

“Fiume 2. August 1871. - Iste Rate für die Dampf=Yacht F 25000 in Silber...”

**ROBERT WHITEHEAD'S STEAM-ENGINES ON
AUSTRO-HUNGARIAN DUTY – FROM WARSHIPS TO
ARCHDUKE LUDWIG SALVATOR'S YACHT NIXE**

Dr. phil. Brigitta Mader
Küstenlandforschung, Wien-Trieste

“Thanks to your first class engines I was able to win the Battle of Lissa” (GREY,1991;45) was the text of a telegram Wilhelm von Tegetthoff sent to Robert Whitehead after the famous battle on 20 of July 1866, when the Austrian navy defeated the Italian navy although the Italians were superior in gun power. It was the powerful ram of the armour-plated frigate *ERZHERZOG FERDINAND MAX* that brought the outcome of the battle. The Italian ironclad *RE D'ITALIA* did not resist the ram, leaked and sank immediately.

The wooden structure of the frigate *ERZHERZOG FERDINAND MAX* was built in Trieste from 1863-1865 in the dockyard San Marco of Giuseppe Tonello and launched on 24 may 1865. The plans have been done by the k.u.k marine engineer Josef Romako (the brother of the famous painter Anton Romako). The engine, - a horizontal 2-cylinder steam engine with screw and 800 horse-power - was constructed in the *Stabilimento tecnico in Fiume* (AICHELBURG, 2002; 193; BILZER 1976), where Robert Whitehead was the technical manager.

The plans of the engine are now conserved in the Austrian State Archiv, but they are not signed by Robert Whitehead. There is only one document with Whitehead's signature and the stamp of the *Stabilimento tecnico in Fiume*. It has the title: *Peso della Macchina di 800 Cav. per l'I.R. Fregatta coraz. "Ferdinand Max"*. and consists in a list of the weights of the several parts of the engine and is dated with 27 October 1865. The total weight of the engine without coal was 774,5 tons (ÖStA KA M.S.I.G.G. 1865-23/2; Nr. 6842/1865).

Robert Whitehead had been in Fiume already since 1858, when he had accepted the invitation of a number of Fiume capitalists to assist in the foundation of a marine engineering works under the name of the *Stabilimento tecnico in Fiume* and became also technical manager of the newly founded establishment. But Whitehead was already an engineer of reputation and specially in Austria was well known ever since the time he passed in Milan. Coming from Marseilles in 1847, where he had been working for three years in the works of Philip Taylor&Sons,

managed by his uncle William Smith¹, Whitehead settled down in Milan, for the first time did business on his own, effected improvements in silk-weaving machinery and designed machinery for the drainage of the Lombardy marshes. Milan was then Austrian and so were Whitehead's patents for his inventions. But the Italian revolutionary government of 1848 annulled them and so Whitehead left Milan and went first to Vienna, where he worked for a short period in a mechanical firm (LUKEZIC 2003; 109), and afterwards to Trieste, which was still under the Austrian dominion. There he worked first for the Austrian Lloyd and from 1850 to 1856 in the Strudthoff-dockyards (WURZBACH 1885; 213f., FRYER 1920; 650f), where under the technical direction of Whitehead in 1856 were built the first cylindrical boilers, which allowed much higher steam pressures and efficiency than the usual ones (GEROLAMI, 1957; 16).

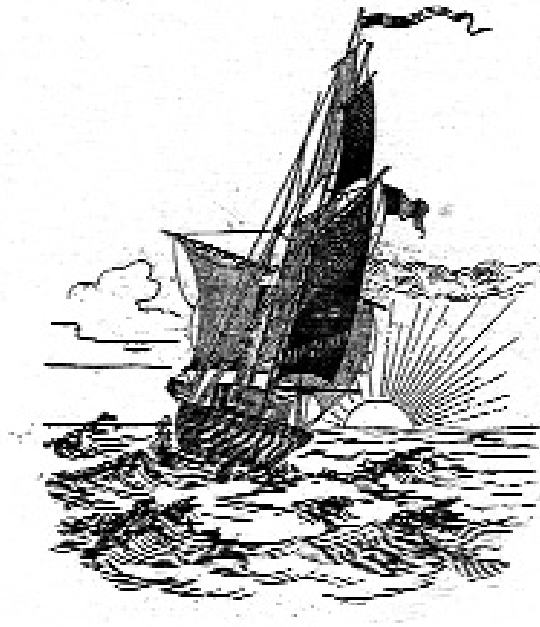
1866 was a very special year for Whitehead's career. It was not only the year of the successful Battle of Lissa, but also the year of birth of the torpedo and moreover Whitehead was rewarded by the Austrian Emperor Franz Joseph I. for the Battle of Lissa. While Tegetthoff was decorated with the Order of Maria Theresia and promoted to Vice-Admiral (STERNECK 1900; 9f) Whitehead was personally thanked by the emperor and got a diamond and enamel ring (FRYER 1920, 651; GREY 1991, 45), a so called "Chiffren-Ring".

But this was not the only decoration awarded to Whitehead by Franz Joseph. It was the first of three decorations.

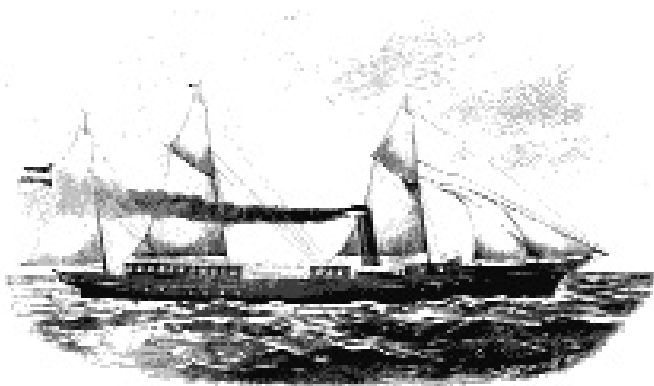
In 1867 the *Stabilimento tecnico in Fiume* participated in the International Exhibition in Paris with a model of the steam engine of the frigate *ERZHERZOG FERDINAND MAX* and with the plan of a 12 horse steam engine for river navigation on the Danube from the *Ungarische Dampfschiffahrtsgesellschaft* (Hungarian Steam-Navigation Company). They were exhibited in the 66. class *Material für Schifffahrt und Rettungswesen* (material for navigation and rescue). The model of the engine got the silver medal from the exhibition committee (KATALOG 1867, 202), as well as Tonello's ship model of the *ERZHERZOG FERDINAND MAX*, which was also present in the exhibition (BERICHT 1869, 315). Franz Joseph, who visited the exhibition of Paris in October and left it with the words "*I'm proud of Austria*"² (ÖStA AVA -Handel, Weltausstellung Paris 1867-2), decorated Whitehead in recognition of his services to Austrian engineering and in honour of his success at the Paris Exhibition with the Imperial Austrian Order of Franz Joseph

¹ Born in 1823 in Bolton-le-Moores in Lancashire, England, his technical interest was already so evident in his childhood, that after grammar school he was apprenticed to Richard Ormond & Son, engineers in Manchester, managed by his uncle William Smith. During this practical education Whitehead attended the evening classes of the Mechanic's Institute in Manchester. On the conclusion of his apprenticeship Whitehead joined his uncle who had become manager of the works in Marseilles. (FRYER 1920, 650f.)

² "*Ich bin stolz auf Österreich.*"



The *NIXE* in her first journey in 1873. Woodcut from a pen-and-ink drawing by Ludwig Salvator (Ludwig Salvator 1874)



The *NIXE* in a watercolour (privat collection).

(*Kaiserlicher österreichischer Franz Joseph-Orden*). This order gave Whitehead also the right to be called “knight” (“Ritter”) (MICHETSSCHLÄGER 1818-1919; 121).

One year later, in 1869, Whitehead was awarded with the Austrian Imperial Order of the Ironcrown (*Österreichisch kaiserlicher Orden der Eisernen Krone*) and became “Knight of the 3rd class” (Fig.4). This decoration, which was lent for civil as military merits, Whitehead was given for the invention and development of the torpedo. And it was also the Frigate Captain Johann Luppis, who got the same order in the same year (HOF-UND STAATSHANDBUCH 1874; 88).

In November 1869 the Austrian Archduke and scientist Ludwig Salvator (1847-1915)³ sent a letter from Praha to his mother, the Grand Duchess Maria Antonietta. In this letter he explained his intention to acquire a yacht and proposed also a detailed financial plan. He had already for several years been dreaming about it. “*How useful would it be for me to have a little boat, which might serve me as well for transport as a home during those months of the year I pass for health and scientific reasons on the sea.*”⁴ (MARCH 1998, 64f.) he wrote to his mother. Ludwig had already spoken with several Austrian, English, French and Italian naval experts, had asked for prices, caught a lot of information about technical details and had come to the conclusion that for his needs an iron ship with steam engine and screw in combination with high masts and sails for economizing the costs for coal would be the best solution. 80 horse power and a crew of 12 men seemed to him sufficient (MADER 2002;50).

Two years later, in 1871, when Ludwig was 24, his long cherished wish finally became a reality and he ordered a steam yacht in the *Stabilimento tecnico in Fiume*. His decision to order the yacht in Fiume and not in England -as the imperial family used to do because of the long tradition and good experience the English dockyards had in yacht building (AICHELBURG 1998; 147) - has certainly to do with Whitehead. Whitehead was not only well known in Austria, but had also an international reputation. His steam engines were in fact superior to all others available and not only for efficiency but also for lower fuel consumption (SZEKERES 1970; 153). So he was certainly the right constructor for the engine of Ludwig’s yacht. And without any doubt it was also Ludwig Salvator’s paternal friend and adviser in marine affairs, the Frigate-Captain Heinrich von Littrow (1820-1895), who shared in Ludwig’s decision and was also mediator between Ludwig Salvator and Whitehead (MADER 2002, 52).

³ Ludwig Salvator (Florence 1847- Brandeis 1915), the Austrian Archduke and penultimate son of the last governing Grand Duke of Tuscany, Leopold II, dedicated his life and property without any regard to his social position exclusively to the natural sciences, linguistic studies included, and became well acknowledged in international scientific circles, was honoured by various scientific institutions and several times decorated for his work.

⁴ Cited in english translation after MARCH’s citation in spanish of the italian original.

Heinrich von Littrow was then royal Hungarian sea-inspector in Fiume (k.ungarischer See-Inspector), but started his military career on the naval academy in Venice.⁵ As with Whitehead for Littrow it was also the revolution of 1848 that brought him to Trieste. In Trieste Littrow was occupied with the reorganisation of the Austrian navy and became in 1857 director of the mercantile and nautical academy in Trieste⁶ (WURZBACH 1885; 285. MADER 2002; 55).

In 1862 Littrow, who had a literary vein too, wrote a paper about the priority of Josef Ressel's invention of the screw for steam engines, and in 1870 was issued his *Kosmologische Betrachtungen über Krieg und Frieden* (Cosmologic considerations about war and peace) about the torpedo invention, in which he defends Whitehead's pacific attitude. In Whitehead's opinion the torpedo was in fact first of all a deterrent weapon and destined to avoid war. In 1883 Littrow wrote also a newspaper article about the *Fischtorpedo* giving detailed information about this new weapon to the "common public".

And last but not least it was Littrow's merit too, to draw Archduke Leopold's attention to Whitehead's torpedo invention. Archduke Leopold (1823-1898), who was i.r. Marine troops and navy Inspector (k.k. Marine Truppen und Flotten Inspector) as well as Generale Genie Director (1860-1880) gave impulse and support to the progress in the development of mines, sea mines and also of torpedoes (EGGER 1972; 145f.).

Unfortunately we do not have any original material, like plans, designs etc., concerning the construction of Ludwig Salvator's steam yacht. The best and most detailed data we know from Ludwig Salvator's own description:

"...Die Hauptmassstäbe sind: Länge der Relling 170' eng., Breite 20', Tiefe 13'9", Tonnengehalt 135 Register-Tonnen.

Sie hat einen Klüverbaum, einen Fock-, Gross- und Besanmast mit je einer Gaffel und einem Besanbaum und eine fliegende Raa am Fockmast.

Der mittlere Tiefgang mit Kohle ist 9'6" engl.

Die von Robert Whitehead gezeichnete, gleichfalls im Stabilimento tecnico ausgeführte Maschine mit drei Cylindern, Oberflächen-Condense und Vorwärmer in der Rauchkammer des Kessels hat eine nominelle Kraft von 110 und eine effective von 400 Pferden.

⁵ From 1845 he was professor there for german stilistics, mathematics and nautical studies at the naval academy.

⁶ Littrow prepared a Dictionary of German naval terminology, wrote the famous handbook for the "Seemannschaft" (crew) (1859) and showed for the first time the sea bottom of the Adriatic in coloured charts, maps and plastic models.

Der Kohlenverbrauch beträgt in einer Stunde volle Kraft, durchschnittlich 10-11 Knoten, 12 Ctr. In einer Stunde halbe Kraft, durchschnittlich 7-8 Knoten, 8-9 Ctr.

Die Kohlenbänke fassen 100 Tonnen Kohle.

*Die Wasser-Reservoirs halten für 20 Tage Wasser, ausserdem ist ein Destillierapparat vorhanden.*⁷ (LUDWIG SALVATOR 1874).

From 1873 on we find the most important data also in the various ship- and yacht registers issued in Fiume, Trieste and London.⁸

After long and comprehensive, but fruitless researches to find some original material it seems a real stroke of luck to find at last one original document. It is the acknowledgement of 2 August 1871 about the first payment of 5000 Lira for the steam yacht ordered by Ludwig Salvator paid one day before by Heinrich von Littrow and already changed in the Austrian currency (ANM Ludwig Salvator 3; 1868-1871).

Ludwig Salvator's yacht was launched on 22 August 1872 after being under construction for nearly one year (the beginning was on 12 July 1871). The first trial trip took place on 18 February of 1873 and 10 days later the second and final one. On the same date, the 28 of February, the yacht was delivered to Ludwig Salvator and also given the name *NIXE*. Heinrich von Littrow and Mrs. Crafton Smith - Mr. Crafton Smith from London was one of the founders of the *Stabilimento* and the coowner of the papermill Smith&Meynier in Fiume, founded in 1828 (CASALI, CATTARUZZA, 1990; 17) - were sponsors.

The period of more than six months between the launch and the first trial trip was caused by some delay and it seems that there were problems with the engine. In March 1873 Captain Alois Luigi Randich from Fiume⁹ brought the *NIXE* to Alexandria, where Ludwig Salvator joined them, and on the 1st of April the *NIXE*

⁷ Length 170' engl., beam 20', draught 13,9"; Registered Tonnage 135; the yacht has a bowsprit, foremast, main mast and mizzen mast; every mast has one gaff and the foremast a flying gib; the mean draught with coal is 9'6" engl., the engine is designed by Robert Whitehead and also built in the *Stabilimento tecnico*; the engine has 3 cylinders, surface area condenser and pre-heater in the smoke box of the boiler, the nominal power is 110 the effective 400 horse power; the coal consumption by full speed (10-11 knots) per hour: 12 ctr, by half speed (7-8 knots) per hour 8-9 ctr.; the coal bunkers are for 100 tons of coal; the water reservoirs are for 20 days; there is also distillation apparatus.

⁸ *Annuario marittimo* issued from the k.k. Seebehörde in Trieste and the k. Seebehörde in Fiume; *Registro e Classificazione dei bastimenti Austro-ungarici ed esteri Trieste (Veritas Austro-ungarico)*; *Lloyd's Register of British and Foreign Shipping* (London).

⁹ Alois Adalbert Randich, born in Fiume in 1846, was the first Captain of the *Nixe* and remained in this function until his death in 1886 in Fiume (MADER 2002; 52).

started for her first long journey, which was planned along the north African coast from Alexandria to Tunis. But already two weeks after the departure (19 April) from Alexandria the yacht had a partial engine failure during nice weather, with a calm sea and speed about 11 knots. The *NIXE* had to continue on only two cylinders. The crew repaired the damage, but it broke again and because of the wind conditions it was impossible to continue under sail. With the help of the Austrian consul Ignazio Kohen on the island of Malta a new part was made in a foundry in Malta and the journey continued without other problems (LUDWIG SALVATOR, 1874; 67,74,76.78).

But as we know from Captain Randich's letters to Ludwig Salvator's equerry Cavaliere Eugenio Sforza, there were still problems with the engine. Already in July the engine was inspected and on this occasion the "*bearings of the shaft were worn*".¹⁰ Randich was not at all content with the condition of the engine, which in his opinion "*was not in order*"¹¹ (ANM, Randich 1873; 3 August, Fiume). On the 1st of October Randich informed Eugenio Sforza, that all work was finally finished and well done and writes: "*If the Stabilimento would have worked like this just at the beginning, the NIXE might be a jewel of work*"¹² (ANM, Randich 1873; 1. October, Fiume).

But although Randich was not satisfied at all with the way of working in the Stabilimento, the *NIXE* seemed to him such a wonderful yacht, that he did not want to change it, not even for two yachts like the imperial *MIRAMAR*, which he had visited in the port of Pola¹³ (ANM, Randich s.a.).

On 5 of September 1873 Ludwig Salvator was in Porto Ré (Kraljevica), from where he sent a letter to Eugenio Sforza and told him very joyfully, that now the "*engine works excellently*". On the way to Porto Ré the *NIXE* went

*"with a speed of 12 miles per hour and from full power ahead to full power astern took only 10 seconds, whereas before it had taken 5 minutes"*¹⁴ (AS 1873, 5. December 1873, Porto Ré).

Unfortunately Ludwig Salvator did not enjoy the well running yacht for long, because already one month later at the end of December another incident happened. Near Valona (Vlorë, Albania) two pistons of the cylinders broke. One was

¹⁰ "... i cuscinetti ove poggia l'asse erano rotti."

¹¹ "... la macchina non troppo in ordine..."

¹² "... se così avesse lo stabilimento lavorato al principio la Nixe era un bisù di lavoro."

¹³ The *Miramar* was built at nearly the same time (1871/72) as the *Nixe* after the plans of Josef Romako, but in England by the Samuda brothers, Poplar, and was used by the imperial family, specially by the Emperess Elisabeth (AICHELBURG 1998, 147).

¹⁴ "*La macchina va benissimo venendo qui siamo andati con una velocità di 12. miglia l'ora e tra tutta forza avanti a tutta forza indietro non ha di bisogno che 10 secondi mentre prima necessitarono 5 minuti.*"

completely broken, the other had only a crack, which it seemed to Ludwig Salvator had happened already some time before. With help of the Tramontana the *NIXE* arrived in the harbour of Valona. Ludwig, who continued to Corfu in another ship, ordered new pistons by telegraph and already used to such incidents, he ordered also one for reserve. (AS 1873; 31. December, Corfu).

After those initial difficulties the *NIXE* accompanied Ludwig Salvator in innumerable journeys through the Mediterranean sea and served him for more than 20 years as home and study on the high seas. Ludwig Salvator remained convinced of the superiority of the steam power and when he wrote in 1911 an article about yachts, he praised the advantages of steam and the perfection of the modern steam engines and therefore he gave to all who wanted to acquire a yacht, advice to prefer a steam yacht, because sailing yachts were only expedient for sport and competition (LUDWIG SALVATOR 1911, 14f.)

Ludwig Salvator's satisfaction with Whitehead's engine is last but not least expressed by his decision and trial to save at least the engine, when he was shipwrecked with the *NIXE* in 1893. But the costs for the salvage operation were too high, even higher than the value of the engine and so Ludwig Salvator had to renounce and lost the entire yacht *NIXE*, which was for him the "only house in which he really felt at home"¹⁵ (LUDWIG SALVATOR 1894; 10).

The *NIXE* sank in the morning hours of the 5th July at Cap Caxine near the port of Algier. It was an error in navigation of Captain Rafael Vich y Rosselló, the yacht struck to the rocks, leaked and sank not very far from the coast.

Although Ludwig Salvator felt himself like a "hermet crab which had lost its shell"¹⁶ he was happy to know his beloved yacht on the bottom of the sea and not scrapped like ships normally are (LUDWIG SALVATOR 1894;10).

The *NIXE* was never brought up and therefore is still there. So, the salvage of the *NIXE* or even of only some parts might be also a contribution to a revival of the cultural heritage and the history of industry in Fiume; so much the more, as the *NIXE* represents a rare testimony of yacht building under the technical direction of Robert Whitehead in the *Stabilimento tecnico in Fiume*.

Abbreviations

ÖStA KA: Österreichisches Staatsarchiv Wien, Kriegsarchiv

ÖStA AVA: Österreichisches Staatsarchiv Wien, Allgemeines Verwaltungsarchiv

HHStA: Haus-, Hof-und Staatsarchiv Wien

ANM: Archiv Narodni Muzeum Praha

AS: Archivio Sforza Montignoso

¹⁵ "...das einzige Haus, in welchem ich mich wirklich heimisch fühlte."

¹⁶ "...wie ein Einsiedlerkrebs, der seine Schnecke verlor..."

REFERENCES

- Aichelburg, Wladimir, 1998: Von Elisabeth benutzte Yachten - Fantasie, Miramar und Greif. in: 146-151.
- Aichelburg, Wladimir, 2002: Register der k.(u.) k. Kriegsschiffe. Wien-Graz 2002, 193-195 (*FERDINAND MAX* 99).
- Bericht über die Welt-Ausstellung zu Paris im Jahre 1867. Hrsg.k.k.Österreichisches Central-Comité. II.Bd. Wien 1869.
- Bilzer, Franz F., 1976: "Erzherzog Ferdinand Max" k.k. Panzerfregatte I. Klasse. in: Das Logbuch. Zeitschrift für Schiffbaugeschichte und Schiffmodellbau. 12.Jg.(1976) Heft 2, 47-50.
- Casali Antonio, Cattaruzza Marina, 1990: Sotto i mari del mondo. La Whitehead 1875-1990. Roma-Bari 1990.
- Day Lance, McNeil Jan, (Hrsg), 1996: Biographical Dictionary of the history of Technology. London-New York 1996. 753
- Egger Rainer, 1972: Leopold, Erzherzog von Österreich (catchword) in: Österreichisches Biographisches Lexikon Bd. V (1972) Wien, 145f.
- Encyclopedi Britannica 1967, Vol.23. (Vietnam-Zworykin), London 1967, 486.
- Engineering, 1901: Sept. 20, The Whitehead Torpedo works at Fiume. 398-401.
1905: Nov. 17, The late Mr. Robert Whitehead. 654.
- Fryer, S.E., 1920: Robert Whitehead in: The Dictionary of National Biography founded in 1882 by George Smith, Supplement 1901-1911, Vol. I., Oxford 1920, 650-652.
- Gerolami, Giovanni 1957: Cantieri riuniti dell'Adriatico. Origini e sviluppo 1857-1907-1957. Trieste 1957.
- Grey, Edwin, 1991: The Devil's Device. Robert Whitehead and the History of Torpedo. London 1991².
- Höbel, Lothar, 1987: Die Marine. in: Die Habsburger Monarchie 1848-1918. Hrsg. Wandruszka-Urbantsch; V.Bd. Die bewaffnete Macht. Wien 1987, 687-763.
- Hof- und Staatshandbuch der oesterreichisch-ungarischen Monarchie für 1874.1.Jg. Wien.
- Internationale Ausstellung zu Paris 1867. Alphabetisches Verzeichniss der Österreichischen Aussteller. Supplement zum Katalog der Österreichischen Abteilung herausgegeben vom k.k.Central-Comitë für die Pariser Ausstellung. Wien.
- Littrow Heinrich, 1862: Gutachten über die Priorität Josef Ressel's. Triest, 1-15.
- Littrow Heinrich, 1870: Die Topedos. Kosmologische Betrachtungen über Krieg und Frieden. Graz 1870², 1-29
- Littrow Heinrich, 1883: Robert Whitehead's Fischtorpedo. in: Neue Illustrierte Zeitung. I.Bd., Nr. 20, Wien, 307-310.
- Ludwig Salvator, 1874: Yacht-Reise in den Syrten.1873. Prag 1874.
- Ludwig Salvator, 1894: Schiffbruch oder ein Sommernachtstraum. Prag 1894.
- Ludwig Salvator, 1911: Einiges über Yachten. Wiener Almanach XX (Jahrbuch für Literatur, Kunst und öffentliches Leben) Wien-Leipzig 1911.
- Lukezic Irvin, 2003: Uloga engleza u Rijeckoj industrijalizaciji. in: Susacka Revija 42-43. Rijeka, 103-113

- Mader Brigitta, 2002: "Man wird sich nie in diesem großen Buche der Natur sattlesen..."
Erzherzog Ludwig Salvator. Ein Leben für die Wissenschaft 1847-1915. (Exhibition -
Catalogue) Wien 2002
- March Cencillo, Juan, 1998: El Archiduque. Biografía ilustrada de un príncipe nómada.
Palma de Mallorca 1998.
- Matschoss, C., 1925: Männer der Technik. Ein biographische Handbuch. Berlin 1925. 292.
- Mericka Vaclav, 1974: Orden-und Ehrenzeichen der Österreichisch-ungarischen Monar-
chie. Wien-München 1974.
- Michetschläger Heinrich F., 1818-1919: Das Ordensbuch der gewesenen Österreichisch-
Ungarischen Monarchie. Wien 1818-1919¹.
- Sterneck, Max, 1868: Wilhelm von Tegetthoff. Lebens-Skizze. in: Gedenkblätter der k.und
k. Kriegs-Marine. III.Bd. Pola 1900, 1-14.
- Stolzer Johann, Steeb Christian, 1996: Österreichs Orden vom Mittelalter bis zur Gegen-
wart. Graz 1996.
- Szekeres Jozsef, 1970: Veze Budimpeste i Rijeke u brodogradnji (1865-1924). in: Vjesnik
Historiskih Arhiva u Rijeci i Pazinu XV. 145-168.
- Wurzbach Constantin, 1885: Biographische Lexikon des Kaiserthums Österreich. Bd. 52,
Wien 1885, 213f.

Sažetak

“Rijeka 2. kolovoza 1871. – prva rata za parnu jahtu F. 25.000 u srebru...”

**PARNI STROJEVI ROBERTA WHITEHEADA NA AUSTROUGARSKIM BRODOVIMA –
OD RATNIH BRODOVA DO JAHTE NIXE NADVOJVODE LUDWIGA SALVATORA**

Brigitta Mader

Engleski inženjer Robert Whitehead koji se nakon što je radio u Marseillesu, Milanu i Trstu konačno ustalio u Rijeci gdje je osnovao tvornicu torpeda, postao je radi izuma torpeda tako slavan da je njegova važnost u brodogradnji kao projektanta i konstruktora parnih strojeva pala u povijesnom sjećanju na drugo mjesto. Međutim, uspješnost i učinkovitost tih konstrukcija donijele su Whiteheadu međunarodni ugled i čast. Njegovi su strojevi bili posebno cijenjeni na Svjetskoj izložbi u Parizu 1867. godine, a pobjeda austrijske ratne mornarice u bitci kod Visa (Lissa) 1866. godine nije bila rezultat samo uspješnosti Whiteheadovih strojeva. Visoka priznanja kojima je austrijski car Franjo Josip I. odlikovao Whiteheada pokazuju koliko je bio važan za ratnu mornaricu.

Na osnovi Whiteheadovih zasluga vezanih uz konstrukciju parnih strojeva, austrijski nadvojvoda i svjetski poznati znanstvenik Ludwig Salvator (1847. – 1915.) odlučio je naručiti parnu jahtu u Whiteheadovu Stabilimento tecnico di Fiume, iako je carska obitelj jahte obično naručivala u Engleskoj čija su brodogradilišta imala dugu tradiciju u izgradnji jahti.

Ne samo na osnovi tehničkog opisa parne jahte Nixe koji je napravio osobno Ludwig Salvator, a koja je porinuta u more u Rijeci 1872., nego i iz raznih registara jahti saznajemo da je Robert Whitehead dizajnirao i konstruirao strojeve. Ipak, autorica ovog teksta tek je nedavno, pri istraživanju arhiva, uspjela pronaći originalne dokumente u kojima se opisuje i ilustrira gradnja jahte Nixe Ludwiga Salvatora. Ti će dokumenti prvi put biti predstavljeni i objelodanjeni na Konferenciji o Whiteheadu dajući tako doprinos povijesti i posebice ranom razdoblju u Whiteheadovu brodogradilištu Stabilimento tecnico di Fiume. Istodobno autorica želi istaknuti važnu ulogu Roberta Whiteheada kao konstruktora parnog stroja za austrijsku ratnu mornaricu, ali i njegov važan doprinos uspostavi suradnje između Stabilimento tecnico di Fiume i brodogradilišta u Trstu.

Abstract

“Fiume 2. August 1871.- 1ste Rate für die Dampf=Yacht f 25000 in Silber...”

**ROBERT WHITEHEAD'S STEAM-ENGINES ON AUSTRO-HUNGARIAN DUTY – FROM
WARSHIPS TO ARCHDUKE LUDWIG SALVATOR'S YACHT NIXE**

Brigitta Mader

The english engineer Robert Whitehead, who after working in Marseille, Milan and Triest finally settled down in Fiume (Rijeka), where he founded the torpedo factory, became for his torpedo invention so famous that his importance for shipbuilding as designer and constructor of steam-engines passed in the historical memory on the second place. But it was the success and efficacy of these constructions which brought Whitehead to international reputation and honour. His engines were specially appreciated on the Universal exhibition of Paris in 1867 and the victory of the Austrian navy in the battle of Lissa in 1866 was not at least result of Whitehead engines. High decorations lent by the Austrian emperor Franz Joseph I. are demonstrating Whitehead's importance for the navy.

Owing to Whitehead's merits on the construction of steam-engines the Austrian Archduke and world famous scientist Ludwig Salvator (1847-1915) decided to order a steam yacht in Whitehead's Stabilimento tecnico di Fiume although the imperial family usually ordered their yachts in England, where the dockyards had a long tradition in yacht building.

As well as from Ludwig Salvator's personal technical descriptions of his steam yacht NIXE, launched in Fiume in 1872, we know also from various yacht registers, that Robert Whitehead designed and constructed the engine. But still recently the author succeeded in archive-researches to find also original documents concerning and illustrating the construction of Ludwig Salvator's NIXE. Those documents will be presented and published for the first time in occasion of the Whitehead Conference giving in this way a contribution to the history and particular to the early period of Whitehead's Stabilimento tecnico di Fiume. In the same time the author wants to underline Robert Whitehead's important role as steam-engine constructor for the Austrian navy but also for the collaboration between the Stabilimento tecnico di Fiume and the dockyards in Trieste.

