

Nautilus (Submarine) Photograph Collection
1931
Mss.Ms.Coll.101

American Philosophical Society
8/2001
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Summary Information

Repository	American Philosophical Society
Title	Nautilus (Submarine) Photograph Collection
Date	1931
Call number	Mss.Ms.Coll.101
Extent	0.5 Linear feet
Location	LH-SB-16-6
Language	English
Abstract	<p>In 1931, the <i>Nautilus</i>, an O-12 class submarine, was fitted out to undertake an expedition to gather meteorological and oceanographical information while venturing beneath polar ice floes to the north pole. Although the crew did gather some useful information, the expedition was fated to suffer delays, accidents, and perhaps even sabotage. Although mechanical problems ruined any hope of reaching the pole, by late August, 1931, the <i>Nautilus</i> had maneuvered to the edge of the Arctic ice cap and was able to dive beneath a few floes. On its return, however, damage from storms and engine failure led the crew to scuttle the ship a few miles off the coast of Bergen, Norway. The <i>Nautilus</i> Collection is comprised of approximately 60 photographs, plus assorted newspaper clippings, postcards, and a few other miscellaneous items. The photographs document the voyage of the <i>Nautilus</i> from Camden, New Jersey, to the Brooklyn Naval Yard, and New London, Connecticut, across the Atlantic to the Arctic regions. The collection includes formal and informal photographs of the submarine, its interior, and ice floes, along with portraits of many of the ship's officers.</p>

Preferred Citation

Cite as: Nautilus (Submarine) Photograph Collection, American Philosophical Society.

Background note

In 1931, Sir Hubert Wilkins undertook a scientific research mission to the North Pole using a modified O-class submarine leased from the United States Navy. The goals of this expedition were two-fold: to conduct scientific experiments and observations while moored to ice floes and while under way; and to successfully navigate to the North Pole while submerged beneath the Arctic ice floes. The experiments ranged from meteorological observations to temperature and water samples taken from the surface and the sea floor.

The submarine used was the O-12 (SS 73), built in 1916 by the Lake Torpedo Boat Co. of Bridgeport, CT. Commissioned in 1918, the boat spent most of her military career attached to Submarine Division 1, based at Coco Solo, Panama Canal Zone. O-12 displaced 566 tons submerged (491 tons surfaced), had a length of 175 ft., could reach speeds of 11 knots submerged (14 knots surfaced), and carried a crew of 29. She was decommissioned on June 17, 1924, and placed in reserve at the Philadelphia Navy Yard. After being transferred to the United States Shipping Board in 1930, Wilkins signed a lease for the use of the O-12 on February 1, 1931, at a cost of one dollar per year.

Modifications to the O-12 were made at the Mathis Shipyard in Camden, NJ. The boat was stripped of military armament and fitted with the latest scientific research equipment. Changes were also made to the superstructure that would allow for operation beneath the ice floes. With the modifications complete, the submarine cast off from Mathis Shipyard on March 16 for the first leg of a journey which would take her to the Brooklyn Navy Yard in New York. Before even leaving the Delaware River, the O-12 was forced to stop at the Philadelphia Navy Yard due to a snowstorm and then stopped at Marcus Hook to take on fuel.

On March 23 the O-12 arrived at the Brooklyn Navy Yard. While entering New York Harbor, the crew suffered the first in a series of accidents and mechanical problems that would plague them on the expedition when Assistant Radio Engineer Willard I. Grimmer fell overboard and drowned. Despite the tragedy, Lady Suzanne Bennett Wilkins (Sir Hubert's wife) christened the submarine the next day using a bottle of ice water, since champagne was unavailable because of prohibition. Among the many spectators was Jean Jules Verne, grandson to the author of *20,000 Leagues Under the Sea*, the source of the O-12's new name.

Before setting out on the expedition, the crew put the *Nautilus* through test runs in various locations off the New England coast. One of the tests included a 90 ft dive off Block Island in Long Island Sound. With mounting criticism from the fact that the expedition was two months behind schedule, it was decided to head out on the first leg of the journey, a planned stop in England. However the bad luck that beset the *Nautilus* continued. While crossing the Atlantic, the submarine encountered severe storms resulting in severe mechanical failure on June 13 when the starboard engine cracked a cylinder. This was followed by failure of the port engine, probably the result of it being used as the sole source of propulsion.

During the crossing, Wilkins had radioed the submarine's position back to the United States, and after both engines failed the crew broadcast an S.O.S. The *Nautilus* was eventually rescued on June 15 by the U.S.S. *Wyoming* (BB-32), which was crossing the Atlantic on a training cruise for midshipmen

from the Naval Academy. The *Wyoming* took the foundering submarine in tow to Queenstown, Ireland. From Queenstown the submarine was towed to Davenport, England for repairs, which were made with considerable delays. Finally, the *Nautilus* was able to get underway for Bergen, where the scientific officers were brought on board and scientific equipment loaded. One piece of equipment that proved invaluable was the diving chamber, located in the former torpedo room. The chamber could be regulated to match the outside water pressure, allowing scientific equipment to be lowered directly into the water through a hatch.

On August 5, the *Nautilus* left Bergen headed north in search of the ice floes. The voyage was again repeatedly delayed because of mechanical problems and storms, which further caused the submarine to list at angles of up to 57 degrees. Despite these setbacks, the crew encountered their first ice floe on August 19, and celebrated when Ike Schlossback became the first to step onto the ice at 18:00 hours. For the next few days the *Nautilus* followed the edge of the ice pack in search of a location to make its first dive attempt. On August 22 the decision was made to dive under the ice floe, but while preparing to submerge it was discovered that the diving rudders were missing, making standard dives impossible. Nevertheless, Wilkins was determined to accomplish some of the planned experiments, particularly those that did not require being submerged. In the course of carrying out the experiments, the opportunity of forcing the *Nautilus* under an ice pack presented itself on August 31. This was accomplished despite the absence of diving rudders by filing all four ballast tanks and setting the trim at 2.5 degrees. In this way, the *Nautilus* was able to dive beneath a floe measuring three feet thick and was able to make several additional dives below the ice floes before the voyage ended.

Following a few additional days of research, Wilkins decided it was no longer safe to remain at sea. The *Nautilus* set course for Longyearbyen in Svalbard, arriving on September 8. From there, Wilkins planned to proceed to England, but the boat encountered another storm which resulted in further hull damage and engine failure, forcing the *Nautilus* to dock in Bergen for the last time. After being returned to the United States Navy, the *Nautilus* was towed out of Bergen and sunk in a Norwegian fjord on November 20, 1931. Ironically, the first ship to cross the north pole was the nuclear submarine U.S.S. *Nautilus* (SSN - 571) on August 3, 1958.

Scope & content

The majority of items contained in the *Nautilus* Polar Expedition Collection are photographs of the submarine and crew at various stages during the submarine's fateful arctic expedition of 1931. These images are primarily press photographs accompanied by wire service captions. In each folder, a photocopy of each image precedes the original, with captions copied on the back. Other images come from the personal collection of Frank Blumberg, Chief Electrician aboard the *Nautilus*, and include snapshots and signed portraits. Finally, the collection also contains a scrapbook compiled by Blumberg from magazine clippings and photographs.

Administrative Information

Publication Information

American Philosophical Society 8/2001

Provenance

Acquisition Information

Donated by Mr. and Mrs. Ben B. Levitt, August 1, 1998. The scrapbook was compiled by Mrs. Arthur O. Blumberg (Accession #1998-2200 ms).

Processing Information

Catalogued by J.J. Ahern, 2000

Related Materials

Related Material

A web exhibit based on the Nautilus Collection is available at <http://www.amphilsoc.org/library/exhibits/nautilus/>.

Indexing Terms

Genre(s)

- Photoprints

Personal Name(s)

- Blumberg, Frank Arthur O.
- Wilkins, George H. (George Hubert), 1888-1958

Subject(s)

- Arctic regions--Discovery and exploration
- Brooklyn Navy Yard
- Icebergs
- Mathis Shipyard (Camden, N.J.)
- Nautilus (Submarine)
- Submarines

Other Descriptive Information

Students of naval history, in particular those with an interest in submarine development and exploration, may find this collection of benefit.

Other Descriptive Information

The names of the participants are listed in a letter dated October 25, 1932, sent by Sir Hubert Wilkins to Brewer, Warren and Putnam Inc., the publishers of his book Under the North Pole. Additional information has been taken from the New York Times and New York American.

The list is in alphabetical order.

Name	Title	Duration aboard
Frank Arthur O. Blumberg	Chief Electrician	Complete voyage
Edward Clark	Quartermaster	Complete voyage
Frank Crilley	Master Diver	Complete voyage
Sloan Danenhower	Commander	Complete voyage
Emile Dored	Photographer	Norway to end of voyage
Raymond W. Drakio	Assistant Engineer	Complete voyage

Jacob Fleutsch	Mess boy	Complete voyage
Willard I. Grimmer	Assistant Radio Engineer	Philadelphia to New York
Clarence D. Holland	Assistant Engineer	Complete voyage
John R. Janson	Assistant Engineer	Complete voyage
Siguard Johnson	Ship's Carpenter	Philadelphia to Norway
John H. Lundbeck	Assistant Electrician	Philadelphia to Norway
Ray E. Meyers	Chief Radio Operator	Complete voyage
Oliver C. Riggs	First Assistant Engineer	Philadelphia to England
Harry Rothschild	Cook	Philadelphia to Norway
Cornelius P. Royster	Assistant Engineer	Complete voyage
Isaac Schlossback	Lieut-Commander	Complete voyage
H. Carl Schnetter	Assistant Engineer	Complete voyage
Ralph D. Shaw	Chief Engineer	Complete voyage
Floyd M. Soule	First Assistant Scientist	Norway to end of voyage
H. Stakarov	No information available	England to end of Voyage
Emil Stamness	Replacement Cook	Norway to end of voyage
Dr. Harold U. Sverdrup	Chief Scientist	Norway to end of voyage
Dr. Bernhard Villinger	Physician and Second Assistant Scientist	Norway to end of voyage

Harry Zoller

Assistant Engineer

Complete voyage

Bibliography

Casarini-Wadham, Maria Pia, *By Submarine to the Arctic: Sir Hubert Wilkins' Nautilus Expedition of 1931* (Cambridge : Scott Polar Research Institution, University of Cambridge, 1989).

Grierson, John, *Sir Hubert Wilkins; Enigma of Exploration* (London : Robert Hale, 1960).

Thomas, Lowell, *Sir Hubert Wilkins, His World of Adventure: An Autobiography Recounted to Lowell Thomas* (London : Arthur Barker, 1962).

Wilkins, George Hubert, *Under the North Pole: the Wilkins-Ellsworth Submarine Expedition* (N.Y. : Brewer, Warren, and Putnam, 1931).

Nautilus (Submarine) Photograph Collection

Collection Inventory

Nautilus (Submarine) Photograph Collection 1931		0.5 lin. feet	Box 1
Photographs			
1 <i>Nautilus</i> leaving berth at Mathis Shipyard, Camden, NJ	1931 March 16		Folder 1
2 <i>Nautilus</i> on the Delaware River	1931 March 16		
3 Crew members inside control room	1931 March 20		
4 Robert D. Shaw in engine room	1931 March 20		Folder 2
5 Sloan Danenhower, Jean Jules Verne, and Hubert Wilkins on <i>Nautilus</i>	1931 March 23		
6 Christening of <i>Nautilus</i> at Brooklyn Navy Yard	1931 March 23	1.0	Photograph(s)
Christening of Nautilus at Brooklyn Navy Yard, 1931 March 23			
[http://diglib.amphilsoc.org/fedora/repository/graphics:3830]			
7 Crew Photograph	1931 May 7		Folder 3
8 Hubert Wilkins and Lincoln Ellsworth on <i>Nautilus</i>	1931 March 23		
9 H. Wilkins and William B. Leeds	1931 March 27		
10 Mrs. Harry A. Bruno, H. Wilkins, Elinor Smith, Bernt Balchen and James Fitzmaurice	1931 May 15		Folder 4
11 Frank Blumberg	n.d.		

Nautilus (Submarine) Photograph Collection

12 Frank Blumberg	n.d.	
Frank Blumberg, n.d.		
[http://diglib.amphilsoc.org/fedora/repository/graphics:3841]		
13 John H. Lunddeck, sitting on hatch	1931 March 28	Folder 5
14 Frank Crilley with Exide battery	n.d.	
15 C.E. Johnsted and Sloan Dannenhower	1931 March 19	
16 John H. Lunddeck	1931 March 28	Folder 6
17 Frank Arthur O. Blumberg	1931 March 28	
18 Frank Arthur O. Blumberg	1931 March 28	
19 Group photograph after christening	1931 March 24	Folder 7
20 Isaac Schlossbach exiting hatch	1931 April 17	
21 Clarence P. Holland holding Pennsylvania flag (autographed)	1931 May 28	
22 Frank Blumberg looking at gyro	n.d.	Folder 8
23 Cornelius P. Royster, John R. Janson and Harry Zoeller in galley	1931 April 20	
24 Frank Crilley exiting air lock	1931 April 20	
25 Frank Crilley and Ray Meyers making radio broadcast from <i>Nautilus</i>	1931 April 20	Folder 9
26 Lt. Cmdr. Edward H. Smith (USCG)	1931 May 19	
27 Capt. Wilson Brown (USCG), H. Wilkins and S. Danenhower	1931 June 4	
	1931 May 13	Folder 10

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28 Ike Schlossback and Capt. Wilson Brown		
29 Wilkins waving as <i>Nautilus</i> arrives in 1931 June 28 Queenstown, Ireland		
30 Wilkins on deck of <i>Nautilus</i>	n.d.	
31 <i>Nautilus</i> being towed by U.S.S. Wyoming [newspaper clipping]	n.d.	Folder 11
32 <i>Nautilus</i> being towed into Portsmouth, England	1931 July 3	1.0 Photograph(s)
Nautilus being towed into Portsmouth, England, 1931 July 3 [http://diglib.amphilsoc.org/fedora/repository/graphics:3831]		
33 Frank Blumberg inside <i>Nautilus</i>	n.d.	
34 Dr. Villinger performing dental operation	1931 October 2	Folder 12
35 Dr. Bernhard Villinger in his office	1931 April 13	
36 Crew members on ice floes	n.d.	
37 <i>Nautilus</i> surfaced near ice floes	n.d.	Folder 13
Nautilus surfaced near ice floes, n.d. [http://diglib.amphilsoc.org/fedora/repository/graphics:3834]		
38 <i>Nautilus</i> surfaced near ice floes	n.d.	
39 <i>Nautilus</i> surfaced near ice floes	n.d.	
40 Crew conducting experiments on ice floes	n.d.	Folder 14
41 Edward Clark portrait [autographed]	n.d.	

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42 Frank Crilley portrait [autographed]	n.d.	
43 Willard J. Grimmer portrait [autographed]	n.d.	Folder 15
Willard J. Grimmer portrait [autographed], n.d. [http://diglib.amphilsoc.org/fedora/repository/graphics:3837]		
44 Isaac Schlossback portrait [autographed]	n.d.	
45 Cornelius P. Royster portrait [autographed]	n.d.	
46 Frank Blumberg in U.S. Navy uniform	n.d.	Folder 16
47 Winter in Norway, postcard	n.d.	
48 Winter in Norway, postcard	n.d.	
49 Bergen - Floibanen, postcard from Frank Blumberg to Jerry Blumberg	1931 December 12	Folder 17
50 Flaamsdalen, Søgne, postcard	n.d.	
51 H. Wilkins in cold weather gear	n.d.	1.0 Photograph(s)
H. Wilkins in cold weather gear, n.d. [http://diglib.amphilsoc.org/fedora/repository/graphics:3832]		
52 Isaac Schlossback with 3 unknown men	n.d.	Folder 18
53 Crew in snow storm with photographers	n.d.	
54 Picture of unknown man	n.d.	

Nautilus (Submarine) Photograph Collection

55 Crewman on bow of <i>Nautilus</i>	n.d.		Folder 19
56 Two crewman on bow of <i>Nautilus</i> holding lobsters	n.d.		
57 Frank Blumberg in U.S. Navy dress whites	n.d.		
58 H. Wilkins receiving Union Jack plague [autographed]	n.d.		Folder 20
59 Crewman on deck of submarine	n.d.		
60 Two men in-front of car	n.d.		
61 Ray E. Meyers, Frank Blumberg, and H. Wilkins in cold weather gear	n.d.		Folder 21
62 Unknown woman	n.d.		
63 Group portrait of crew on ice floe.	n.d.	1.0 Photograph(s)	
Group portrait of crew on ice floe. , n.d. [http://diglib.amphilsoc.org/fedora/repository/graphics:3835]			
64 H. Wilkins and Antonio Salemmé inspecting bust	1930 September 7		Folder 22
Miscellaneous items			
Miscellaneous items originally laid into scrapbook			
Sperryscope newsletter on <i>Nautilus</i>	1931 April		Folder 23
R.M.S. Berengaria lunch menu	1931 October 1		Folder 24
Radiogram Book from expedition [blank pages]	n.d.		Folder 25

Nautilus (Submarine) Photograph Collection

Blumberg, Frank Arthur O.

Scrapbook

Scrapbook, now disbound.

Scrapbook - Original Layout	n.d.	Folder 26
Scrapbook Page 1 - Magazine clippings	n.d.	Folder 27
Scrapbook Page 2 - Blumberg, Wilkins and Meyers in coldweather gear; Blumberg looking at log	n.d.	Folder 28
Scrapbook Page 3 - Honorable discharge for Blumberg from Wilkins	1931 September 12	Folder 29
Scrapbook Page 4 - Photograph of Frank Blumberg; crew signatures on radiogram page	n.d.	Folder 30
Scrapbook Page 5 - Magazine clippings	n.d.	Folder 31
Scrapbook Page 6 - "Dampools" proclamation	n.d.	Folder 32
Scrapbook Page 7 - <i>Nautilus</i> on cover of Sphere Magazine	n.d.	Folder 33
Scrapbook Page 8 - Magazine clippings	n.d.	Folder 34
Scrapbook Page 9 - Magazine clippings	n.d.	Folder 35
Scrapbook Page 10 - Dixie Holland, portrait [autographed]	n.d.	Folder 36
Scrapbook Page 11 - Ralph D. Shaw, portrait [autographed]	n.d.	Folder 37