

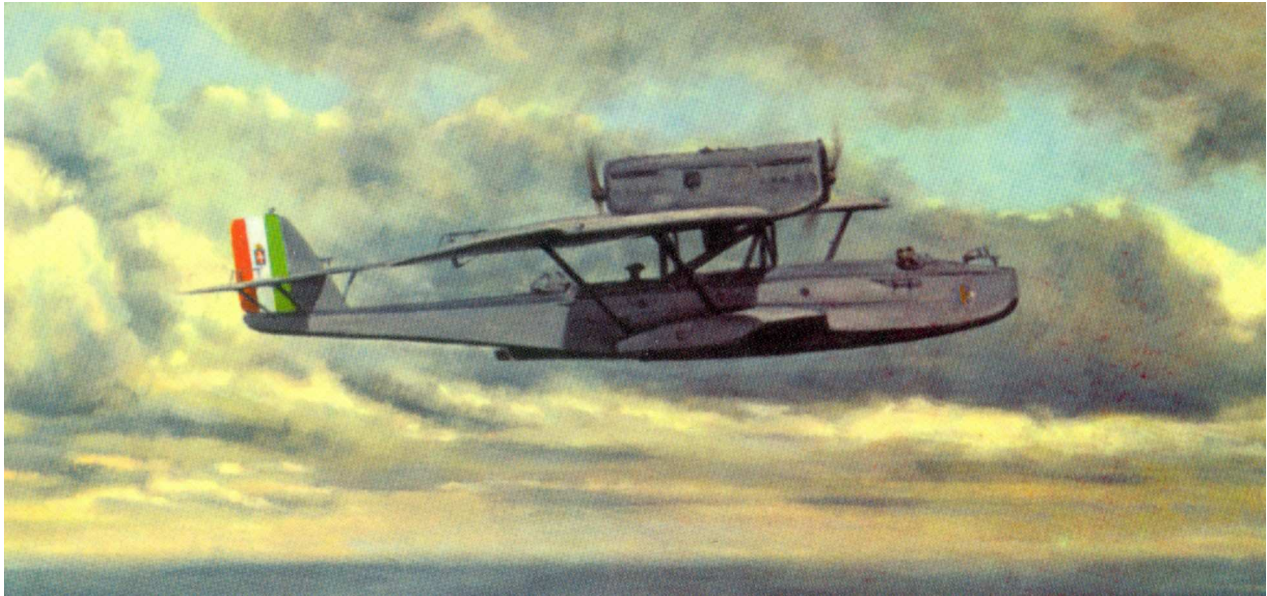
## **Last Month's Meeting April Meeting**

Topic: The Dornier Wal "a Light Coming over the Sea"

Speaker: M. Michiel van der Mey

Reporter: Gord McNulty

Netherlands Navy. He soon found a deep passion for the Dutch Navy's Dornier Wal as it mastered the sea and sky. It was, among other things, essentially a flying frigate over the countless green islands of the wonderful Indonesian archipelago. Indonesia is the home of Michiel's parents and great, great grandparents from his mother's side. Michiel's studies and



Dornier Wal Showing Sponsons on Bottom of Fuselage. *Photo Credit: Michiel van der Mey*

CAHS Toronto Chapter President Howard Malone introduced a distinguished visitor, Maarten Michiel van der Mey, a recognized authority on the legendary Dornier Wal flying boat. Born in 1950, Michiel lives with his family in Kleve, Germany. He works as a representative for the Benelux countries in a German high-tech firm, Spectro Analytical Instruments. Michiel was born and raised in a naval family in the Netherlands, where his parents named him after Holland's most famous admirals, Maarten Harpertszn Tromp and Michiel Adriaanszn de Ruyter. The family roots originate in the Dutch East Indies.

Michiel developed an interest in ships and aircraft, starting with a box full of photographs and documentation from the pre-war Royal

research about the so-called "Pisa" boats (a nickname of the Wal) brought him to Italy. He learned over many years to deeply appreciate Italy, its people, the culture and the language.

Michiel completed his first successful Dutch book about the Dornier Wal (meaning whale in German) in 1987 and continued to research the topic. In 1999, an old film of the Italian Air Force was rediscovered, restored and modified. It is shown regularly all over Europe, combined with other supporting publications, presentations, films and/or black and white slides in English, German, French, Italian and Dutch. All of this activity takes place under the umbrella of Michiel's Dornier Wal Documentation Center, established in 1999.

Michiel did an excellent job of capturing the natural appeal of flying boats with his PowerPoint presentation, showing impressive films and photographs outlining the story of the Wal. He is also a member of the Dutch Catalina Association, which proudly owns a beautifully restored PBY-5A Catalina --- a popular tourist attraction in the Netherlands. Michiel recalled that his family was introduced to the Dornier Wal on 17 July, 1935. His mother had been married for two months and as a young naval wife she watched the arrival of a Dutch submarine at a port. Three Wals landed beside the submarine and Michiel's mother was able to photograph the landing. Many years later, Michiel came to appreciate how the Wal was unique and how important this German flying boat became internationally. With the help of Contessa Maria Fede Caproni-Armani, Michiel was able to publish his book, *Dornier Wal "a Light coming over the Sea"* in English, in 2005, in Florence, Italy. In 2005, Michiel had the privilege of presenting his book to Maria and made a presentation in Italian.

Michiel noted the Wal was significant for many reasons, including its striking technical innovations, impressive performance and its achievement as the first successful international joint venture in aviation. More than 320 of these great flying boats were built around the world. The Wal was capable of long flights in adverse conditions, whether flying over snow and ice, or lakes, seas and forests, or in tropical weather. Its rugged crews, in open cockpits exposed to weather and wind, broke world records. During the 1920s and 1930s, the Wal became the first success in a large family of Dornier flying boats and conventional land-based aircraft. Before the Second World War, the Wal crossed the Atlantic more than 350 times, including 340 regularly scheduled flights from Gambia, West Africa to Brazil. It performed outstanding military service during the Second World War, beginning in

Spain, quickly followed by the Netherlands and later by Germany.

German designer Claude Dornier (1884-1969) was the father of the Wal. He studied engineering and dreamed about constructing all-metal aircraft and giant metal flying boats. Dornier became personal scientific advisor to Count von Zeppelin in 1913 and achieved great success in designing and constructing the first floating hangar for airships on Lake Constance. In 1914, Dornier was ordered to produce something new in aeronautics, a giant metal flying boat. He developed a little family of flying boats, starting with the Rs I, in 1916. With the armistice in 1918, production at the Zeppelin works ceased. Strict requirements were enforced upon Germany concerning disarmament and dismantling of the German arms industry, supervised by weapons inspectors from the Inter-allied Control Commission for Germany. Political circumstances forced aircraft builders, like Dornier and Anthony Fokker, to look for industrial possibilities outside Germany. Fokker, a Dutchman, moved to Amsterdam with a train full of half-made planes and tools and restarted there in 1919.

Dornier, meanwhile, had developed a commercial flying boat, the Gs I, a six-seat aircraft propelled by two 270 horsepower engines in tandem. Equipped with characteristic patented Dornier sponsons which stabilized the seaplane, the GS 1 was the direct predecessor of the Wal. Dornier named his next project, first known as the Do J, the Wal because the shape of the hull of the aircraft somewhat resembled the shape of a whale. Dornier, seeking a production site for the Wal, was approached in secret by an Italian officer from the Control Commission who presented him an offer from Italian entrepreneurs involving construction of the Wal in Italy. And so the first successful international aviation joint venture began.

The historical films shown by Michiel dated

back to the era when there wasn't any accompanying sound. They came from the Dornier archives, the Institute for Maritime History in the Netherlands, the Italian ministry of defence, and the family of a wireless operator aboard a catapult seaplane-tender used by Lufthansa in Wal operations. On 6 November, 1922 the first flight of the Wal was made from the beach of Marina di Pisa in Italy. It was a large aircraft in its day, powered by two engines in tandem, with a wingspan of 22.5 metres (increasing to 28 metres in later versions). Thus began one of the more profound stories in global aviation. In Italy, the Wal was honoured as "a light coming over the sea" for its contribution to the development of night flying in the late 1920s. Management of the construction yard in Marina di Pisa, known as CMASA, chose an Icarus on a boat as an emblem. Production grew in Italy and six Wals were sold to Spain in 1924. Spain was the first country to recognize the military potential of the Wal. A licence agreement was reached with Kawasaki in Japan, also in 1924. Other licence agreements followed with the Netherlands, Spain and Russia.

The Wal first achieved worldwide fame with the safe return of Roald Amundsen and Lincoln Ellsworth after their unhappy polar expedition in 1925 with two Wals. Amundsen's aircraft had to make a forced landing, and Amundsen had to construct a runway by hand with his crew. It took weeks to accomplish the arduous feat. One of the two flying boats had to be left behind. It is estimated to be lying about 3,000 metres deep in the polar sea. While unsuccessful, this expedition convinced many aviation pioneers and other customers to use the Wal for their ventures because of its ruggedness in extremely adverse circumstances. Michiel showed photographs of Amundsen's activities, which the Norwegians later recognized with a monument at Spitsbergen.

The Wal's strengths included its robust construction, advanced use of modern light

metal, and the classic Dornier sponsons, rather than floats, which often caused trouble for the weak seaplanes of the day. The sponsons, about half-way along the underside of the flying boat, gave the aircraft stability not only on the sea, but also on snow and ice. About 130 Wals were built in Italy, alone, for customers all over the world. In all, the Wal was constructed in six different countries. It operated over all seven seas, from the North Pole to Antarctica and from Chile to Indonesia. The Wal was at the cradle of aviation in many countries.

A very experienced captain was required to successfully operate a flying boat in the high seas during the 1920s and 1930s. In 1924, Italian war ace Antonio Locatelli made a gallant attempt to cross the North Atlantic from east to west, but was forced to land near Cape Farewell on the way from Iceland to Greenland because of heavy fog and dangerous icebergs. In 1926, Spanish Captain Ramon Franco made the first flight with the Wal "Plus Ultra" (Always Further) over the South Atlantic, from Palos de Moguer (Huelva) in Spain to Buenos Aires. After receiving an overwhelming reception, Franco presented his Wal in the name of the King of Spain to Argentina. This aircraft was restored in Spain and returned in 1988 to the Transport Museum of Lujan in Argentina, about 300 miles from Buenos Aires. It is the only original Wal still in existence today. In 1927, the first night flight was made over the South Atlantic by a Portuguese Navy Wal, the "Argus," flown by Sarmiento de Beires.

The films shown by Michiel included aerial views of Marina di Pisa, which was a worldwide point of reference for aviation in the twenties. In 1928, British/Irish test pilot Frank Courtney tried to cross the North Atlantic via Spain and the Azores, using Amundsen's flying boat. He made it from Lisbon to the Azores in 11 hours, but he was delayed by technical problems. An engine fire erupted while he was flying towards

Newfoundland, forcing him to land in mid-ocean at night. He sent a distress signal and was rescued by an American steamer, while another freighter salvaged the Wal. It was delivered to Montreal, but was too damaged in transit to be saved. Courtney sent the following telegram to the Dornier works in Germany after the mishap: "Machine afire midnight through broken petrol pipe. Landed in heavy sea at night ... without Dornier construction and seaworthiness must have been lost. Courtney."

In April 1929, three Dutch Navy Wals, constructed in the Netherlands, flew from the island of Texel in Holland to what was then the Dutch East Indies. Unfortunately, it was not a successful adventure as unexpected technical problems arose. One of the three aircraft crashed, in a fatal accident that cost the life of one of the pilots, after the aviators had made it to Baghdad. The remaining two Wals arrived on 18 May in the Dutch East Indies to considerable fanfare. However, one of the Wals was destroyed by fire after an explosion in the petrol tanks. This adventure proved to be a very costly. Later in the 1930s, however, more than 40 Wals were the backbone of the Dutch Naval air presence in the Netherlands East Indies, covering an extensive area including previously inaccessible areas. They served as the airborne eyes of the fleet at a time when there wasn't any radar.

In 1930 Wolfgang von Gronau, a very experienced First World War pilot and member of the Civil Aviation School made a flight to New York in 44 hours and 25 minutes, at an average speed of 150 km per hour. The illegal flight was carried out in the former Amundsen Wal, now German-owned, without permission of the German government. However, the accomplishment of the German crew, crossing the North Atlantic in an open cockpit under polar conditions, created a sensation among the American press. The celebrated Wal used by

Amundsen, Courtney and von Gronau was transported back to Germany by ship and became one of the highlights of the Deutsches Museum in Munich. Unfortunately, this historic aircraft was totally destroyed in Allied bombardment in 1944.

In 1932, von Gronau, after making other flights, especially over Greenland where he discovered a new mountain range, decided to make the first flight around the world in a flying boat. He chose the D-2053, a new and fully metal second-generation Wal, equipped with the strongest BMW-VIIa engines. It was heavier, faster, seaworthier and had improved flight qualities. Named "Gronland Wal," the aircraft was built in Germany and was the result of 10 years' development of the Wal. Von Gronau completed the Atlantic crossing, his third, and arrived at the tiny settlement of Cartwright in Labrador on 26 July. From there he flew to Montreal, Detroit, Chicago and Milwaukee, where he enjoyed a huge welcome including a ticker tape parade. Then the complicated part of the journey began as the flying boat had to cross the Prairies and the Rocky Mountains. A stop was arranged at Lac la Biche, Alberta, near Edmonton. Von Gronau managed to cross the more than 3,000 metre-high Rockies, a challenging task. He later said that this stage was probably the most difficult part of the global flight.

Arriving on 18 August at the Canadian naval base on Prince Rupert Island, von Gronau prepared for the problems of flying in an area of the world known for appalling weather ---- rain, fog, poor visibility, etc. The crew carried on, past the Aleutians and the Bering Sea, to the long coast of Russia, continuing to Japan and on to China. Although German, the crew was well received everywhere. In Shanghai, von Gronau, a former lieutenant of the Imperial German Navy, was made an honorary member of the Royal Air Force Association of Shanghai. From

there, special mail for Hong Kong and Manila was taken aboard. At Manila, von Gronau was made an honorary citizen as well. The crew flew on to the Dutch East Indies, where von Gronau was impressed by the activities and work of the Dutch naval aviation service which thoroughly checked the "Gronland Wal" before the flight continued.

However, difficulties were encountered during the trip from Port Swettenham in Malaya to the Burmese coast. The forecast seemed favourable, but the wind strengthened considerably and the sea became stormy. A cooling pipe broke down not far from the Mergui Archipelago and one of the two engines failed. Von Gronau had to make an emergency landing from a low altitude in his heavily loaded flying boat on a raging sea. Just before the landing, mechanic Franz Hack tried to make emergency repairs to the engine but he couldn't do it. The Wal went over three towering waves, landing in a trough between the waves and almost seeming to disappear but managing to survive. Wireless operator Fritz Albrecht fortunately was able to signal an SOS to Manila by long-wave transmitter. The steamer Canagola arrived and succeeded in taking the Wal in tow to the port of Rangoon. The journey continued smoothly from there and after 110 days, including many nice receptions, the "Gronland Wal" finally landed safely on Lake Constance close to the Dornier Works in Germany on 9 November, 1932.

During this period, the Wal was used for mail flights. The Lufthansa organized a unique airmail line, a complicated one, from 1934 to 1939. The route connected Germany to South America, and linked Gambia in West Africa to Brazil. The latter connection was supported by seaplane catapult-tenders, the Westfalen off Gambia and the Schwabenland off the island of Fernando Noronha on the Brazilian side. The old steamer was equipped with a patented Heinkel catapult, positioned four metres above the foredeck, which

could launch the flying boat into the air in about two seconds. The Westfalen was also equipped with a so-called dragsail (landing sail), 70 metres long, to facilitate operations in high seas and to ensure a sure connection between the ship and the flying boat. A 14-metre high crane on the stern could then lift the Wal safely aboard the ship. The second tender, the Schwabenland, was developed, introducing improvements based on the experience of the Westfalen. Catapult launches operations provided some of the most spectacular scenes in the rare film footage that Michiel showed. By 1939, Lufthansa owned four flying boat tenders.

About 25 per cent of the Wals produced were used for civilian purposes. The first passenger Wal made its maiden flight in 1924. Michiel's photographs showed the first passenger Wal as it was delivered to Colombia and later to Peru. The spacious cabin could carry eight to nine passengers, with three to four crew members in the cockpit. Later versions could carry 10 passengers, with the cabin having four portholes on each side. In 1926, the larger, more powerful Super Wal, made its first flight. It could carry 19 passengers and a crew of four. A four-engined version was developed in 1927. It could carry 19 passengers. A wide variety of engines was used. The Wal family culminated in 1929 with the giant Dornier Do X in 1929, a spectacular aircraft with twelve 525 hp-each Bristol Jupiter engines mounted in tandem. It was capable of carrying 160 passengers.

Corrosion was a problem for seaplanes and the Wal wasn't any exception. The Wal was succeeded by the long-range Do 18, developed in 1935. It was an aerodynamically improved Wal, also equipped with sponsons and the pull and push engine configuration. The Do 18 was also prepared for catapult operations. As Michiel noted, the Wal mastered the skies and the seas and was Dornier's most successful flying boat. It has, unfortunately, been somewhat forgotten by

history because it flew in the long shadow of the mammoth Do X and of the Second World War.

Michiel is a strong advocate of flying boats, for both civilian and military purposes. He suggested, for example, that flying boats could be of assistance in rescuing desperate refugees who are drowning on the high seas, helping authorities to find drug smugglers, or intercepting pirates. In his view, the flying boat



Michiel van der Mey. *Photo credit: Neil McGavock*

has numerous advantages over the helicopter in being able to patrol larger areas of sea, and having the versatility to being able to land if necessary. He definitely believes there is a future for flying boats in a world of which two-thirds is water. State-of-the-art anti-corrosion materials have been developed since the time of the Wal.

Michiel answered a number of questions from an audience that was fascinated with his presentation. He noted there are plans to look for,

and possibly salvage, a Dornier Wal in the Baltic which got into trouble on a passenger flight. Michiel was pleased to offer his superb book for sale and it sold briskly. Howard Malone expressed his thanks to Michiel for a top-notch presentation on a compelling, multi-dimensional story. Secretary-Treasurer Bob Winson presented a gift to Michiel on behalf of the Toronto Chapter in appreciation of his dedication and effort in preserving and promoting the story of the Wal.

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