion thrown with a dice every time the section containing the tube is hit: one in six for shot, three in six for shell, four in six for High Explosive shell. In any case the tube is destroyed if *shell* burst in that section (see also effect of Armour Piercing shot against medium armour). If the torpedo is exploded, damage as for a 16 inch High Explosive shell is to be scored, half on the deck hit, half on the deck below. A protective deck can be thus destroyed completely.

2. To load or unload any tube shall be considered to take three moves, but *a torpedo in the second move of either of these operations must be considered exploded if a shell bursts near it*.

3. The firing of torpedoes is on a scale of chances, in which everything is allowed for.

At	500 yards	one in six
	400 yards	two in six
	300 yards	three in six
Under	300 yards	five in six

With British submerged tubes, the chances are the same.

The tubes *must* be bearing, of course.

Foreign submerged tube one in six to 400 yards, two in six to 300 yards, even chances below that range.

New Elswick tube one in six to 400 yards, three in six 300 yards, four in six under that range.

4. Torpedoes fired from boats and destroyers same chances. The tubes must be bearing. Unless otherwise noted, the forward tube or tubes are assumed as bearing 45 degrees before the beam to port, the after, 45 degrees before the beam to starboard.

5. Any ship under 5,000 tons is sunk when torpedoed, waterlogged if over 5,000 tons, and submerged one deck. No torpedoed ship may fire big guns after being hit, but after five minutes Quick Firing guns may be fired.

6. Waterlogged ships may not discharge torpedoes

7. No torpedo can be scored against a ship, bow or stern on, in motion if doing more than six knots.

FIRING AT TORPEDO CRAFT

1. A single hit from an E or greater shell will sink a destroyer or catcher. Three 12 pounders, five 6 pounders, or eight 3 pounders same result. A torpedo boat is sunk by one 6 pounder, or over two 3 pounders. A single hit from anything in engine room or boilers will disable. The boat, however, should be allowed a certain number of squares drift for the way on her.

2. Torpedo boats and destroyers may be fired at with shooting targets - one strike for each 12 pounder, for every three 6 pounders, or five 3 pounders.

3. A very interesting game is to be made with an action between destroyers at full speed. The rules are on the targets.

4. For 1 pounders, Maxims, etc., an extra strike may be allowed, but the damage is to *personnel* only.

SIGNALLING IN ACTION

These rules can of course be omitted if desired, but it is better that they should be included in their entirety and strictly adhered to.

1. Any general orders may be issued verbally beforehand, but none are allowed after the pieces begin to move.

2. A code of signals should be prepared beforehand (either service or special code) and acted upon, thus: The admiral or senior captain calls out the signal any time *during a move* (not in the intervals). Thus he may call, '8 S.P.', which may stand for, 'Alter course in succession 8 points to port.' Each other player may reply, 'Yes', for the answering pennant, or, if necessary, 'Not understood'. The admiral may call out, 'Act on signal', any time afterwards that he sees fit *during a move*; or he may cry, 'Annul previous signal', etc.

3. If any verbal directions are given, other than by signal code, they are to be known at once by any enemy within signalling distance.

4. The maximum signalling distance is 10,000 yards; it may be much less, according to the weather. The umpires must settle such questions.

5. Ships that have lost their masts or received enough fire to destroy all halliards, may not signal in any way (unless, of course, near enough for hand signalling), and should any do so, it is to count as an engine room breakdown (*see* **MISTAKES**)

COAL PROTECTION

Two bunkers are presumed to occupy one section, and damage limited accordingly. It must not be forgotten that coal does not keep out water.

STEERING WAY

Ships must be doing quarter speed or over, destroyers and torpedo boats half speed or more, to be able to steer normally.

GENERAL NOTES

1. When ships are much mixed up, the umpire should note whether any other vessel is in or near the line of fire. If the former, it must be counted as fired at, if the latter, a toss up [coin toss] with even chances is to decide.

2. Should any player fire with guns that would not bear, such fire is to count as a miss.

3. Quick fire guns are presumed to be firing the whole of a move, and no tickets need be dropped for them. Should any other ship pass between the vessel firing and the target, she must receive a proportion of the fire unless the player of the firing ship calls a 'cease fire', in which case the damage done must be proportionately less.

4. Particulars as to ammunition allowance will be found in 'Strategical Game Rules'.

5. The umpire should always note or indicate the number of each move. In cases of temporarily disabled guns, etc., players should always note upon their scoring tables the move when those guns may fire again.

6. *Sinking Ships*. - From five to fifteen minutes, according to size, should be allowed for the sinking of a ship. A sinking ship should be indicated by laying the piece on its side.

7. The 'shooting targets' are not named: recognition of a ship is left to the enemy's knowledge. Shields or signal masts may be removed by any player, and any feasible disguise adopted, provided it be marked on the shooting target.

8. For armed liners, the *Powerful*'s shooting target can be used; for colliers, any ship about 300 feet (12 sections) long. It must be borne in mind that engines occupy the lower deck amidships, so that hits there will be vital.

PART II
STRATEGICAL GAME

Note. - It is quite possible, on the system here given, to play out a war between any two countries with a considerable approximation to every possible factor. Since, however, this needs many players and a great expenditure of time, some campaigns which are simple and easily played are instead suggested on page 25 [original pagination].

The particular and characteristic feature of the game is that allowance is made for the *cost* of everything - cost being a dominant factor in all modern warfare. Thus, for instance, the very vital question of commerce attack and defence in a naval war is governed by the question of cost; or to take a simple case, the bombardment of unfortified towns always presents the problem whether the cost

Figure 2: The open box contents of the Jane Naval War Game (Naval History and Heritage Command).

of ammunition plus the risk equals the damage done to the enemy.

Consequently this 'strategical game' is so arranged that there are the belligerent governments who have to arrange cost, supplies, ways and means, the 'admirals' concerned with the purely military strategy, and the 'captains' whose duties are tactical only.

In a large mess, where plenty of players are available, it will be found that a campaign on the lines suggested is not only productive of interest, but likely also to produce tactical problems that might not otherwise be thought of.

GENERAL RULES

1. The players representing the belligerent governments should if possible not fight ships, but merely direct operations.
2. A player should be appointed to every warship, who should fight that ship and that ship only.
3. Command of ships is to be always by seniority

4. Each side should have one player who sees to all colliers, merchantmen, and transports.

5. To each side should be assigned a total number of points from which *all* expenses must be paid, and to be increased only by commerce. (See page 21. [original pagination])

These points provide:-

(1) Ships in commission
(2) Ships in reserve
(3) Docks, bases, coal stores, magazines, etc.
(4) Soldiers, etc. (for combined operations)

The following is a simple scale of costs that answers all practical purposes:-

		Points
Every round of A ammunition		5
Every round of B ammunition		4
Every round of C ammunition		3
Every one minute's fire of:-	D ammunition	2
	E or its equivalent	1
Spare guns A		50
Spare guns B		40
Spare guns C		30
Spare guns D		20
Spare guns E or its equivalent		10
Mines of any sort sufficient to cover one square		15
Every Brennan or other torpedo		5
Every day's supply of coal, irrespective of size of ship		1
Every section of a ship repaired		3
Every section of a ship repaired if with f armour		6
Every section of a ship repaired if with e armour		9
Every section of a ship repaired if with d armour		12
(No armour thicker than d may be replaced)		
Every fort		200
Pneumatic guns		50
Shell for pneumatic guns, per round		50
Submarine boats, each		50
Colliers, merchantmen etc. (able to carry 10 points freight, or 20 days coal, or 250 troops, speed 12 knots)		50
Liners (able to carry 1,000 troops, or 20 points freight, or 40 days coal, speed 18 knots)		200

Liners, if 21 knots speed   250

In addition to the total points from which the cost of things enumerated above must be deducted, each territory should possess sea coast towns, usually worth 50 points each, a few worth 100, and one worth 200, which number of points will be lost if those towns are bombarded.

Full details of each of these things will be found following under their respective heads.

Record of points, other than those expended on ships' guns, forts, etc., is best kept by counters worth 1, 3, 5, 10, 50, 200, respectively.

If there are separate envelopes for each ship engaged, in which are kept that ship's ammunition tickets and coal points, and separate envelopes for each store at the base, no difficulty will be experienced in keeping due tally of everything. Each ship needing coal or ammunition will apply to its home port for these things, and in the case of outlying stations it will be one of the problems of the 'government' to keep these supplied.

The exhaustion of reserve points on either side thus makes a defeat of that side.

MOVES

1. A sketch map is provided. Each captain (or admiral) should have one of these, on which he marks his course, general in six hour runs. Each 'government' should also have one on which are marked all moves ordered. On this chart anything known of the enemy's moves may also be marked.

2. The umpire should have access to all charts and mark all moves upon a private chart of his own. He can thus at once determine when hostile vessels meet.

3. For convenience, the sketch maps are divided into 100 mile squares, 125 miles each on the diagonal.

4. Any captain moving his ship too far must score a breakdown, the nature of which will be communicated to him by the umpire, but must not be known to any other players, except to such as he may communicate it by signal. The government is not to know of it till the news reaches them by coastguard or despatch vessel.

5. In day time, ships within ten miles or so shall be presumed to sight each other; at night it must depend upon the weather (see WEATHER), and be at the umpire's discretion.

6. When ships are within sighting distance a black buoy should be put for each upon the game squares. Each square is then to be considered 1,000 yards. Moves, made by the admirals only, will be in squares, as the ordinary moves (ie. five for 15 knots speed, six for 18 knots speed, etc.), and each will represent 10 minutes of time. Half a square should be lost for a turn of eight points or over. It must be borne in mind always here, that three squares diagonally are equal to four straight - in other words, a diagonal = 1 1/4 squares straight.

9 knots   =   3 straight   =   2 1/4 diagonally

12 knots	=	4 straight	=	3 diagonally
15 knots	=	5 straight	=	3 3/4 diagonally
18 knots	=	6 straight	=	4 1/2 diagonally
21 knots	=	7 straight	=	5 1/4 diagonally
24 knots	=	8 straight	=	6 diagonally
27 knots	=	9 straight	=	6 3/4 diagonally

7. Moves must be simultaneous.

8. All ships within sighting distance must be in proper station.

9. When combatants approach near enough to make out details, they can demand to be shown the hostile piece or pieces, but the name is not to be told them.

10. So soon as the leading ships are 5,000 yards off each other, the board must be set up with the proper pieces, and the tactical game played with the squares representing 100 yards. An action should be played out, and after the battle the 1,000 yard squares used again so long as ships are in touch.

11. It is important that coal, ammunition, etc., should be carefully reckoned. When the game is played with portions of the British Isles or other small area, the coal endurance of ships should be artificially limited. Ammunition supply should also be fairly low: from ten to twenty rounds per gun, according to tonnage of ship and number of guns, will be ample.

12. Ships that have used three quarters of their coal supply will lose one grade of armour protection at waterline.

TIME FOR VARIOUS OPERATIONS

A 12 knot ship takes eight hours twenty minutes to run 100 miles, ten hours twenty five minutes to run 125 miles (a diagonal).

A 15 knot ship takes six hours forty minutes to run 100 miles, eight hours twenty minutes to run 125 miles (a diagonal).

A 18 knot ship takes five hours thirty five minutes to run 100 miles, six hours fifty seven minutes to run 125 miles (a diagonal).

A 21 knot ship takes four hours forty five minutes to run 100 miles, six hours to run 125 miles.

No destroyer may cruise at over 21 knots, and at that speed only for a very limited time.

To take or discharge ammunition, wounded, stores, fresh ratings, or anything else not otherwise specified, six hours.

To take in one day's coal, six hours.

Each additional day's coal, one hour.

To bombard an unfortified town of 50 points, three hours.

To bombard an unfortified town of 100 points, five hours.

To bombard an unfortified town of 200 points, seven hours.

To embark or disembark landing parties or troops, per 1,000 men, ten hours.

To destroy coal or other stores, six hours.

To destroy docks, etc., twelve hours.

To capture or destroy merchantmen, etc. (includes sending prize crew on board), six hours.

To take possession of warship captured in action, to take in tow, etc., at umpire's discretion.

To move troops or landing parties three miles (not more than fifteen miles per day may be covered), one hour.

To dock or undock a ship, six hours.

Going in or out of harbour - minimum, one hour.

To destroy coastguard station, six hours.

To cut cables - minimum, twelve hours.

To lay electro-contact mines, one square per ship, six hours.

To lay observation mines, one square per ship, twenty-four hours.

To countermine or creep (not under gun fire), twelve hours.

To repair damages after action by ship's company, per section per 100 men available, twelve hours.

Communication by boat, to get boat out or in, one minute.

Pulling boat, per 100 yards travelled, one minute.

To repair ship in dockyard (see **REPAIRS**).

WEATHER

1. Weather must be included in any strategical game.

2. The umpire should prepare a list of weathers from the date of war imminent, and arrange these in periods of six hours. Before each six hour move the weather should be stated. The state of the barometer, whether rising or falling, should always be announced also.

3. Weather should be tabulated in the usual fashion from 0 to 9. An announcement, as 'wind South West, force 3; bright - glass rising', or 'wind, 0; thick fog; glass falling', is sufficient.

4. The effect of weather on speed, etc., must be allowed for, and low freeboard ships should soon lose 3 knots speed against a head sea. So too, torpedo craft must rapidly lose speed in a sea way.

5. Guns on the main deck level, or lower, must not fire against a head sea in dirty weather; if the weather grows worse, these guns should be forbidden to fire at all before the beam.

6. When the sea is enough to make ships roll, hits directly below the water level should on even chances count as penetrations below the armour belt. But also, all ships that are lively should use a target for 1,000 or 2,000 yards greater than the actual; and, if the weather is very bad the umpire may direct players to use the shooting targets with their eyes shut.

7. It is not considered advisable to tabulate rules for all the innumerable eventualities of weather, the answer to each question that may arise being better left to the umpire's decision.

8. In campaigns around a coast the umpire should note the ebb and flow of tides, and ships under way in tidal waters gain or lose an average 3 knots an hour. This rule must be included.

SIGHTING

1. In clear daylight ships may be assumed to sight at 10 miles; in squally daylight, at a lesser distance, as umpire may decide.
2. At night, with moon, about five miles may be the limit. On dark nights the sighting distance may be reduced to 1,000 yards or less.

NIGHT ACTIONS

1. The shooting targets must always be for 1,000 or 2,000 yards greater than the actual.
2. All night actions should be played with black buoys for big ships, red buoys for small cruisers, green buoys for torpedo boats and destroyers.
3. The maximum firing range should not exceed 2,000 yards.
4. Torpedo craft may be sighted at 2,500 down to 800 yards, according to the weather. It may be laid down as a general rule that:-

   (1) Boats going full speed are visible at 2,500 yards on clear nights, at 1,500 yards on dark nights, or if they are coming down against the moon.
   (2) Boats at half speed may be visible at 2,000 yards on a clear night, down to 1,000 on a dark night. The ship is visible to the boat at the same range.
   (3) Both ships and boats shall always have even chances of not sighting for 500 yards nearer than the ranges mentioned.
   (4) The throwing for this to be done by the umpire.
   (5) The rules for firing at torpedo boats will be found on [page 14]. If a boat is under search lights, it is to be fired at with day chances.

SEARCH LIGHTS

It is only possible to make very conventional rules for search lights, since more realistic rules are too difficult and confusing to work.

1. Range of lights is 3,000 yards.
2. If the boat is sighted, the light may be considered placed on it, and hitting chances as per day actions. But any other boats approaching the ship that side will be able to approach 500 yards nearer without being sighted than they otherwise would.
3. No allowance is made for aimless searching with a light.
4. Any ship using lights must indicate the fact in some way, and is visible at any distance up to 10,000 yards. But approaching vessels can gauge its distance only on a one in six chance, and on this scale:-

A six is correctly gauged.

A five is estimated 1,000 yards farther than actual.

A four is estimated 1,000 yards nearer than actual.

A three is estimated 2,000 yards farther than actual.

A two is estimated 2,000 yards nearer than actual.

A one is estimated 3,000 yards nearer than actual.

And moves must be made on that principle.

5. Any boat passing through a fixed ray is seen, but has four in six chances of being lost afterwards.

(These rules are best avoided if possible, and torpedo attacks played without the additional complication of search lights).

REPAIRS

The length of time occupied by repairs after action is best settled by the umpire, when it is not covered by the rule under **TIME FOR VARIOUS OPERATIONS**.

COMMERCE ATTACK AND DEFENCE

In order to give full value to the importance of seaborne trade, an artificial value is here adopted.

1. Trade routes should be selected, which the merchantmen should more or less follow. They should be in harbour at one end or the other when war imminent is noted, so as to gain simplicity. They should be assumed to carry a certain number of points as freight (see **GENERAL RULES**). After reaching their foreign port, these points become doubled for every hundred miles traversed. If captured, the points thus increased go to the enemy so soon as the prize is got into the enemy's harbour.

2. On one side, food supply should be allowed for. This is best done by making it lose a certain number of points per day; the safety of the commerce thus becomes at once a matter of the first importance, as unless the supply of points from abroad is kept up, the home supply is soon totally exhausted and the war lost.

3. For every prize crew sent out, the attacking cruiser is to be minus one gun (E or over) until she puts into a port where she could obtain fresh men.

4. If the commerce is kept to the routes, there will be no difficulty in calculating captures by an enemy on the route.

5. When one side represents England, it is essential that this commerce game shall be played; in other cases, it can of course be omitted if desired.

6. Convoy does not call for any special rules; it is easily provided for in those given.

FORTS

1. The armament of forts is at the option of players, but must not exceed 150 points worth of guns (see **GENERAL RULES**).

2. Every fort contains twelve sections (of 25 feet each) for every 100 yards of surface covered. It is fired at, etc., just as ships are (see **SHOOTING TARGETS FOR FORTS**).

3. The garrison is to be reckoned at a minimum of ten men per gun, and each gun disabled is to count as a loss of five men.

4. No fort must cover more than 100 square yards. This limitation as to power is for convenience only; any number of forts may be placed side by side, but each, of course must be paid for.

5. Unless a gun is actually hit, any silenced gun can be presumably fit for action as ever twenty-four hours after fire at it has ceased. But if the magazine is hit by a shell, then the fort is totally destroyed.

6. A fort can be captured by a landed force (see below).

7. Every fort is presumed to carry a supply of small quick-firing guns for attack on torpedo boats, and search lights as players may note (not exceeding four per fort).

8. A half fort (value 100 points, with 75 points worth of guns) can be erected if desired, or a smaller proportionate amount. A temporary half fort can be thrown up in five days if the requisite garrison is available.

COMBINED NAVAL AND MILITARY OPERATIONS

1. Each unit of 250 men shall be presumed to consist of all the necessary arms.

2. Where hostile forces meet, numbers shall always be considered to win the day. If the victors are two to one, the vanquished are to be presumed totally defeated, and to have capitulated. Losses are on the following scale:-

Troops in forts or entrenchments are to count as double numbers. Thus, 500 men, who could be forced to capitulate to 1,000 men in the open, will need 2,000 to

Proportion.	Loss to victors.	Loss to vanquished.
100 to 50	$\frac{2}{10}$ of total vanquished	$\frac{18}{10}$ of their total
Over 100 to 25	$\frac{1}{10}$,, ,,	$\frac{18}{10}$,,
100 to 75	$\frac{3}{10}$,, ,,	$\frac{5}{10}$,,
100 to 100	Toss up.	Result as though 100 to 75.

capture them if in a fort.

3. A battle is to occupy 12 hours.

4. Troops are embarked or disembarked at the rate of 100 men per hour.

5. Troops that have experienced weather or over during transit are to have only half value for the next twenty-four hours.

BOMBARDMENTS

Figure 3. The materials to play the Jane Naval War Game (Naval History and Heritage Command).

1. When unfortified towns are bombarded, projectiles to the value of half the town must be expended. A 50 point town is destroyed by 25 points worth of projectiles - time, three hours; a 100 point town by 50 points of projectiles - time, five hours; a 200 point town by 100 points of projectiles - time, seven hours. If less are fired, damage to be proportionately less.

2. Ransoms. - If a ransom is demanded, twelve hours must elapse. The ransom becomes the property of the enemy when it has been sent back to an enemy's port, not before. Neither belligerent is bound to adhere to the terms of the agreement.

3. Long range bombardments. - As these are likely to be attempted in war, the following rule is drafted to meet the case:-

A rough plan of the place to be bombarded should be drawn on scale upon one of the blank scale sets of squares. All docks, stores, magazines, etc., must be indicated, also hills (if any) that would give cover. Scale of map 1 inch = same distance as range, ie., at 10,000 yards 1 inch = 10,000 yards.

The side that fires is provided with another set of squares, upon which only hills and very prominent buildings visible from that position are marked. He strikes at this with the striker as at the shooting targets. The guns do damage on the ordinary scale, each section being reckoned at twenty-five feet square. If the range is over 10,000 yards, the firer must strike with closed eyes.

If forts reply, they will strike in similar fashion at sets of squares on which the positions of ships are indicated. If the ships are below the horizon, the reply must be on a blank set of squares. If ships are hit, the damage can then be located either

by dice to the number of the ships' sections, or by an ordinary shooting target. Shell will damage to the full on the two upper decks. Shot will go through to the protective deck, and will penetrate.

If there is no question of getting through with the bombardment before the enemy's ships come up, and if there is also no return fire, this system is unnecessary, the length of time necessary and ammunition expended can be calculated sufficiently nearly.

MINES AND COUNTERMINES

1. A minefield must be charted out on a set of blank squares - scale, one square = 100 yards. Admiralty charts must be used for soundings, width of fairway, etc. Firing stations and cables must be indicated.
2. Ships rushing a minefield will play on the ordinary squares. Coasts, etc., must be indicated upon them, however.
3. All squares with mines under them must be buoyed, but of course, additional and bogie buoys can be placed.
4. If the mines are observation mines, they may be exploded at will. The ship is sunk and blocks that square. If the mines are not observation mines, a ship has even chances of escape.
5. Countermining. - Allow twelve hours per square per ship. Countermining under fire can be played out if necessary, but the twelve hours may be assumed to cover silencing small batteries. Where grapnels are used, the umpire can immediately tell whether the wires have been encountered if the course of grapnel in indicated on a corresponding blank square map. Chances according to the bottom should be given. The explosion of countermines does not call for any special rules.

BRENNAN TORPEDO

1. The course must be indicated by a moving buoy. The station must be noted on a chart.
2. Speed (maximum), nine squares per move. Turn, every square, four points. But turns may only be in an onward direction.
3. If any vessel passes between the torpedo and its station, the torpedo must go onward at full speed. Even chances whether wires are cut, but if an explosive grapnel is towed astern it should be assumed a certainty.
4. The Brennan may not act in weather 4 or more.
5. Any ship hit is sunk.
6. It may not be fetched back under fire. To start a fresh one shall take three moves.
7. If the station is not in a fort, it is liable to be fired at in same chances as a destroyer or torpedo boat. If under cover of a fort, its existence depends on whether that part of the fort is hit. If hit by shell while torpedo is getting ready, the fort is destroyed.

PNEUMATIC GUNS

1. Rate of fire every four moves. Damage, as 16 inch High Explosive shell. Range, 2,000 yards.

2. For firing, the 4,000 yard shooting target must always be used.

3. The position of the gun (on shore) is not indicated in any way, but if a ship's Hotchkiss are directed on the particular square where the gun is, it is destroyed. The attack are cognisant only of it by information from the umpire (in case of a miss) that a heavy explosion has taken place near them. An indication should be put down for this and for all subsequent shots.

SUBMARINE BOATS[5]

1. Speed, 9 knots. Turn eight points every second square. Underwater endurance, twelve hours. From harbour, twenty-four hours.

2. The player of a submarine boat marks his course on a set of blank squares; he may not see the board squares.

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[5]   *Hints on Playing the Jane Naval War Game (1901) - Submarines (new rules)*. All the old rules are cancelled. For purposes of the game submarines are assumed able to do all that is claimed for them. These new rules are designed to give the maximum of simplicity, while keeping the problem purely tactical, without any chance element other than miscalculation:-

1. Speed of boats 12 knots; turn every square up to ninety degrees without loss of speed.

2. Submarines are indicated by a very small pin or other minute object placed on the board. While above the surface or using the periscope (optic tube) they are moved by their player just as ships are.

3. Big ships cannot (at present) claim any fire against submarines.

4. The operation of rising, looking round, and sinking again, may be allowed to occupy one move only. It will all take place on one square.

5. A boat submerged is worked by the umpire as follows: - The player notes on a piece of paper (1) speed (2) depth proposed moving at (3) distance proposed to be travelled (4) direction. A submerged submarine is not conscious of the presence of a ship, *unless* that ship passes over the same square. In such cases the player is told; he may then fire a torpedo, or elect to rise and observe.

6. If a submarine gets within 300 yards of a ship, and is ahead of it, it may be assumed to torpedo. If off the bow, the torpedo has four chances in six of success. If off the broadside two in six. If astern no chances unless the ship is doing more than 9 knots.

Orders by wireless telegraphy may be sent to submarines on the surface.

Attack on Submarines. -

1. *By destroyers, etc., armed with spar torpedoes*. If these reach the square a boat rises on during the same move they destroy the boat. If they reach it *just* afterwards, *ie*., during the first half of the next move, they throw a dice, even chances to destroy.

2. *By time fuse torpedoes*. The firer has four chances in six of destroying the boat up to 500 yards.

3. *By time fuse High Explosive shell to burst on graze*. Only one chance in twenty-one (double ones) with two dice per ship per move is at present allowed for this.

4. *By capture*. Destroyers, picket boats, etc., coming up with a boat on the surface, or using a periscope, may capture that boat.

5. It must be borne in mind that if a boat *is* destroyed neither the attack nor defence are to know it.

6. It is unlikely that a boat could avoid being sighted by day. The use of small indicators will give a sufficient chance of the boat being overlooked by the other side. At night a boat cannot be sighted.

7. In harbours, etc., the umpire must be on the look out for boats running into mud banks, mines, and obstructions generally.

3. The players of ships are to be ignorant of his existence; the umpire must note whether he approaches squares that ships are on.

4. To come to surface, or sink, counts as a move. If the boat comes to the surface it must be there one move. If up for air, four moves for each hour of air wanted.

5. The umpire throws chances of boats on surface being detected: daytime, to detect, double sixes; night, four sixes are necessary. This for each ship within 1,000 yards.

6. When on the surface, the submarine player is told the ships and their courses within 1,000 yards, but not their distance.

7. If sighted, the boat may be fired at; one chance in six to sink it, or strikers may be used against a mark the size of a pin's head.

8. Underwater, the submarine is cognisant of a ship's whereabouts, only if directly under it or two squares directly astern of it.

9. It cannot see anything on the surface in weather above 3. If it attempts to take air in weather above 3, it is swamped. When taking air, it cannot sink in under two moves. If without air for more than twelve hours, its crew are considered dead.

10. It fires two torpedoes; same chances as British submerged tubes. But if within 100 yards of the explosion it is destroyed.

11. The depth at which a boat is must always be noted and compared with the soundings. If it grounds, it is destroyed.

12. If a mine is exploded on the square under which the submarine is located, it is destroyed.

SCOUTING

The marking of the sketch map into 100 mile areas makes every method of scouting easily played, so long as courses are clearly marked and each hour's run ticked off. Where a still greater accuracy is required, the blank squares can be utilised, each set of squares representing one square on the strategical map. In conjunction with the sighting and weather rules (see earlier), an innumerable number of problems may be tested with some considerable approximation to actuality.

INFORMATION AS TO HOSTILE MOVES

Movements of enemy are known to the higher naval headquarters: -

1. When sighted from any home coast, or outlying station that has telegraphic communication unimpaired, at once.

2. When sighted from neutral coast, twelve hours later.

3. When passing neutral coast, out of sight, but in track of fishing boats, shipping, etc., twenty four hours, or more at umpire's discretion.

Rules as to information and the sending of information must be strictly adhered to; and all information conveyed form higher naval headquarters to their admirals and captains, or between ships, must be through the umpire and at his discretion.

CRUISING SPEEDS

Fleets must cruise at, at least 1 1/2 knots less than the maximum assigned speed.

For strategical game play, speed units of 1 1/2 knots should be employed, or even smaller units.

Ships running at full speed should throw chances of breakdown for each six hours accomplished.

COAST WARFARE GAME[6]

A game is now issued for the special study of coast warfare problems. The usual rules are to obtain throughout; most additional special ones are printed on the special diagrams with which they are concerned.

The game does not contemplate operations against first class naval ports, though of course, by putting up enough forts such can be simulated. It is intended rather to cover with as much detail as possible all those minor operations so frequent in real war. Chief amongst these may be noted:-

Attack and defence of coaling stations defended by only a few guns.

Long range bombardments.

Covering landing parties, etc.

Attacks on estuaries.

Running past forts.

Operations in creeks against monitors or gunboats, etc.

(For all special targets and models are issued).

The principle general rules to obtain are as follows:-

The coastline should be carefully marked, either by chalk upon the blue squares, or (which is better) by the special coastline models which can now be procured from the publishers (Messrs. Sampson Low, Marston & Co., Limited, Fetter Lane, London). Soundings should be generally indicated by chalk lines on the blue, so far as they concern the vessels engaged.

It is desirable for various reasons to import as much realism as possible. In the first place, in the naval game it has been found considerably more satisfactory to play with the proper scale models showing guns, etc., than with something else 'representing' the ships. In the second place, for coast operations it is very desirable that the nature of the coast should be shown at a glance and obvious during all the operations. Further, the special coast and land provided is marked into squares upon a special system that takes into account the nature of the ground, and provides automatically for difficulties of this nature. Thus, the inherent effect of the ordinary land war game is totally overcome, and the time required to reach a certain spot as difficult to calculate as in the real thing. And here it may incidentally

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[6]   *Hints on Playing the Jane Naval War Game (1901).*

be remarked that this coast operations game may be indefinitely extended to cover all land army operations.

The land is made in small sections that can be pieced together to copy almost any country or coast with all the exactitude really necessary. It is made in four varieties, good - moderate - poor - and bad marching country, and can always be formed into hills, valleys, etc, as desired. In addition, railroads, roads, woods, rivers, bridges, stations, houses, towns, etc., etc., are provided either for make-up as desired, or (to order) in exact scale imitation of any particular place.

The marching distance is always the same - one square - the square varying in size with the ground - the nature of which is roughly indicated by its colour (cavalry gallop, three; or trot, two squares per move). All elevations are on an exaggerated scale, but the principal of moves by squares is the same.

Ranges are found by measure, 1 1/4 inch = 100 yards (one square in the sea boards).

On the water, speeds must be assigned by the umpire to all small craft engaged, speeds being on the same scale as ships usually move at, ie. 1 1/4 inches (one square) per move (minute), being equal to 3 knots per hour.

20 (water) squares	=	1 sea mile.
18 (water) squares	=	1 land mile (British).
80 (water) squares	=	1 geographical league
11 (water) squares	=	1 verst.
11 (water) squares	=	1 Swedish mile.
1 (water) square	=	100 yards (British)

The British land mile is not quite exact, but the difference is negligible over the limited amount of country that would be employed. The error is only 1 water square (= 1 1/4 inches) in 2 1/2 miles.

LOCATION OF GUNS

The most important point in this coast operations game concerns the location of guns. In the ordinary way guns should not be allowed located till they fire, but as this must often be governed by special circumstances, the umpire's decision is the best rule. Balloons, previous reconnaissance, and so forth will always affect the question, while there is always the chance of guns not being located even after they have opened fire.

BALLOONS, AIR SHIPS, ETC.[7]

The special appliance supplied for these admits of almost every conceivable advance in this direction. The apparatus is moved on the usual scale at whatever speed may be allowed: the speed, turning qualities, and rate of rising and falling

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[7] *Hints on Playing the Jane Naval War Game (1901) - Balloons.* - These, if low down (not over 400 feet up), can see submarines by day. They can claim to drop explosives on them if directly overhead. The Zeppelin airship can be used with the special apparatus; but no special rules are considered necessary as yet. Balloon claims are best decided by the umpire on their merits.

must be governed (as with ships and submarines) by the actual abilities of the craft simulated.

It must be borne in mind that the accurate dropping of explosives on a given spot is very difficult if the height is at all great or any speed is on the dropper. In the absence of satisfactory data as to the chances of success at varying altitudes and speeds the umpire must decide these matters on a scale mutually agreed to beforehand.

The same applies to aerial craft operating against each other, but in a general way results should approximate (so far as getting hits is obtained) to those that obtain with ships of the same dimensions.

FIRING IN COAST OPERATIONS

Special targets allow for practically everything likely to be wanted. The only question is the fire unit to be employed when perhaps battleships, monitors, picket boats, field pieces, and infantry are all engaged against each other.

It is best, so far as possible, to take the 12 pounder (one 6 inch = four 12 pounders) as the unit and commute all fire to this. Sometimes a smaller unit may be necessary, as for instance, when military units (companies of 100 men) are firing on picket boats, etc. For each military unit one strike per move is allowed. It damages personnel only, but may be considered to put out of action all personnel in the space equivalent to one section, such as all warship targets and scorers are divided into, the result being halved or quartered by bulletproof protection (or more according to circumstances). Against military units ships' guns may be given the power to do damage by sections just as they do against ships. For ordinary purposes, a military unit (infantry) may be assumed to occupy a front of 1 1/4 inches (one water square). If they are firing from under cover, the result of armour is obtained, ie., half damage only is done (or umpire may allow a quarter only).

If, of course, troops are caught in column or flanked, gunfire will do four times the damage, or thereabouts, according to the special circumstances.

FIRE FROM FORTS

Accurately to assess the relative superior accuracy claimed for practice from forts over practice from ships is very difficult. It is best arranged by mutual decision beforehand whether it shall be done by an artificial reduction of range or by allowing each fort gun a double fire.

Disappearing Guns. - After long experience, the following has been found the best convention for these guns. In the ordinary way, fort guns are marked on the target, and a certain number selected as the real guns, the others being nothing. This is for the old targets with forts divided into twelve sections. Disappearing guns can be allowed for, either by having only two guns to the twelve sections, or else by using the special targets for such pieces. In these, no guns are shown. The player of the fort marks his guns somewhere on the lien of the fort on his scorer, the guns are not considered out of action unless this unknown spot is hit. In order

to allow for the realities, the fort player may only put these guns in two places - either on the lines or in the centres between them. This gives the enemy about his real relative chances as compared to fire against other fort guns. Special targets are now issued for most kinds of forts, as well as for anything else that guns may be used on.

TORPEDO ATTACKS ON SHIPS UNDER COVER OF FORTS, ETC.

The usual rules for searchlights, etc., fully cover this. It may be noted, however, that the umpire should be shown all firing orders. The principles of such can be fairly well tested by careful games upon this system.

CONCLUSION

Finally, there may be added here the governing rule of the Naval War Game and that which opens the first Book of Rules: -

Nothing may be done contrary to what could or would be done in real war.