GALLIPOLI
SUBMARINE

A **STUDY GUIDE** BY ROBERT LEWIS

ATOM AUSTRALIAN TEACHERS OF MEDIA

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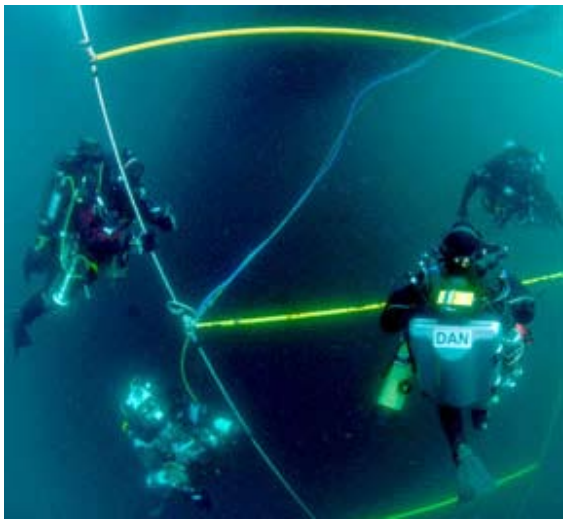
CLOCKWISE FROM LEFT: EXPEDITION DIVER IN REBREATHER RIG (PIC: RICK AYRTON)**;** EXPEDITION DIVERS SPEND UP TO THREE HOURS AT DECOMPRESSION STATIONS (PIC: CRAIG HOWELLS)**;** GOOD VISIBILITY AT THE WRECK SITE (PIC: CRAIG HOWELLS)



OVERVIEW

Gallipoli Submarine (Steve Westh, 2008) is a 52-minute documentary film about the incredible but true story of an Australian World War One submarine, the *AE2*, and its role in the Gallipoli landing.

Lost in the Dardanelles for nearly 100 years, the story of the *AE2* is told with dramatic re-enactment accompanied by modern day footage of a hazardous archaeological expedition to determine if the submarine can be saved from slow destruction.

The *AE2*'s mission in the Dardanelles is the stuff of submarine legend, but after the tragic failure of the Gallipoli campaign in 1915, and the horrors of the Western Front , her story has been largely forgotten.

Her captain, 31-year-old Lt Commander Henry Stoker, and the thirty-one crew were attempting to break through the heavily defended Dardanelles Strait, a strategic waterway linking the Mediterranean to the Black Sea. Stoker's orders were to disrupt Turkish supply lines and 'generally run amok'.

But after a damaging confrontation with a Turkish gunboat, Stoker opened her tanks and scuttled her. The crew spent the remainder of the war as prisoners-of-war.

AE2 lay undisturbed on the sea bed until her disvcovery in 1998 by Selçuk Kolay, a Turkish marine archaeologist. The submarine's deterioration is considerable, but as she is buried in fine, deep silt to her waterline, her main pressure hull may be preserved.

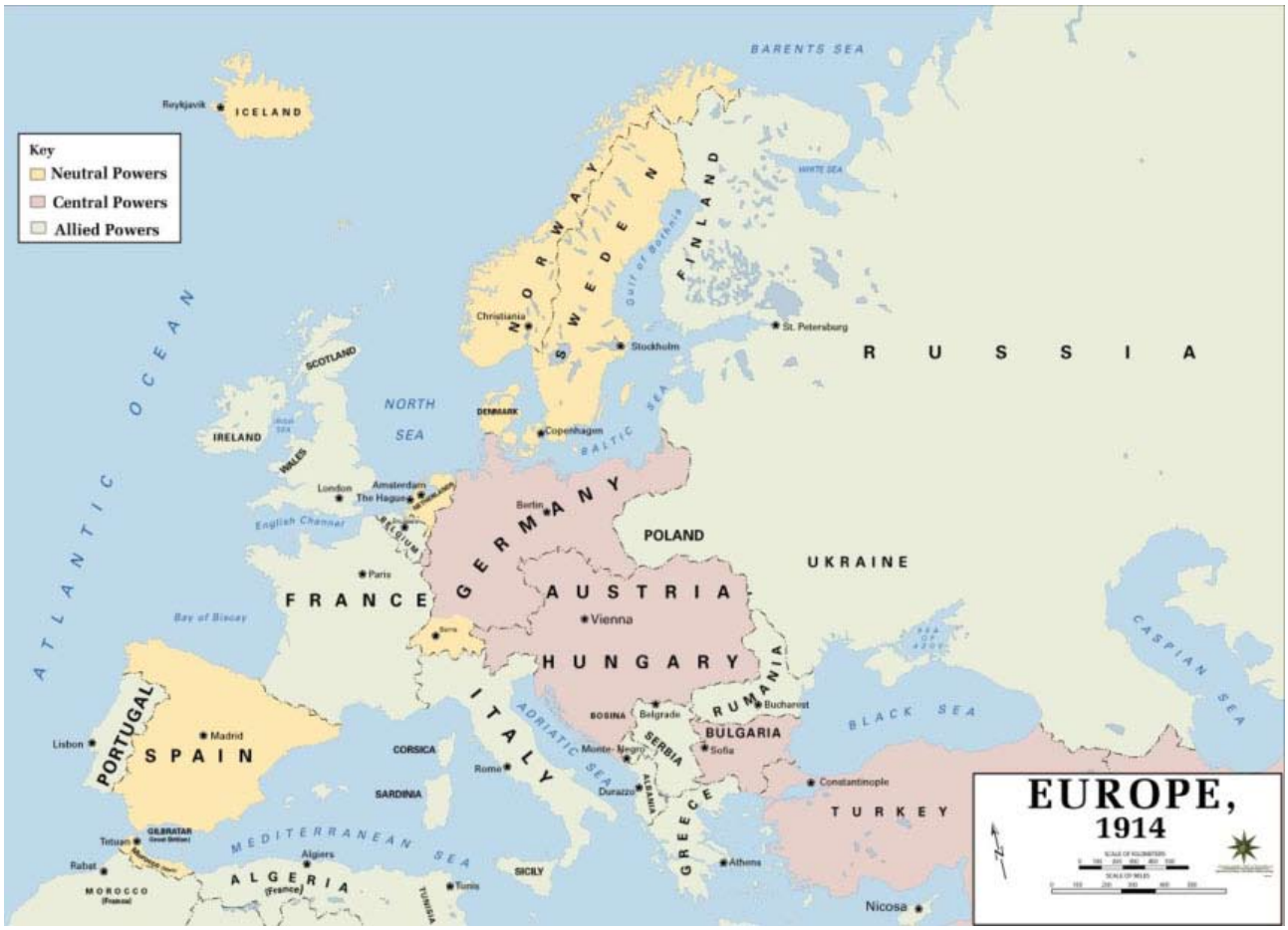
The Submarine Institute of Australia mounted an archaeological expedition in 2007 to see if the *AE2* could be saved. Their assessment, told in *Gallipoli Submarine*, uses intimate documentary footage, dramatic re-enactment, archival footage, underwater photography and state-of-the-art computer-generated imagery both to re-tell the story of the *AE2*, and to provide evidence of her likely fate.

At the end of this study guide students will be able to make an informed decision about what they think should be done with the *AE2* – and then see what decision has actually been made.

CURRICULUM APPLICABILITY

Gallipoli Submarine is a relevant resource for middle–senior students in:

- AUSTRALIAN HISTORY
- SOCIETY AND ENVIRONMENT
- SCIENCE



YOUR TASK

In 1915 a British-led force tried to open a way to get supplies to the ally, Russia, and at the same time take Turkey out of World War One.

This was to be achieved by a landing of troops on the Gallipoli Peninsula (1). The troops would advance, destroy the forts and the mobile artillery batteries that were protecting the Dardanelles Strait (2), open the Strait for a naval invasion force, that would then attack and take the Turkish capital Constantinople (now Istanbul) (3). This would force Turkey to surrender. It would also open up a naval supply line to Russia in its fight against Germany and Austria-Hungary, through Russia's Black Sea ports (4). This pressure from the rear on Germany would help the Allied troops fighting Germany on the Western Front in France and Belgium (5). It was a strategy many believed would win the war!

1 Mark each of these elements 1–5 on the map above.

A problem was that the Dardanelles Strait was very narrow, and was heavily protected by fortresses, mobile artillery batteries, mines and submarine nets. A Great Allied Fleet tried to blast its way through the Strait in March 1915 (a month before *AE2*) and was soundly defeated. Three battleships were lost and over 700 men were killed.

Convinced a naval attack on the Straits was impossible, the Allied Command decided to invade Turkey by landing thousands of troops on the Gallipoli Peninsula.

To support the invasion, an Australian submarine, the *AE2*, was sent to try to penetrate the Dardanelles and make its way into the Sea of Marmara, It was hoped that the submarine would divert attention away from the main landing

TOP: MAP OF EUROPE, 1914. **ABOVE**: *AE2* HITS A MINE CABLE IN THE DARDANELLES (PIC: MIKE DUNN)

and stop the Turks from resupplying their troops by sea.

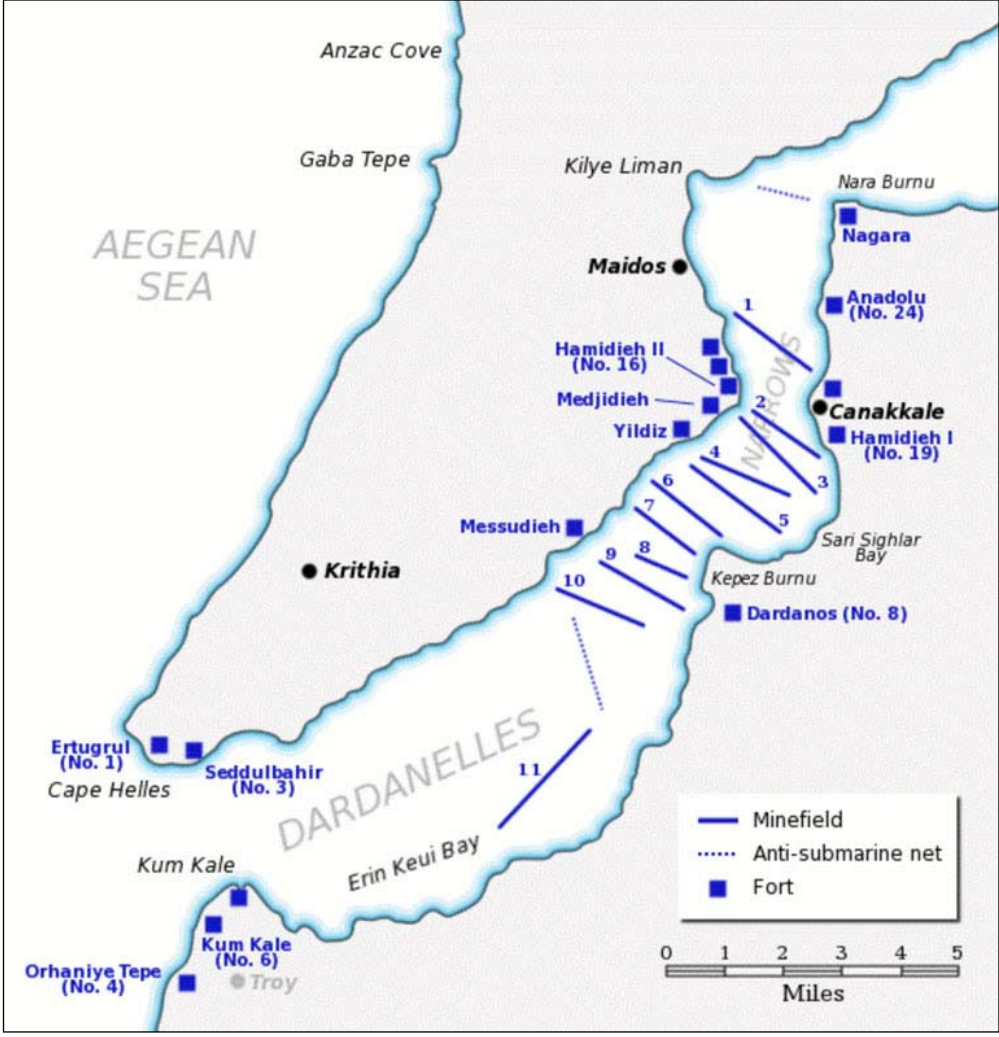
Gallipoli Submarine tells the story of this mission, and the attempts now to protect, preserve and possibly display this unique relic from the Gallipoli campaign that meant so much to both Australia and Turkey.

2 As you watch the film and work through this study guide, jot down notes that are relevant to the questions in Table 1 (below).

TABLE 1	
1 Is it a significant heritage item in Australian history?	
2 Is it still in a good condition?	
3 Can it be raised?	
4 Can it be preserved?	
5 Can it be displayed?	

TABLE 2		
OPTION	**POINTS FOR**	**POINTS AGAINST**
Leave it where it is to decay naturally		
Leave it where it is, but try to preserve and protect it under water		
Raise it, preserve and protect it, and display it in Turkey		
Raise it, preserve and protect it, and display it in Australia		

The centenary of Gallipoli is just eight years away. Preservation of the largest intact relic of Australia's Gallipoli presence would be a fitting way to commemorate that. Your main task will be to watch *Gallipoli Submarine*, decide if this last voyage of the *AE2* makes the submarine a heritage item that is worthy of preservation and protection, and, if so, what you would recommend should be done with the *AE2*. Summarize the points for and against each of these possibilities in Table 2 (above), then decide on your own preferred option.



RIGHT: MAP OF: DARDANELLES STRAIT, 1915
BELOW FROM TOP: ACTOR BRYN COLDRICK ON THE SET OF THE *AE2*'S CONTROL ROOM. (PIC: GAVIN HEAD)**;** *AE2* HAS LOST CONTROL. ACTOR: IAN TOYNE. (PIC: LENCIE WENDEN)

Finally, you will be able to see what decision has been made, and compare it to your own option.

So watch *Gallipoli Submarine* carefully – the fate of the *AE2* may be in your hands!

EXPLORING IDEAS AND ISSUES

The achievements of the crew of the *AE2*

Gallipoli Submarine presents the story of the *AE2*'s last voyage.

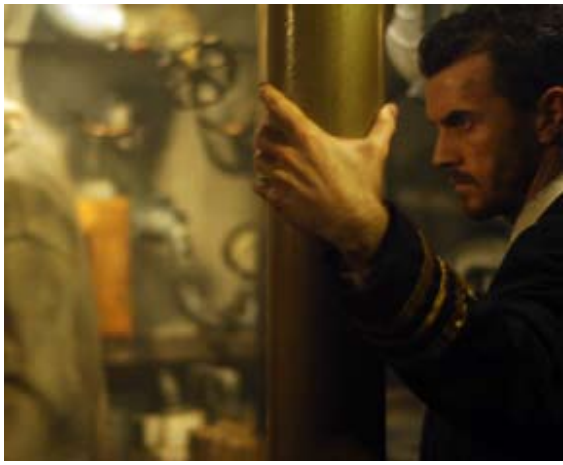
1 What impression do you get from the film about the dangers and the significance of that voyage?
2 Look at the map of the Dardanelles Strait in 1915 (above) and the following information about the Strait and features of a submarine at that time. Use this information and the dramatic re-enactments in the film to make a list of the main problems that the *AE2* and her crew faced.

- The Dardanelles Strait is sixty-four kilometres long
- At its narrowest point it is 1.6 kilometres wide
- In several places it changes direction
- There are strong surface currents in the direction of the Aegean Sea
- There are powerful underwater currents flowing towards the Sea of Marmara.
- Turkish defences of the Strait in 1915 included searchlights, fixed guns in forts, mobile artillery guns, patrolling warships and minefields

Some features of a submarine in 1915

- A 1915 submarine carried air for the crew and for the ballast tanks, but there was no way of getting rid of the carbon dioxide that was exhaled. As that carbon dioxide built up over time it became poisonous.

FROM LEFT: MARITIME ARCHAEOLOGIST TIM SMITH (PIC: STEVE WESTH)**;** STOKER GUIDES THE *AE2* THROUGH A TURKISH MINEFIELD. ACTOR: DAVID SMYTH (PIC: GAVIN HEAD)



Submarines had to surface periodically to pump fresh air in and carbon dioxide out.

- If a submarine dived too deep, the water pressure on the hull would crush it and everybody in it.
- It needed to surface fairly regularly to recharge the batteries, and to replace the stale air.
- Nobody on the surface knew where a submerged submarine was – there was no radar or sonar on boats to detect it.
- Underwater, a submarine was 'blind' if it did not have its periscope up. With no sonar or radar to guide it, the submarine had to surface to 'see' where it was. (Stoker had to do this when *AE2* was passing through the Turkish minefield – twice!)
- A submarine could only be detected by the enemy by touch (such as dragging a cable along and hitting the submarine), or by sighting its periscope wake.
- Once a submarine fired a torpedo it could take the crew half an hour to reload the torpedo tube.
- Submarines carried only a limited number of torpedoes – and these were often faulty and unreliable.
- There were no instruments to guide a torpedo to its target – accuracy depended on the captain's judgement. He had to work out the speed of the submarine, the speed and direction of the target ship, the speed of the torpedo, the distance it had to travel and the time it would take to reach the target.
- When a torpedo was fired the enemy could see its wake and knew the position of the submarine that had fired it.
- All submariners in World War One were volunteers. Most were young, single and under six feet tall. Make a list of the reasons why you think this was the case?

When the *AE2* was scuttled, Captain Stoker wrote in his memoirs:

Perhaps a minute passed, and then, slowly and gracefully, like the lady she was, without sound or sigh, without causing an eddy or a ripple on the water, AE2 *just slid away on her last and longest dive … And of the men who served her; no captain has ever been more proud of the men under his command that I was whilst commanding, in my good fortune, that Australian submarine … Hard work, privation, discomfort, dangers, were their companions during practically the whole of the* AE2*'s short life. And, if that were not enough, they entered, at her death, on a new life which was not a life, but a sorry existence. Good comrades, loyal servants and brave men; the straws in the wind led them to captivity.*

3 What qualities would the captain and the crew of the *AE2* need in these circumstances?

What did the *AE2* achieve? Did the *AE2* influence the Gallipoli landing?

Historians have disagreed over the effectiveness of the *AE2* in its five-day mission in the Dardanelles Strait and the Sea of Marmara. Stoker fired seven of his eight torpedoes, but hit only one ship. Historians disagree about how effective AE2's 'presence' in the Dardanelles Strait was.

One of the claims in the film is that the message sent by Stoker influenced the commander of the Gallipoli invasion, General Hamilton, to keep the troops at Gallipoli rather than withdraw them on the first day.

TABLE 3	
ASPECT	**ACTUAL ACHIEVEMENT**
Damaging enemy ships	
Supporting the Gallipoli invasion of 25 April	
Disrupting supplies to the Gallipoli peninsula	
Setting a precedent or showing if entry to the Sea of Marmara was possible	
Opening the way for other submarines to cause damage.	
Other	

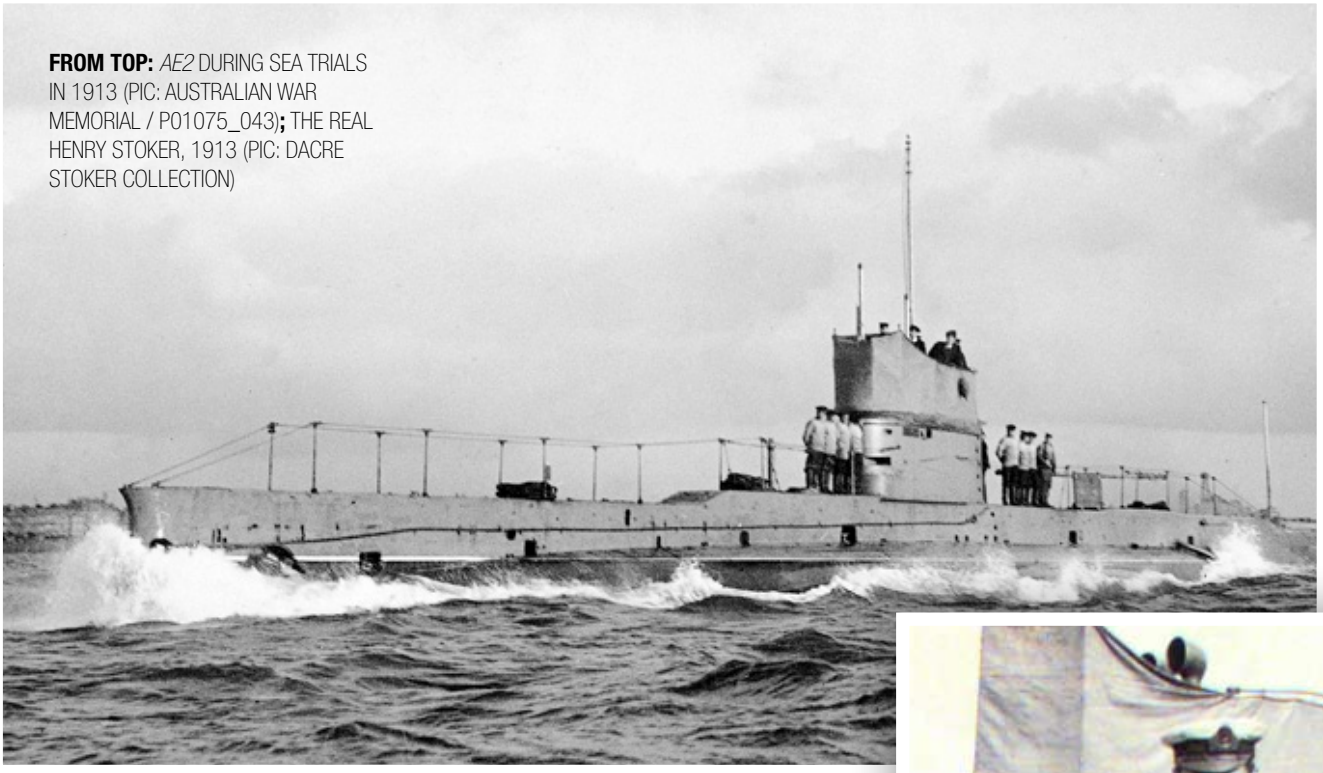
Historians have debated this claim.

Look at the following information about the achievements of the *AE2*, including the claim that it helped prolong the Gallipoli campaign.

1 Use this information, and any other evidence from the film, to create a summary of the achievements in Table 3 above. (You can compare your list with that provided by the filmmakers in the Update section at the end of this study guide.)

SOURCE 1

When the commanders in charge of the assault on Gallipoli [on 25 April] received [a telegraph signal from the *AE2*] they were reviewing their perilous situation. On hearing of *AE2*'s successful penetration of the Narrows



FROM TOP: *AE2* DURING SEA TRIALS IN 1913 (PIC: AUSTRALIAN WAR MEMORIAL / P01075_043)**;** THE REAL HENRY STOKER, 1913 (PIC: DACRE STOKER COLLECTION)

the Commander-in-Chief, General Sir Ian Hamilton, sent out his now famous message:

Your situation is indeed serious, but dig yourselves right in and stick it out. The Australian submarine has got up through the Narrows and torpedoed a cruiser … dig, dig, dig until you are safe.

How much of the story of ANZAC, and of the whole war, would have been different if the *AE2* had not sent that radio signal at that time?

http://www.navy.gov.au/history/shp_AE2.htm

SOURCE 2

Sir Ian Hamilton … said that just when he was overwhelmed with anxiety over the attack on the various beaches at Cape Helles, and the failure of the [landings of 25 April] that at midnight he received Birdwood's letter stating the position, and leaving it to him to decide whether they should endeavour to hold on, or attempt to withdraw the troops. Sir Ian rightly gauged the situation and saw it would be utterly impossible to get them off, and he therefore signaled that they must hold on at all cost. At the same time, the news was received of the successful venture of the Australian submarine which had gone up the Dardanelles and sunk I believe, two transports in the Marmara. Sir Ian ordered this news to be circulated amongst the troops on shore to encourage them to fresh exertion. I don't suppose it ever reached the firing line, and what really saved the situation was the sudden cessation of the Turkish attacks at midnight, which gave the Australians the chance of temporarily entrenching themselves and to prepare against the attacks which they knew must come in the morning.

Extract from Ellis Ashmead-Bartlett's War Diary. http://www.anzacsite.gov.au/1landing/diary.html

SOURCE 3

News that an Australian submarine had broken through the Turkish defences and was causing havoc in the Sea of Marmara was a welcome tonic to the beleaguered land forces. Notes were quickly dispatched amongst the troops clinging to the cliffs and gave them added determination. The submarine's successful penetration and that of *E14* which quickly followed, caused real concern to the Turks. Firstly, they had no way of accurately gauging how many submarines were active in the area, secondly, the quickest way of supporting their land forces was by ship from Istanbul (Constantinople). Submarines could effectively

FROM LEFT: ACTOR SCOTT SHERIDAN AS AN *AE2* CREWMAN WAITS FOR A TURKISH WARSHIP TO PASS (PIC: GAVIN HEAD)**;** STOKER LISTENS FOR TURKISH WARSHIPS. ACTOR: DAVID SMYTH (PIC: GAVIN HEAD)

eliminate this mode of reinforcement. *AE2*'s impact had been immediate as judged by Stoker's sudden inability to find surface targets to hunt.

A Turkish battleship had to postpone fire on the ANZAC beaches after sighting *AE2*, just when its fire became menacing. While *AE2* was largely unsuccessful in destroying elements of the Turkish fleet, it opened the gates for a host of Allied submarines.

Tim Smith, *Project AE2. Investigation of the HMA AE2 Submarine Wreck, 1998*, NSW Heritage Office, 1999, p.24.

SOURCE 4

To some, *AE2*'s successes in reaching the Marmara were disappointing following the vessel's failure to do significant damage to enemy shipping. One critic noted that 'while her crew was keen and brave, [they were] somewhat out of practice'. This is to underestimate the effect that the submarine's entry had on the troops' morale [at Gallipoli], the impetus that the successful penetration gave to future submarine operations in the region, and the difficulty the *AE2* had in evading concentrated Turkish harassment.

Tim Smith, *Project AE2. Investigation of the HMA AE2 Submarine Wreck, 1998*, NSW Heritage Office, 1999, pp.20–21.

SOURCE 5

While Australia takes justifiable pride in the heroism of the ANZACs, and Simpson and his donkey are part of the nation's folklore, little is known of the dauntless Henry Gordon Dacre Stoker. Yet this man sailed a submarine around the world, and pulled off one of the most daring exploits in naval history. His achievement deserves to be placed firmly in history; he caused the Turks to abandon attempts to reinforce Gallipoli by sea, and forced them to use a much more hazardous land route. His success changed the whole course of the Gallipoli campaign.

Ian Chambers, 'Lt Cdr Henry Stoker – an Historic Journey' in Di Burke (ed.), *ANZAC Day 2003*, Queensland ANZAC Day Commemoration Committee, Brisbane, 2003, p.26.

SOURCE 6

As well as the effect of Stoker's signal on the conference concerning the ANZAC position [on 25 April], there was an important effect on the British and French submariners. One can imagine the elation they felt on receiving the news of a successful penetration of the Dardanelles at last, and the feeling that the loss of their comrades [in earlier submarine attempts to achieve this] was partly vindicated …

If *AE2* had not successfully penetrated the Marmara, it has to be acknowledged that none of the other [later submarines] would have done so. The greatest achievement of Stoker and the crew of the *AE2* was that they showed the feat was possible. Until 25 April, two submarines had fallen victim to the traps and hazards of the Narrows. By careful planning and out-

standing courage and shiphandling, Stoker pioneered the route, so that those who followed had the comfort and encouragement of knowing before they set out that the feat was possible.

The nett effect of the submarine operations [that followed] was devastating to Turkey's war effort … The known Turkish losses to submarines in the campaign were:

Battleships:	1	Transports:	11
Destroyers:	1	Steamers:	44
Gunboats:	5	Sailing vessels:	148

As one German writer put it … 'The depradations [*sic*] of these underwater visitors became more and more alarming. Things came to such a pass that communication by water [in the area] became impossible.'

M.W.D. White, *Australian Submarines*, AGPS, Canberra, 1992, pp.69–70.

SOURCE 7

The *AE2* 'started the paralysis which soon swept over Turkish sea communications, and [its] exploits must rank high in the annals of naval achievement'.

Rear Admiral C.V. Usborne in 1932, quoted in Fred and Elizabeth Brenchley, *Stoker's Submarine*, HarperCollinsPublishing, Sydney, 2001, p.195.

SOURCE 8

Some sources claim that *AE2*'s signal announcing her penetration of the Dardanelles convinced the Commander in Chief not to order the re-embarkation of the troops that had gone ashore at Gallipoli on 25 April, but there is no real evidence to support this claim.

http://www.awm.gov.au/units/unit_10760.asp

Use all this evidence to come to your own evaluation of the *AE2*'s mission, and particularly to decide if the *AE2* influenced the decision to keep troops at Gallipoli.

SCIENCE

A key part of the film focuses on the gathering of scientific evidence about the state of the *AE2*.

Read this article on the science involved, and then complete the table that follows.

THE *AE2* ARCHAEOLOGICAL PROJECT

A group of enthusiastic Australians has taken up the cause to conserve *AE2* as an important national relic, managed by the not-for-profit AE2 Commemorative Foundation.

The scientific testing of the site includes corrosion testing, plate thickness measurement using ultra-sonic instruments, substrate (sediment) sampling, measurement surveys, biological sampling, remote sonar surveying of the immediate seafloor topography, sub-bottom profiling, remote operated vehicle (ROV) usage around and possibly inside the wreck, and the insertion of a drop camera inside the working space of the submarine via the access hatch in the conning tower.

Dr Ian MacLeod, internationally-respected metallurgist and corrosion scientist from the Western Australian Maritime Museum, will accompany the expedition and assist with the scientific examination of the wreck and analysis of results. Dr Roger Neill, chief scientist with the Defence, Science and Technology Organisation (DSTO) in Melbourne, will accompany colleagues from the DSTO responsible for the operation of ROVs and drop cameras. SonarTech Atlas (a supplier of sonar equipment to the defence and commerce industries) plan to use their sophisticated equipment to image the wreck and surrounding seascape with state-of-the-art sonar technology.

It was necessary to ascertain the condition of *AE2*'s internal structures. Given that it would not be possible for divers to safely carry out this work, DSTO's Dr Roger Neill was approached to make an assessment of the chances of successfully using robotic survey devices to do so.

Dr Neill and several of his colleagues agreed to undertake this assessment, working in their own time. As a preliminary step, the team decided to create a 3D computer model of the *AE2* interior to see if a small remotely operated vehicle could negotiate the maze of pathways involved.

The model was devised using copies of the original plans for *AE2* plus photos of other E-Class submarines from various sources, including the original builders, Vickers Shipyards, the Royal Australian Navy Archives, the Australian National Archives, the British Submarine Museum and the private collections of Tim Smith and Mark Spencer.

'This has proven to be a very challenging task because there are significant inconsistencies between the various plans and photographs,' says Dr Neill:

In several instances we have had to pretend to be the submarine builder deciding how best to arrange piping and machinery. After three years of work we have produced a model that we believe will realistically represent the layout of the submarine.

During the course of this project, it was decided that it may also be useful to have access to a high-fidelity model of the outside of the submarine, so the team set about making computer-based models which were recently completed, showing the boat rigged in various operational trims.

The finished 3D models of the boat have enabled the team to conduct virtual fly-throughs and fly-arounds of *AE2* to confirm that a remotely operated vehicle (ROV) could usefully assist a survey team in undertaking a marine archaeological assessment of *AE2*.

A more detailed and comprehensive archaeological investigation of *AE2* will be carried out in September 2008 in what will be another joint Turkish–Aus-

TABLE 4	
SCIENCE/TECHNOLOGY	**PURPOSE/USE**

tralian expedition mounted to investigate the wreck. The venture, being driven by the Submarine Institute of Australia, has attracted support from the Australian Government.

DSTO has agreed to assist the investigation by providing a specialist team to work on site with the ROV.

'This vehicle will undertake a number of tasks,' says Dr Neill. 'In addition to its photographic and sonar survey duties, it will use specialist instrumentation to measure the thickness of the submarine's hull at a number of structurally critical locations.'

A practice run with the ROV and full team members was carried out in February 2008 on a scuttled RAN J-class submarine in the waters off Port Phillip Heads at a depth of thirty-four metres.

A number of options are being considered for future management of *AE2*. These include leaving the boat on the seafloor as it is, taking steps to protect it from trawler and shipping activity and slowing the rate of corrosion; and recovering it for display on land in a wet or dry environment. A decision about the eventual fate of *AE2* will be made jointly by the Australian and Turkish governments.

Based on <http://www.dsto.defence.gov.au/research/5180/>.

1 Use the information in this article, together with the information you gather from the film, to complete Table 4, indicating how science and technology are used in the dive, and the type of information or purpose for each aspect. Remember that science and technology are also an important

element in the diving equipment used.

2 How will all the information gathered help people make a final decision on what to do with the *AE2*?

MAKING THE FILM

The film combines many different elements to create its overall result. Some of these have been listed in Table 5.

1 Add to Table 5, and briefly give an example of where and how each element is significant in the film.

Part of the challenge to the filmmakers was to create the tension of the perilous voyage through the minefields in the Strait.

2 Look at Stoker's description of this experience. Then discuss how the filmmakers have re-created or realized this situation in the film.

For nearly an hour the ensuing experiences provided feelings difficult to describe. The rappings and scrapings on the hull of the boat by the mooring wires of the mines, held taut by the buoyancy of the mines themselves overhead, seemed most damnably continuous. Choose a wrong moment to rise for observation through the periscope and you choose a moment to hit a mine – so choose as few of these moments for observation as possible. Feel as safe as you care to when well submerged, and do not think of the result should one of the wires, catching on a projection of the boat's side, drag its mine, with a bang, down on the top of you. On two occasions something hard – much harder than the wires – hit the bows and rattled away astern; were they mines which failed to explode? And once some object seemed to catch up forward and remained knocking insistently for several minutes, before it broke away and followed the rest of our enemies astern.

3 Do you think they have done it well? Explain your reasons.

TABLE 5

ELEMENT OF THE FILM	COMMENT ON WHERE, AND HOW USED
Narration	
Sound	
Editing	

LEFT: ACTOR DAVID SMYTH AS STOKER LISTENS FOR TURKISH WARSHIPS (PIC: GAVIN HEAD)

UPDATE

1. The achievements of the *AE2* – from the *Gallipoli Submarine* Media Kit:

- *AE2* was an Australian submarine, and the first submarine to travel halfway round the world.
- *AE2* was the first Allied vessel to penetrate the treacherous Dardanelles Strait at Gallipoli.
- *AE2* was the first Allied force to engage the enemy on 25 April 1915, ANZAC day.
- Running blind, *AE2* pushed her way through ten kilometres of Turkish mines.
- *AE2* attacked a Turkish gunboat in the narrowest and most dangerous part of the Strait creating panic in the Turkish defences.
- *AE2*'s radio message to Sir Ian Hamilton, Commander in Chief of the Allied Forces played a critical role in his decision to keep ANZAC forces entrenched on the Gallipoli Peninsula.
- *AE2*'s appearance so deep into the Dardanelles Strait scared off a Turkish warship which was shelling the troops at Anzac Cove on the morning of their historic first landing, allowing them to establish a foothold on the beaches.
- *AE2*'s penetration of the Dardanelles into the strategic Sea of Marmara paved the way for other Allied submarines to follow and begin one of the most successful submarine campaigns in history.
- Commodore Sir Roger Keyes VC, the Commander of the British Submarine Service at Gallipoli, later described *AE2*'s achievement as 'the finest feat in submarine history.'

2. A decision is made

THE World War One Australian submarine *AE2*, which famously breached the treacherous Narrows of the Dardanelles Strait, is to be left in its final resting place in Turkish waters rather than raised and restored.

An expert group set up to advise both the Turkish and Australian governments has recommended that the wreck be left where it sank in May 1915, seventy-two metres below in the Sea of Marmara, after playing a key role in the Gallipoli landings.

Efforts will be made to conserve the wreck, which is not a war grave, and perhaps retrieve some of the historic artefacts believed to be still aboard.

But the expert group has recommended against options to move the wreck to shallower waters where it could be on public display, or perhaps removed to dry land and restored.

While the decision will disappoint *AE2* enthusiasts who wanted the submarine available for public viewing as part of the centenary of Gallipoli commemoration planned for 2015, it is being described by the expert group as a 'practical' outcome.

Many factors influenced the decision, including costs and the dangers associated with an unexploded torpedo still aboard the wreck.

Preservation in its current site – with perhaps some form of replica shore display to commemorate both *AE2* and the Turkish torpedo boat *Sultanhisar* which holed *AE2* before its scuttling – could cost more than $30 million.

Relocation to shallower waters could cost about $80 million, while removal to dry land and restoration would push the cost closer to $100 million.

AE2, one of two submarines bought for the fledgling Australian Navy, created history on the eve of the Gallipoli landings by being the first submarine to crack the Narrows against hostile fire and the first Australian naval vessel to damage an enemy warship.

After helping clear the Sea of Marmara of Turkish supply ships for Gallipoli, *AE2* was scuttled on 30 May 1915, when it was hit by fire from *Sultanhisar* at the same time as striking turbulent currents.

Commander Dacre Stoker and his crew escaped, to spend the remainder of the war in Turkish POW camps. Four died in captivity.

The wreck was found in 1998, and a marine archaeological assessment last September determined that the hull was in 'remarkably good state' with the submarine lying in 'a particularly low corrosion environment'.

Fred Brenchley, *Brisbane Times*, 6 May 2008, <http://www.brisbanetimes.com.au/news/national/gallipoli-sub-to-be-left-on-sea-floor/2008/05/05/1209839587567.html>.

RESOURCES

The best readily available resources on the AE2 are:

ANZAC Day Commemoration Committee Queensland, <http://www.anzacday.org>.

Fred and Elizabeth Brenchley, *Stoker's Submarine*, HarperCollins Publishing, Sydney, 2001.

Ian Chambers, 'Lt Cdr Henry Stoker – an Historic Journey' in Di Burke (ed.), *ANZAC Day 2003*, Queensland ANZAC Day Commemoration Committee, Brisbane, 2003, pp.3–29.

Ian Hodges, *Anniversary Talks*: 'The Australian submarine, *AE2*, 30 April 1915', <http://www.awm.gov.au/atwar/remembering1942/*AE2*/>.

Robert Lewis and Tim Gurry, *The Last Voyage of the* AE2, one of the five books in the '*In Search Of …*' series of Australians in World War One, published by Ryebuck Media for the ANZAC Day Commemoration Committee, Queensland. You can see a sampler of an interactive game involving the *AE2* at <http://www.ryebuck.com.au/elearning.php>.

Richard Pelvin, 'First through: the epic voyage of *AE2*', *Wartime*, No 6, Winter, 1999, pp.3–15, Australian War Memorial.

Tim Smith, *Project AE2. Investigation of the HMA AE2 Submarine Wreck, 1998*, NSW Heritage Office, 1999.

Mark Spencer, 'The Search for *AE2*', *Wartime*, No 6, Winter, 1999, pp.13-15, Australian War Memorial.

M.W.D. White, *Australian Submarines*, AGPS, Canberra, 1992.

<http://www.anzacsite.gov.au> has an interactive reconstruction of the last voyage of the *AE2*.

<http://www.submarineinstitute.com> has information and photographs of dives to the *AE2*.

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