



Western Approaches Tactical Unit: Tactics & Training

*Christopher P. Carlson
Historicon 2025*

Admiralty Trilogy Group



Introduction

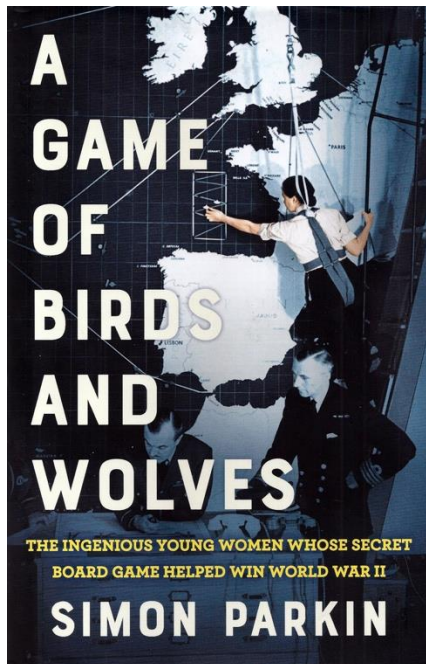


- ◆ **The Western Approaches Tactical Unit (WATU) is one of the best examples of an organization using wargames to solve military problems.**
- ◆ **WATU's primary role was an educational institution - to train convoy escort commanders to efficiently protect a convoy with limited assets.**
- ◆ **WATU was also tasked with analyzing and developing anti-U-boat tactics.**
 - **This role has been exaggerated.**
- ◆ **WATU was, by all accounts, greatly successful. However, that story is essentially a single person narrative.**
 - **And that “story” has many historical inaccuracies.**



Limited Perspective

- ◆ The two published accounts draw heavily from the same main source: CAPT Gilbert Roberts unpublished memoirs.
- ◆ The two books, while similar, have different focuses.
 - Williams' book (1979) is more of a Roberts' biography.
 - Parkin's book (2020) is WATU personnel centric with emphasis on the WRNs.
- ◆ Articles and academic works on WATU are anchored to the two books.



Validity and Utility of Wargaming, December 10th, 2017
Paper for MOIS Wargaming Special Meeting October 2017 - Working Group 2
Wargaming the Atlantic War:
Captain Gilbert Roberts and the Wrens of the Western
Approaches Tactical Unit
by Paul Edward Strong

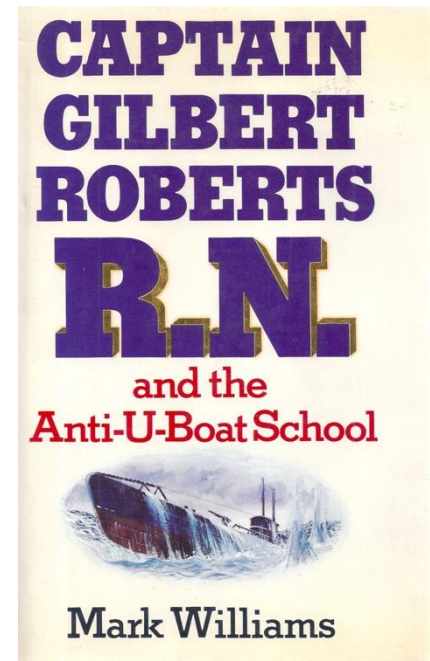


The staff at the Western Approaches Tactical Unit - 22 January 1945.
Note the chalk marks, indicating key moves in the wargame, on the tactical floor
(Admiralty Official Collection IFM)



Abstract

The Western Approaches Tactical Unit (WATU) was a Royal Navy analysis team founded in early 1942. Their remit was to study the conduct of convoy operations, to understand how the U-boats operated and to formulate tactics to counter this evolving threat. The unit was made up of experienced naval officers and a number of talented young women from the WRNS. Using conceptual/analytical wargames, WATU developed a range of tactics during the war and disseminated these to over 5,000 Allied officers through a series of lectures and tactical games. Many of these appeared in the Atlantic Convoy Instructions; and were used with considerable success by Allied naval forces during the decisive engagements of the Atlantic War. The essay outlines the origins and purpose of the organization, how the team functioned, the individuals that conducted the wargames, and the series of evolving challenges that it was intended to overcome - focusing on the series of Anti-Submarine Warfare training and analysis wargames conducted by the unit between 1942 and 1943. The article concludes with an overview of some of the numerous lessons that modern defence analysts could draw from the work of the unit and highlights its utility as an exemplar of the use of wargaming as a tool for modern defence analysis.



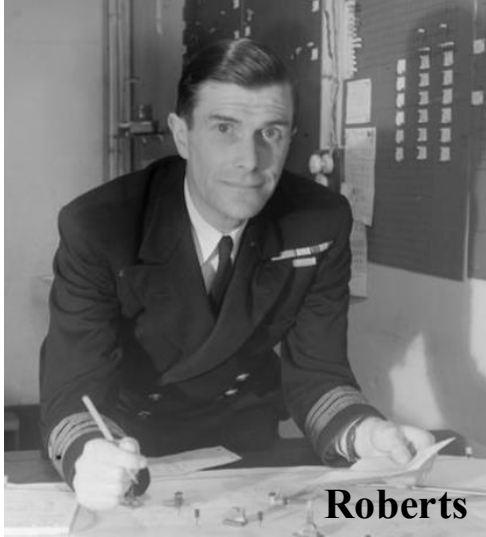


Flawed Perspective

- ◆ **Roberts' memoirs, and by extension the Williams and Parkin books, has a considerable number of historical errors and misrepresentation of events and tactical concepts.**
 - Dates are usually off, and the speed of achievements are exaggerated.
 - Tactical data is incorrectly represented, emphasizes his analytical interpretations.
- ◆ **Roberts wrote most of his memoirs in the mid-to-late 1960s.**
 - ≈65 years old, and 20+ years from the end of WWII.
 - Suffering from continued poor health (tuberculosis) and a failing memory.
 - Suffered from a severely bruised ego.
 - Likely contributed to confusion and confabulation in his recounting.
- ◆ **Roberts' naval career was rather traditional for a Royal Navy officer.**
 - Gunnery specialist, “Gunnery Jack”.
 - Gunnery officer on HMS X.1., an experimental cruiser submarine.
 - Commanding officer of HMS *Fearless* (F-class destroyer, Home Fleet).
 - Career going well until he was discharged as medically unfit for duty (Oct 1938).
 - Very little training and experience with ASW – essentially an amateur.



Gilbert Howland Roberts



Roberts

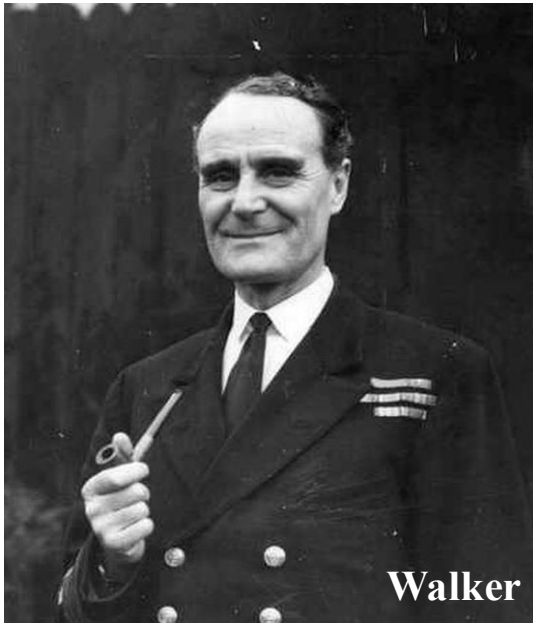


Usborne

- ◆ Hand picked by VADM Cecil Usborne, RN (Ret) to put together an ASW oriented analytical and training school at the Western Approaches Command.
 - Brought on as an aid to First Sea Lord in Nov 1941.
 - Previous Director of the Tactical School at Portsmouth.
 - Understood the value and power of wargaming.
- ◆ Roberts had been a training instructor at the Tactical School in Portsmouth from 1935-37.
 - Enthusiastic proponent of wargaming.
 - Reportedly a keen tactical analyst (small ship tactics).
 - Gifted communicator and an excellent teacher.
 - Fully acquainted with Royal Navy wargames.
 - Used the Royal Navy's 1921/1929 rules as the basis for the WATU game – not Jane's as Parkin suggests.
- ◆ Usborne was concerned about the lack of established anti-U-boat doctrine and tactics, and he was very uncomfortable with the offensive ASW tactics used by CDR Frederic J. Walker.



Frederic John (Johnnie) Walker



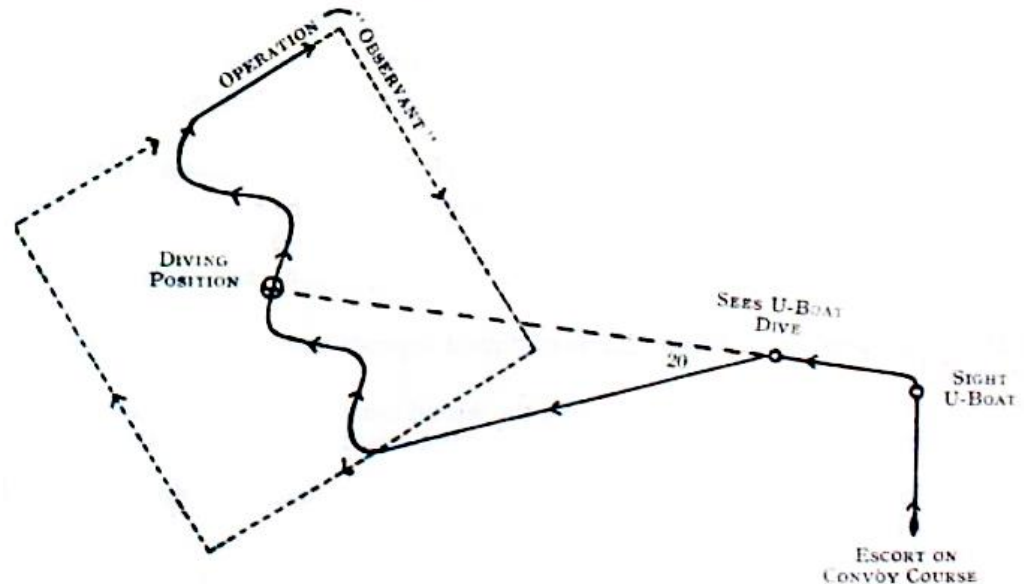
- ◆ In stark contrast to Roberts, Frederic Walker was an ASW specialist.
 - One of the first officers to attend ASW school (1921).
 - Served as Fleet ASW officer in two fleets (1923-31).
 - Commander Experimental Department, ASW Establishment, HMS Osprey, Portland (1937-39).
 - Staff Officer (Operations & ASW), HMS Lynx, Dover.
- ◆ As Senior Officer 36th Escort Group and CO of HMS *Stork*, Walker established the first set of standardized ASW tactics for escorts.
 - Operation Buttercup and probably the Alpha Search.
 - Roberts' memoirs attributes the Alpha Search to Walker.
 - Walker fully embraced the offensive side of ASW.
- ◆ Convoy HG76 was the first clear victory of an escort group over a U-boat wolfpack.
 - Four U-boats sunk for two merchant ships lost, as well as one destroyer and the escort carrier *Audacity*.
 - This was unprecedented, but Usborne feared Walker had just gotten lucky.



The Starting Point for WATU

DIAGRAM "ALPHA"

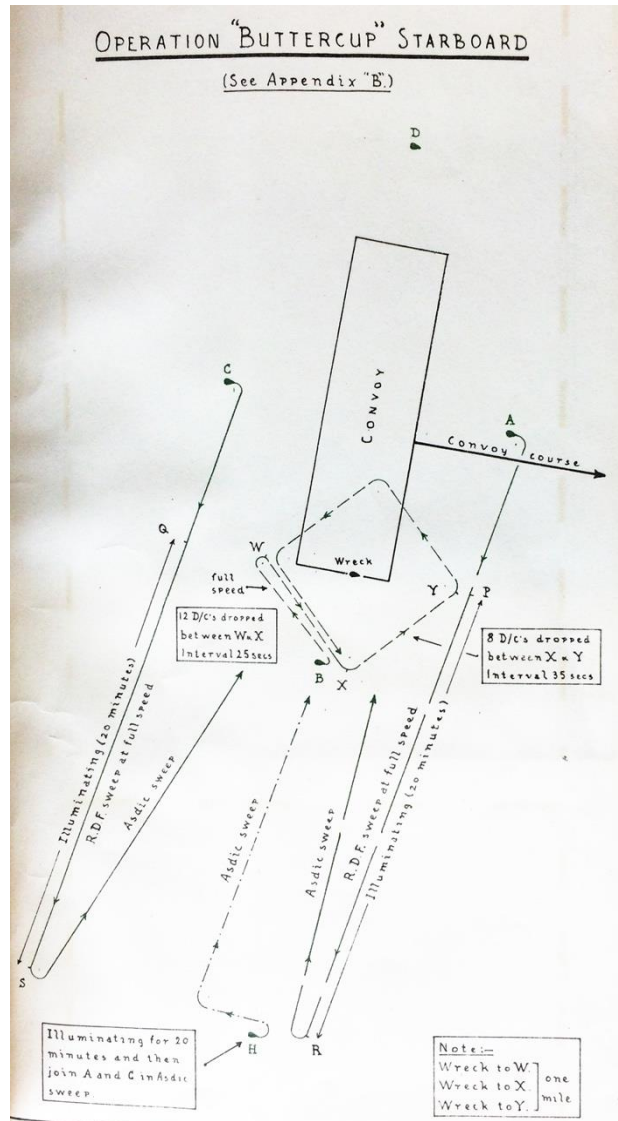
Scale 1 inch = 1 mile.



ADM 239/344

OPERATION "BUTTERCUP" STARBOARD

(See Appendix "B")



ADM 199/1998

- ◆ Operation Buttercup was a coordinated, multi-ship, nighttime, tactical maneuver to counter a U-boat attack.

- Goal: To force a U-boat to submerge.
- Concentrated visual and ASDIC searches.
- Had some faults but was reasonably sound.

◆ Alpha Search

- Method of conducting a structured search.



Operation Raspberry

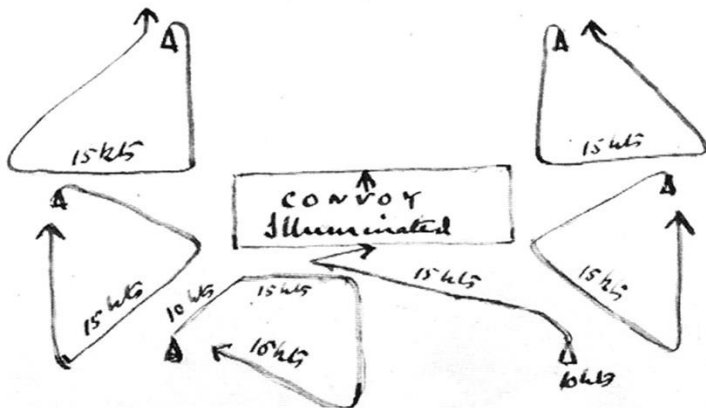
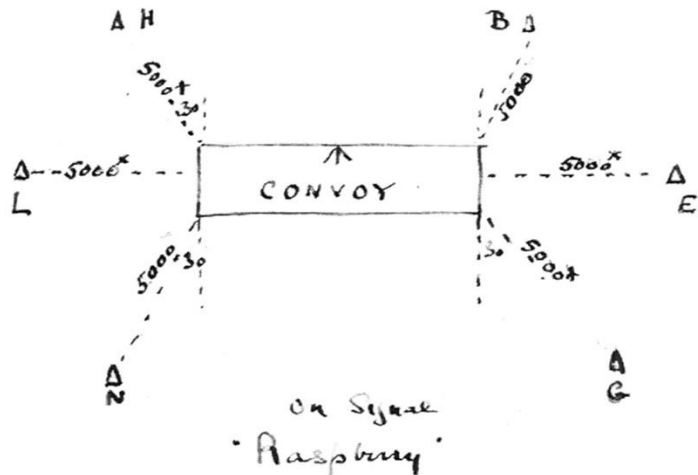
◆ Roberts' critique of Buttercup is unwarranted and in error.

- Misrepresents Walker's tactics, memoirs only partly explains the maneuver.
- Roberts based his argument on a poor appreciation of U-boat tactics.
 - Type of torpedo used.
 - Would not shoot from outside escort ring.
 - Fire from inside the convoy lanes.
 - Submerge after the attack.

Based on German documents and U-boat commander biographies, none of these were correct. Again, this is what was in the memoirs.

- ◆ Operation Raspberry took more than a month (strongly implied) to develop.
- Briefed to Usborne in early April 1942.
 - First use appears to be by escorts of convoy OS28 in May 1942.
 - The actual maneuver bears no resemblance to the assumptions above.

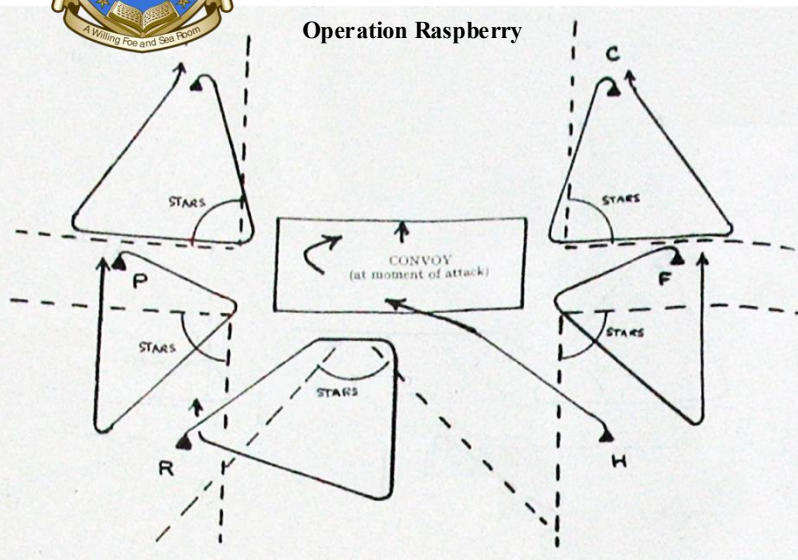
Example of Raspberry with 6 escorts.
Escorts stationed thus:-



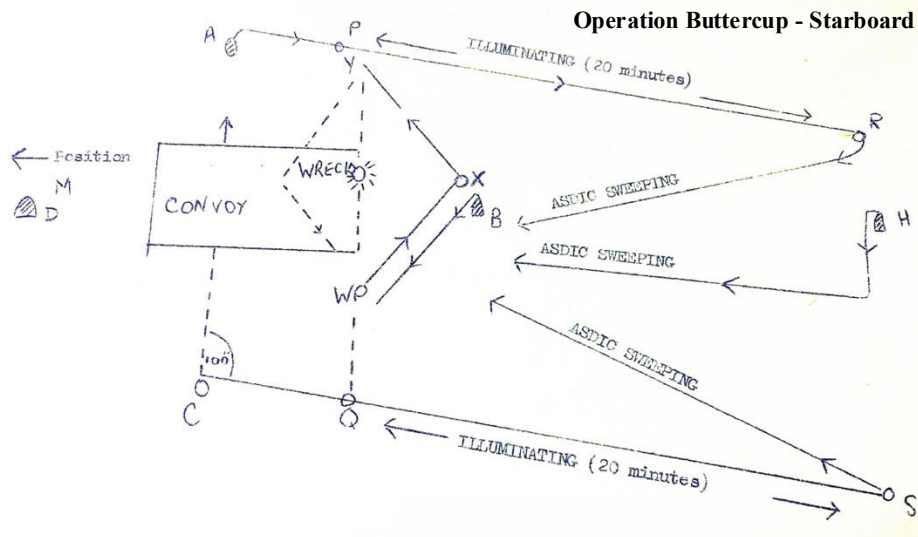


Raspberry is Buttercup v2.0

Operation Raspberry



Operation Buttercup - Starboard



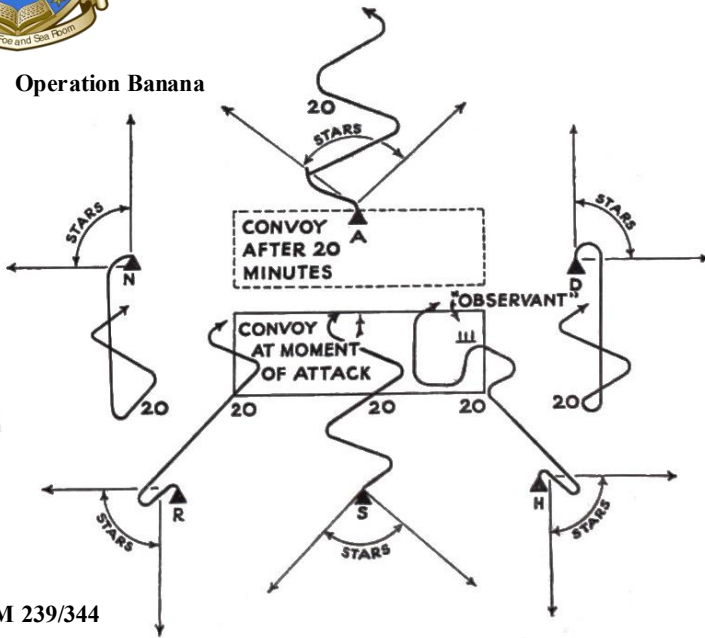
ADM 199/932

- ◆ When compared, Raspberry is essentially a modified Buttercup.
- ◆ The real differences between these two operations are:
 - Raspberry is a full convoy perimeter response – not just to one side.
 - The escorts are further away, turn inward and do ASDIC search first.
- ◆ Walker biographers Terrence Robertson and CDR D.E.G. Weymss make the claim the two operations are linked.
 - “It had some defects, but it proved the fore-runner of a series of operations ...worked out in the tactical school...and passed on as drills to us at sea, the ‘Fruit’ operations.” (Weymss, 1948)



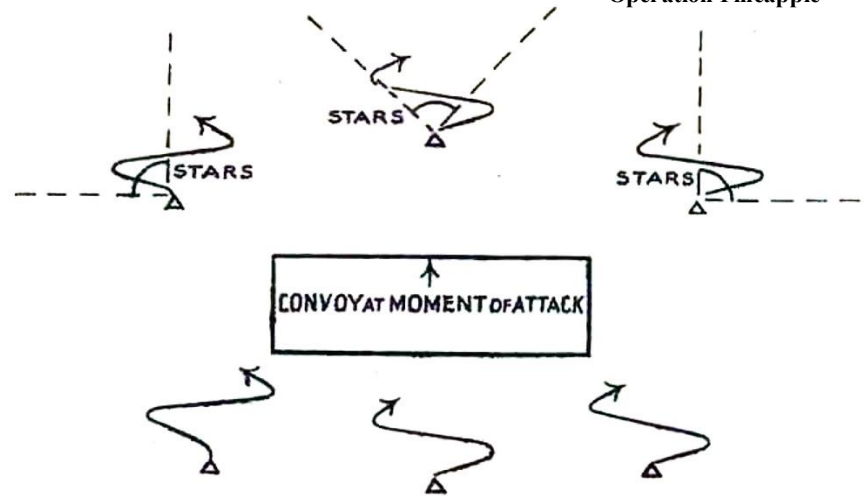
Fruit Operations

Operation Banana



ADM 239/344

Operation Pineapple



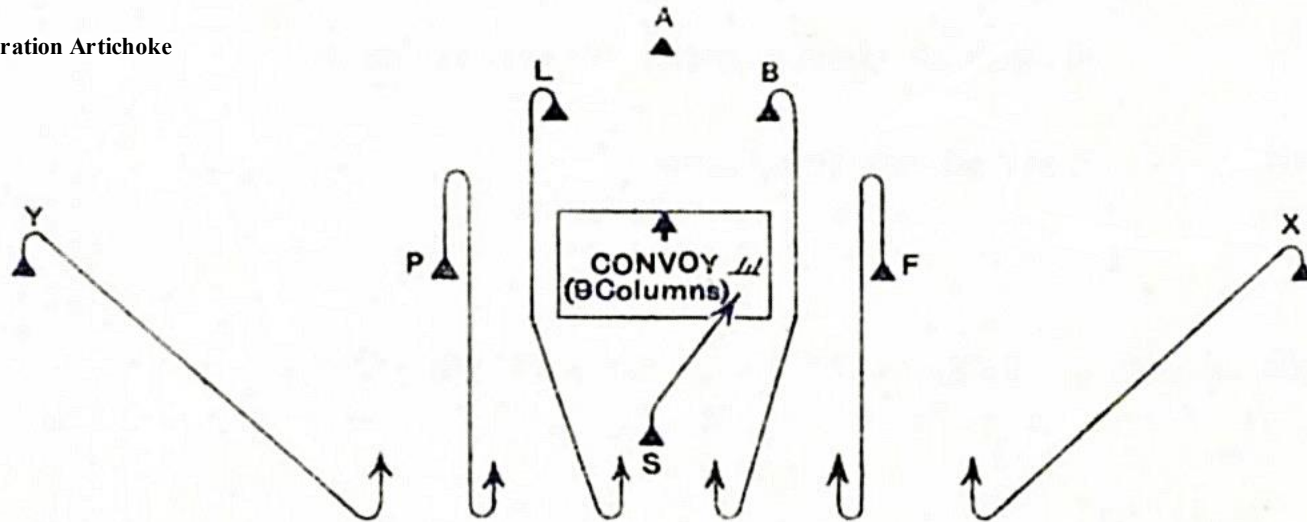
ADM 239/344

- ◆ **Half-Raspberry, maneuver to only one side, even closer to Buttercup.**
- ◆ **Operation Banana was also a full perimeter maneuver but reverted to Buttercup's original visual search first followed by the ASDIC search.**
 - Replacement for Operation Raspberry that was canceled in May 1943.
- ◆ **Operation Pineapple was a maneuver to preempt a U-boat attack, focused to one side like Buttercup and with an emphasis on visual search.**
 - Based on Canadian "Major Hoople" maneuver by LCDR K. L. Dyer.



Operation Artichoke

More Fruit Operations



ADM 239/344

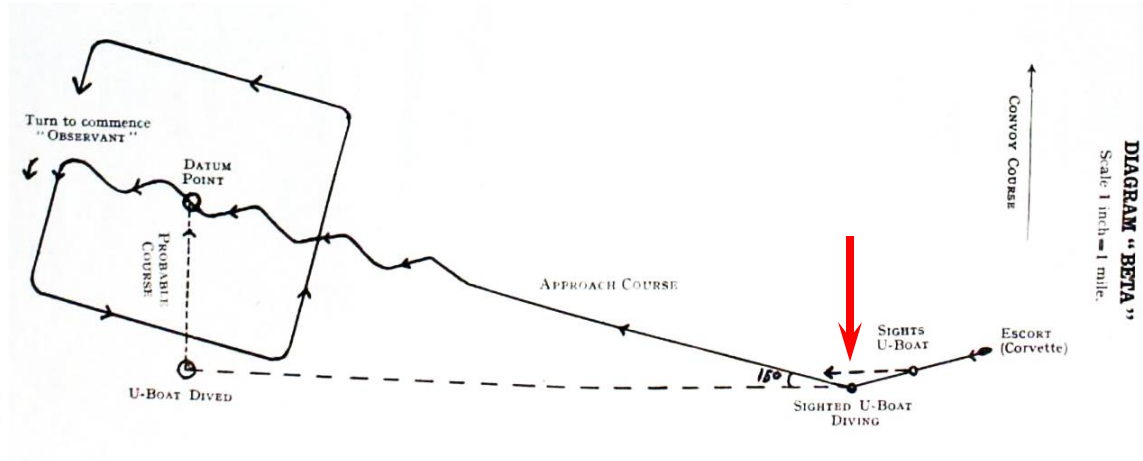
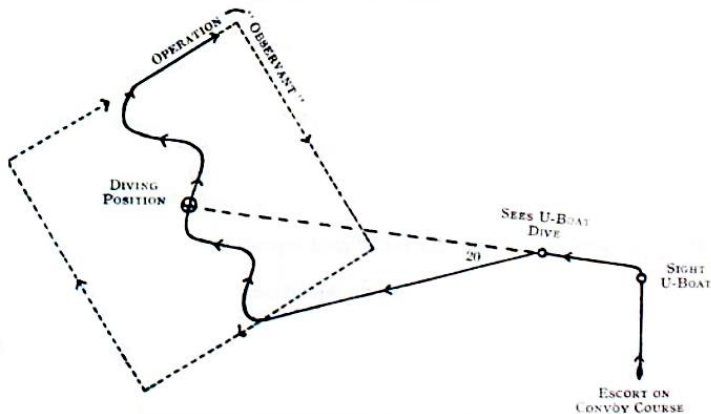
- ◆ Operation Gooseberry was a daytime maneuver to counter an attack by a submerged U-boat. Not accepted.
- ◆ Operation Artichoke was the accepted and promulgated daytime maneuver to counter an attack by a submerged U-boat (U.S. Zombie daylight).
 - This is what Williams referred to as Operation Raspberry in his 1979 book.
 - Hard to find fault with Williams as this is what is described in Roberts' memoirs.
 - Parkin got it right; shows the correct Operation Raspberry maneuver in his book.
- ◆ Operation Strawberry is listed in Roberts' memoirs, no independent evidence of its existence and it was not listed in the Atlantic Convoy Instructions.



Beta Search

DIAGRAM "ALPHA"

Scale 1 inch = 1 mile.



ADM 239/344

- ◆ Roberts claimed the Alpha Search was “ill conceived”.
 - “..it didn’t seem too logical.”
 - “...a sweeping zigzag search to sink a so-called ‘sighting’ of a U-boat...”
 - Zigzag search followed by Operation Observant was the optimum sweep method.
- ◆ Beta Search *did not* change this “flaw” at all – used the same search pattern.
 - Only change was the delay of when the escort turned toward the U-boat.
 - Famous scene where Sir Max Horton played the submarine against WRNS Rating Janet Okell. Horton was “defeated five times” in a row. Different story in Horton’s biography by RADM W.S. Chalmers (1954).
 - Roberts appears to have skewed the results as the game adjudicator – He cheated.

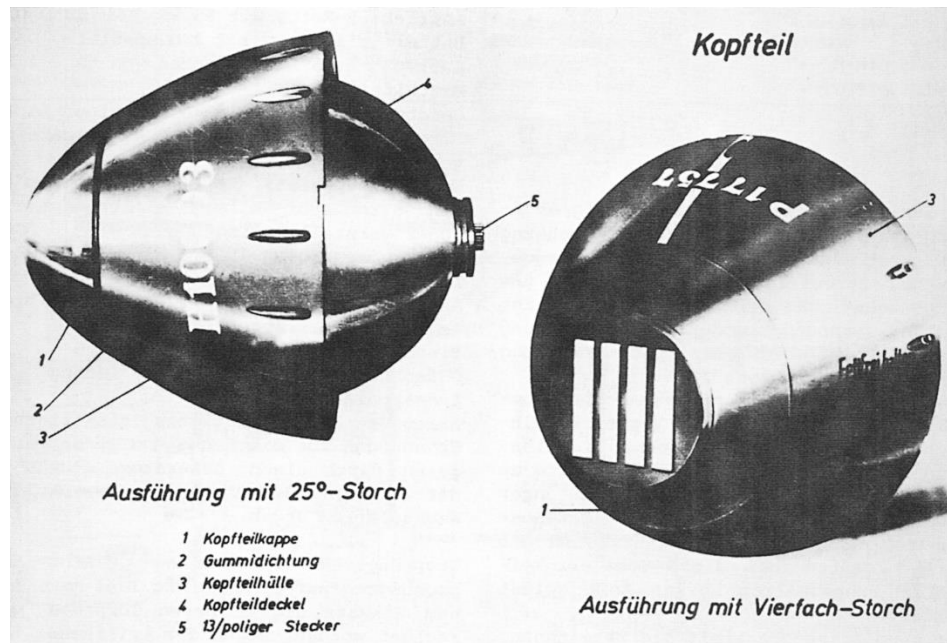


German TV G7es Zaunkönig 1

TXI Zaunkönig 2 Torpedo (similar in appearance)



TV Passive Acoustic Homing Seekers

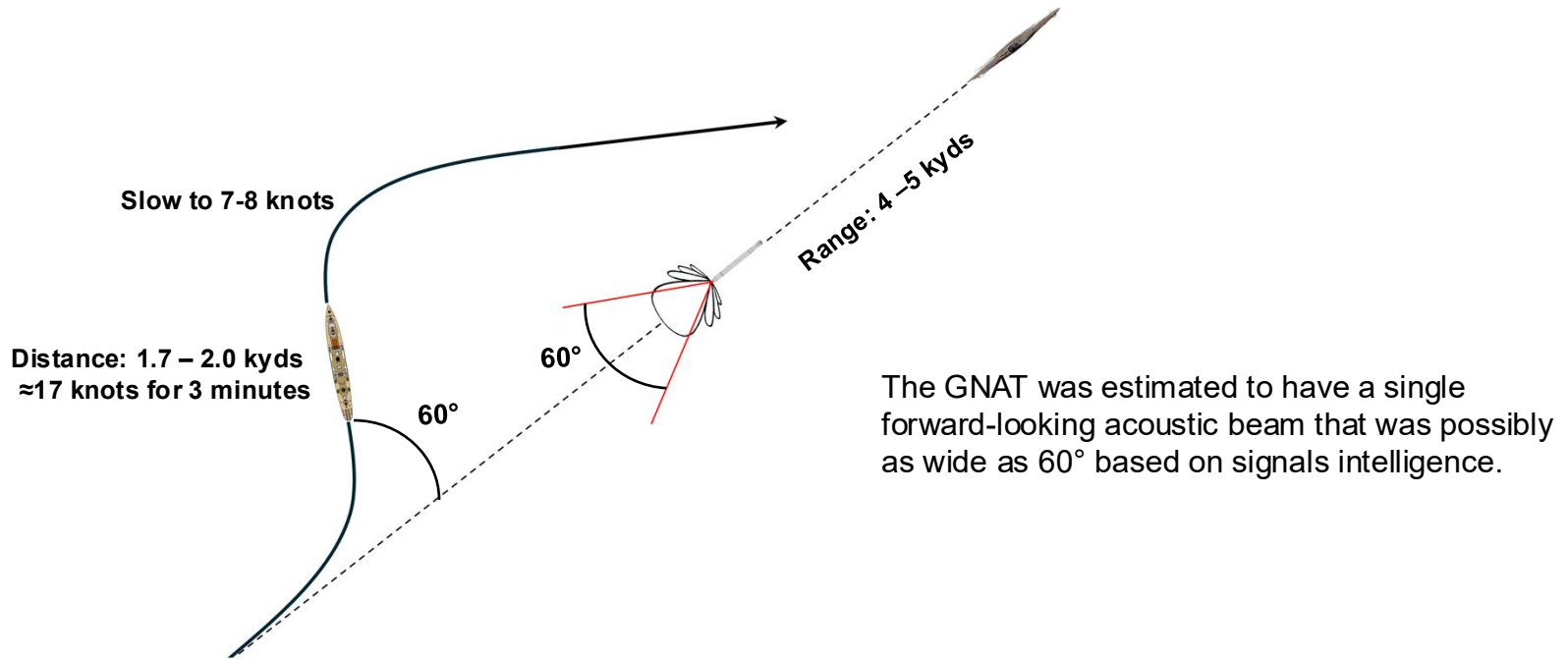


◆ German Naval Acoustic Torpedo (GNAT).

- Passive acoustic homing: 27.5 kHz.
- Homed in on a ship's cavitating propeller noise.
- Target speed range: 10 – 18 knots.
- Torpedo speed: 24-25 knots, Range: 6.2 kyds (5.7 km).
- First used against convoys ONS18/ON202, 19 – 24 September 1943.



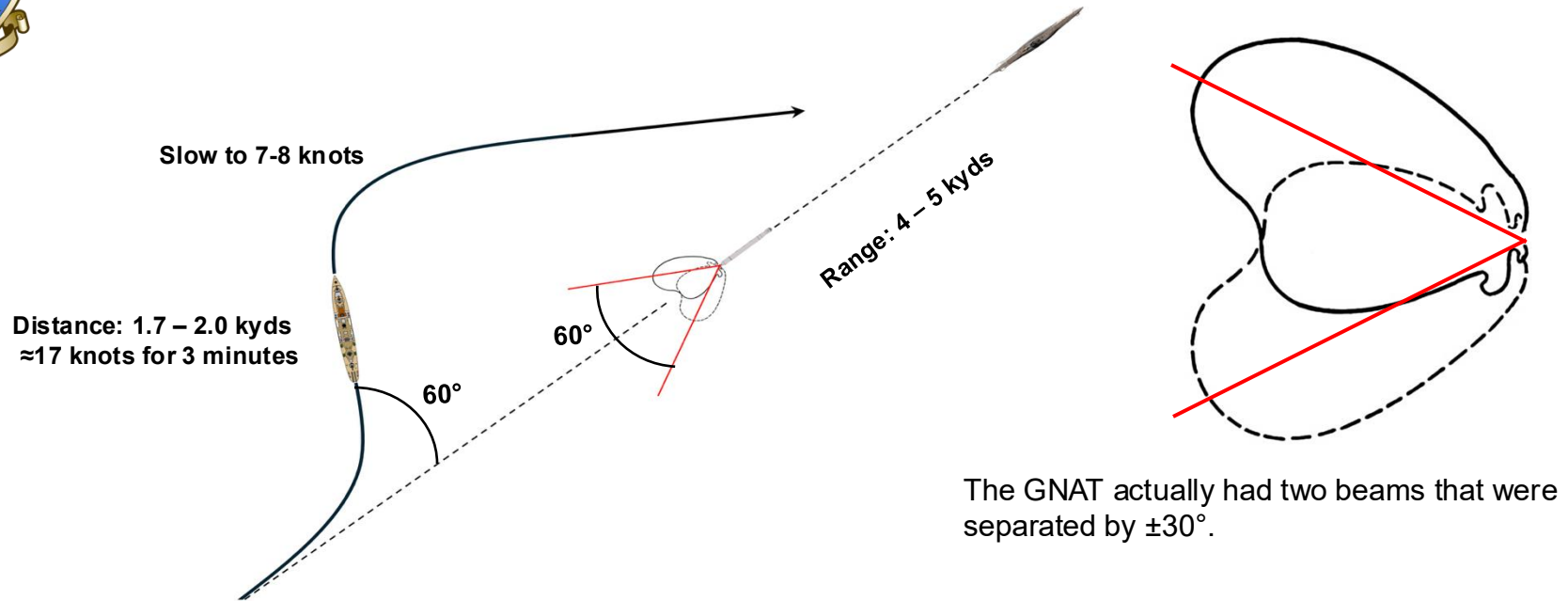
Step Aside



- ◆ **Roberts claims that WATU created the countermeasure tactic, Step Aside, and that it was designed, published, and signaled in less than day.**
 - Step Aside was developed by civilian engineers at the Scientific Research and Experiment Department.
 - CinC Western Approaches sent out the first draft tactic on 27 September 1943
 - Upcoming article by Kit Barry, “Homing in on the Truth About WATU”.
- ◆ **Roberts also boldly claims that after WATU got the word out, provided the tactic was carried out properly, no other escort was hit by acoustic torpedoes.**
 - This is a stretch. By wars end nearly two dozen escorts had been hit by GNATs.



Step Aside



- ◆ The primary reason for Step Aside's success is not the lateral separation from the likely torpedo bearing, but the reduction in speed that stopped the propeller from cavitating – reducing the radiated noise the seeker is listening for.
 - Recall the German specification that the TV could home in on targets at 10 - 18 knots.
 - With twin beams an escort could possibly drive itself into one beam's main response axis.
- ◆ Limited evidence suggests Walker didn't use Step Aside. He appears to have chosen instead to point the target and then slowed to 7 knots.
 - Perhaps a more effective countermeasure against a GNAT, but more likely done because Walker wanted to close and improve his chances of picking up the U-boat.



WATU and ASW Tactics

- ◆ **Was WATU the tactics production powerhouse we see in the books? In short, no.**
- ◆ **WATU was not the originator of innovative ASW tactics. Their work was derivative.**
 - They assisted in modifying or refining existing ASW tactics that came from other British, Canadian, or American sources.
 - What WATU did do was analyze and breakdown these new ASW tactics into manageable bits that could be taught to tired and worn convoy escort officers.
- ◆ **The narrative in Roberts' memoirs are an unreliable recitation of the historical events concerning WATU – the events didn't happen as he described.**
 - Most event timelines are vague, he routinely claims incredible results within weeks or even days.
 - His analytical assumptions and conclusions do not match official historical documents or the biographies of other Royal Navy and Kriegsmarine officers.
 - The Operation Raspberry maneuver published in the Atlantic Convoy Instructions does not match the description in his memoirs.
 - The Beta Search modifications do not match his criticisms of the Alpha Search.
 - WATU had nothing to do with the development of Step Aside.



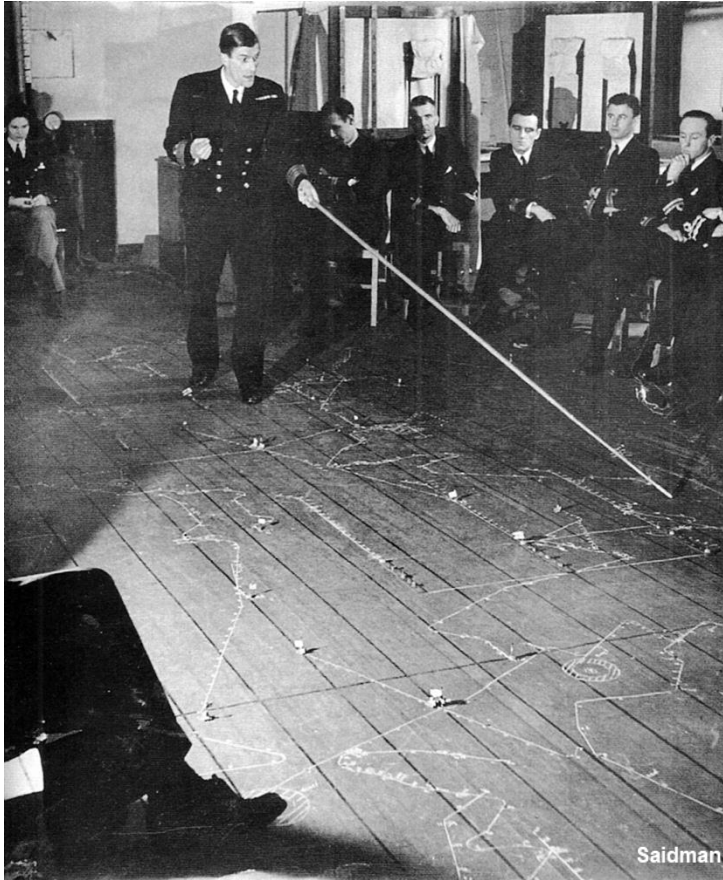
WATU and Training

- ◆ **Royal Navy had an inadequate ASW training infrastructure pre-war.**
 - **Limited capacity, trained a small cadre of dedicated ASW officers.**
 - **Not a popular career option, viewed as a backwater by officers of the Royal Navy.**
- ◆ **Vast majority of convoy escort commanding officers and first officers were not regular navy.**
 - **RNR or RNVr (hostilities only), Commonwealth equivalents, and some foreign officers from Norway, Netherlands, Poland, France, etc.**
 - **No formal education in ASW operations. Complete lack of basic theoretical training.**





WATU and Training



- ◆ **WATU filled a huge hole in ASW training.**
 - On the order of 5,000 officers ran through the one week course (March 1942 through July 1945).
 - Combination of lecture and gaming: very effective method to teach tactics for convoy protection.
- ◆ **Training is often understated, if not overlooked.**
 - Not very sexy, rather mundane, but critical.
- ◆ **Basic instruction, i.e. classroom training, is essential for follow on training aboard ship.**
 - Theory to practice.
- ◆ **Roberts was an enthusiastic instructor with excellent verbal skills; theatrical, flamboyant.**
 - His graphic narrative engaged his tired students.
 - WATU didn't succeed solely because of Roberts.
- ◆ **WATU's WRNS were absolutely essential for its success as the primary school for ASW training.**



Conclusions

- ◆ **WATU's contributions to the Battle of the Atlantic have been embellished in Roberts' memoirs – the only account currently available.**
 - Historical lapses in the memoirs distort WATU's accomplishments.
- ◆ **WATU was not the innovative tactical production powerhouse that Roberts alludes to in his memoirs and echoed by Willaims and Parkin.**
- ◆ **WATU was an extremely effective trainer of convoy escort officers.**
 - “made a number of very stupid officers really THINK” – Sir Peter Gretton
- ◆ **Roberts and the WRNS provided valuable, critical fundamental instruction to officers who were assigned to protect the convoys.**
 - The majority of these officers had no ASW experience and came at the mission cold.
- ◆ **The WATU curriculum developed by Roberts and the WRNS passed on the essentials of ASW tactics through lecture and practice on the gaming floor.**
 - WATU staff had an excellent understanding of ASW theory but were not practitioners.
 - In sum, they were experts at the ASW game, but not ASW experts.