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Mechanical Modernity in the Ottoman Palace: Abdülhamid II and the Electric Boat

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Abstract

This study examines the transfer of European technological innovations to the Ottoman Empire during the reign of Abdülhamid II, using the electric boat specially commissioned from London for Yıldız Palace as a focal case. In the late nineteenth century, the Ottoman state closely monitored scientific and technical developments in Europe and sought to adapt selected innovations through embassies, expert reports, and direct procurement. The electric boat represents a distinctive example that illuminates both the symbolic and practical dimensions of this process. Acquired through Magnus Volk and used by the Sultan on the artificial lake within the Yıldız Palace gardens, the vessel became part of the palace's modern, Europeanized landscape aesthetic. Following Abdülhamid II's deposition in 1909, however, the boat quickly fell

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into disuse and was later transferred to the Imperial School of Military Engineering as training equipment. Its rapid deterioration highlights the fragility of palace-centered modernization efforts and demonstrates that the sustainability of technological innovations depended on the continuity of the institutional structures surrounding them. Placing the electric boat at the center of analysis, the study reassesses the mechanisms, spatial dimensions, and limitations of Ottoman modernization.

Keywords: Ottoman Empire, Abdülhamid II, Electric Boat / Electric Launch, Magnus Volk, Technology Transfer.

Osmanlı Sarayında Mekanik Modernlik: II. Abdülhamid ve Elektrikli Sandal

Öz

Bu çalışma, II. Abdülhamid döneminde Avrupa'daki teknolojik yeniliklerin Osmanlı Devleti'ne aktarılma süreçlerini, Yıldız Sarayı için Londra'dan özel olarak sipariş edilen elektrikli sandal örneği üzerinden incelemektedir. Osmanlı Devleti'nin 19. yüzyılın ikinci yarısında Avrupa'daki bilimsel ve teknik gelişmeleri yakından takip ettiği; elçilikler, uzman raporları ve doğrudan satın almalar yoluyla modern teknolojileri imparatorluğa uyarlamaya çalıştığı bilinmektedir. Elektrikli sandal, bu sürecin hem sembolik hem de pratik yönlerini görünür kılan özgün bir örnektir. Sultan II. Abdülhamid'in Magnus Volk aracılığıyla edindiği sandal, Yıldız Sarayı bahçesinde yer alan yapay gölde kullanılmış ve sarayın modern, Avrupai peyzaj estetiğinin bir parçası hâline gelmiştir. Ancak padişahın 1909'da tahttan indirilmesinden sonra sandal hızla atıl duruma düşmüş, bir süre sonra da Mühendishane-i Berrî Hümâyun öğrencilerinin eğitim aracı olarak devredilmiştir. Kısa sürede kullanılamaz hale gelmesi, saray merkezli modernleşme girişimlerinin kırılganlığını ve teknolojik yeniliklerin sürdürülebilirliğinin kurumsal devamlılığa bağlı olduğunu göstermektedir. Çalışma, elektrikli sandalı merkeze alarak Osmanlı modernleşmesinin sınırlarını, mekânsal bağlamını ve aktarım mekanizmalarını yeniden değerlendirmektedir.

Anahtar Kelimeler: Osmanlı Devleti, II. Abdülhamid, Elektrikli Sandal, Magnus Volk, Teknoloji Transferi.

Introduction

The second half of the nineteenth century marked a period of "mechanical modernity"[1] in Europe, as technological innovations diversified rapidly and became commercialized, transforming daily life, urban landscapes, and state administration. Inventions such as steamships, railways, internal combustion engines, small-scale electric motors, automobiles, motorboats, photography, precision optical instruments, and various measuring devices attracted not only industrial circles but also royal courts and elite social classes. International exhibitions held in major centers such as London, Paris, and Berlin increasingly became key venues where states examined these technologies, purchased them, or sought to adapt them to their own contexts.[2]

Seeking not to remain outside this global wave of technological dynamism, the Ottoman Empire closely followed developments in Europe, particularly from the Tanzimat era onward, and made "technology transfer" an integral part of state policy. The recruitment of foreign engineers for railway projects, the procurement of photographic and optical devices for the palace, the purchase of modern weaponry, the modernization of maritime technologies, and the testing of new types of transportation vehicles should all be understood within this framework. Throughout this process, the technical reports prepared by Ottoman embassies and consulates in Europe, exhibition commissioners, purchasing committees, and students studying abroad played a decisive role.[3]

The reign of Abdülhamid II (1876–1909) marked the most visible phase of this process, characterized by the monitoring of technological innovations and experimentation with them within the palace environment. Abdülhamid's personal interest in new technologies was closely tied to the broader strategy of modernization. The Sultan

[1] Katia Pizzi, "Introduction", in *Pinocchio, Puppets And Modernity*, Katia Pizzi (ed.), Routledge, New York 2012, p.3.

[2] Ece Özçeri, *Displaying the Empire: A Search for Self Representation of the Ottoman Empire in the International Exhibitions of the Nineteenth Century*, Libra Publishing, İstanbul 2016.

[3] Ekmeleddin İhsanoğlu, *Osmanlı Modernleşmesinde İlk Adımlar Teknoloji, Bilim ve Eğitim*, Ötüken İstanbul 2022, p.44; Ahmet Yüksel, "Mucit ve Devlet: Son Dönem Osmanlı Dünyasında Mucitler", *Belleten*, 75/274 (2011), p. 785.

believed that such innovations would both strengthen imperial governance and reinforce the image of the Ottoman Empire as a "modern state." Accordingly, he issued specific instructions to Ottoman embassies to closely follow European developments, commissioned the delivery of catalogues and models to Yıldız Palace, and arranged for certain devices and vehicles to be tested within the palace grounds.[4]

In this context, Yıldız Palace emerged not merely as a residence but also as a "laboratory" for experimenting with new technologies. The expansion of the Imperial Photography Studio, the introduction of new optical instruments, the commissioning of precision timepieces, the diversification of the gardening and machinery inventory, and the use of small-scale motorized vehicles within the palace gardens all serve as concrete manifestations of this approach.[5] Most of these technologies were tested within the palace before being adopted to other parts of the Empire; their patterns of use were observed, and those deemed suitable were subsequently disseminated more widely.

The electric boat represents a distinctive example of this broader context. The Ottoman court's keen interest in small-scale electric motorboats, which developed in Europe in the late nineteenth century, reflects Abdülhamid II's curiosity about modern technologies and the palace-centered nature of these technological experiments. During the procurement process, the Ottoman ambassador communicated directly with the manufacturer regarding technical specifications,

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[4] François Georgeon characterizes Abdülhamid II as a "bourgeois sultan," emphasizing his fascination with technology and his distinctly modern personal tastes. The Sultan's deep interest in contemporary modes of acquiring knowledge—such as illustrated magazines and statistical reports—further demonstrates how he, much like any cultivated bourgeois individual, internalized these new regimes of information. This engagement reveals his adoption of nineteenth-century epistemologies and the modern notions of mastering knowledge that accompanied them. Ahmet Ersoy, Deniz Türker, "The Hamidian Visual Archieve 1878-1909: A User's Manual" in *Crafting History Essays on the Ottoman World and Beyond in Honor of Cemal Kafadar*, Rachel Goshgarian, İlham Khuri-Makdisi, Ali Yaycıoğlu (eds.), Academic Studies Press, Boston 2023, p.340.

[5] Serkan Yazıcı, *Sultanın Saatçisi: Meyer Saatlerinin Asırlık Öyküsü*, Kronik Yayınları, İstanbul 2023; Deniz Türker, *The Accidental Palace: The Making of Yıldız in Nineteenth-Century İstanbul*, The Pennsylvania State University Press, Pennsylvania 2003, p. 15, 52, 56.

motor capacity, hull design, and special fittings appropriate for palace use—an indication of the active role diplomatic channels played in the importation of modern technologies.

The use of the electric boat on the artificial lake constructed in the gardens of Yıldız Palace is significant in terms of how technology was integrated into the palace space. The purpose was not merely entertainment but also the creation of an aesthetic and symbolic representation of modernity. Yet, as with many technological novelties, the electric boat eventually fell out of use. Its gradual abandonment reveals both the structural obstacles encountered by modern technologies in the Ottoman context and the sustainability problems inherent in palace-centered technological initiatives. In the specific case of the electric boat, however, the deposition of Abdülhamid II constituted an additional factor contributing to the neglect of this modern device.

This study examines the processes through which technological innovations from Europe were transferred to the Ottoman Empire during the reign of Abdülhamid II, using the case of the electric boat as a point of departure. It aims to elucidate the roles played by the palace, diplomatic missions, and technical expertise in these processes. In doing so, the study seeks to assess both the position of modern technologies within Ottoman society and the limitations of palace-centered modernization initiatives.

The Electric Boat and Magnus Volk

The origins of electric boating can be traced back to the early nineteenth century. In 1825, eleven years after the forty-two-year-old science and philosophy instructor William Sturgeon demonstrated his first electromagnet, he announced that he had devised an electro-magnetic motor capable of producing mechanical motion. He reported that he had succeeded in propelling both a small boat and a locomotive carriage by means of electromagnetism. He noted that once the final versions of his designs were completed, he would present them to the public. A year after this development, another noteworthy experiment took place in St. Petersburg, Russia. A paddle boat was rowed from the Peter and Paul Fortress (Petropavlovsk) to the middle of the Neva River. At the given signal, the oars were

withdrawn, the paddle wheels began to turn, and the boat started to move upstream against the current. As the wheels rotated silently, the vessel was propelled by a magnetic motor. In the following years, the German engineer Moritz Hermann Jacobi attracted considerable attention with his work in this field. Indeed, as a result of his achievements, he was invited to Russia in 1835 by Count Kankrin, the Minister of Finance, and, upon accepting Russian citizenship, he spent the rest of his life and continued his work there.[6]

Research on electrically powered watercraft began to yield increasingly successful results over time. Contributions from various inventors led to the development of more advanced systems, and before long, electric power was being employed even in larger marine vessels. One of the principal advantages of the electric boat was the absence of the smoke and noise produced by steam engines. On 28 September 1882, one of the four distinguished individuals who participated in a trial voyage of the vessel *Electricity*, which travelled up the Thames as far as London Bridge, reported the following to The Times: "*Sir, I had the privilege of being one of a select party of four who took part in a voyage on the River Thames aboard a boat propelled solely by electric power. After a brief run downstream, we tested the vessel's ability to move ahead, slow down, and go astern. When the bow was turned toward the City, we gained speed. Without the noise of a steam engine, we glided quietly for hours along the south bank, moving against the current at approximately eight knots*." *Electricity* undertook its first official trial voyage on the River Thames in March 1883. Among those on board was the distinguished electrical engineer Professor Sylvanus P. Thompson, who at the time served as Chair of Physics at Finsbury Technical College. Thompson reported that during the journey, the vessel successfully reached a speed of 7 miles per hour (11 km/h) and was able to return to the pier under its own power, demonstrating the significant advancements achieved in the development of electrically powered watercraft.[7]

[6] Kevin Desmond, *Electric Boats and Ships: A History*, McFarland, United States of Amerika, 2017, p.5-6.

[7] Desmond, ibid, p.15.

By 1888, the largest electrically powered vessel in the world had been constructed. In the same year, with financial backing from Viscount Bury, the German-born electric motor manufacturer Moritz Immisch established the Electric Launch Company. Magnus Volk and F. Crawter carried out the electrification system of this exceptionally high-standard vessel.[8]

Entrusting the electrification system of the largest electric vessel of the period to Magnus Volk was no coincidence, for he was widely recognized as a pioneer of electric railways. This reputation stemmed from his construction of Britain's first electric railway along the Brighton seafront as early as 1883. Volk was likewise a pioneer in electric lighting; even before 1880, well before electricity became common, he had already illuminated his own home by electrical means. He also installed the first telephone systems in Brighton, Hove, and other towns in Sussex, and built and operated one of the earliest electric cars. To better understand the sources of this technical versatility, it is worth briefly considering Volk's early life. Born in Brighton in 1851 where his father worked as a clockmaker, Volk displayed remarkable skill in model making from a young age. As soon as he was able to handle a few tools, he began constructing windmills and steamships out of old clocks. Due to his enthusiasm for creating new devices, he soon became known in those years as "Magnus the Dreamer." When his father passed away, Magnus Volk was only fourteen years old. Despite his young age, he took over his father's clockmaking business. He soon began producing toy telegraph instruments and expanded his operations to the point of employing twenty workers. He later added electric bells and induction coils to his product range, and before long developed an interest in electric lighting. This, in turn, led to his appointment as electrical engineer to the Brighton Corporation, and in 1883, he illuminated the Royal Pavilion grounds with electric light. In addition to being a pioneer of electric lighting and electric railways, Mr. Volk was also among the early inventors of the automobile. He tested his self-constructed electric vehicle on the Brighton seafront road in 1888, and this

[8] Desmond, ibid, p.26.

automobile is considered to be one of the earliest electric cars ever operated.[9]

Magnus Volk's automobile also attracted the attention of Sultan Abdülhamid II. The Sultan learned of the vehicle through a report published in a German newspaper. Ottoman officials then contacted Mr. Volk and requested that he construct another such automobile for the Sultan. Accepting this proposal, Volk personally brought the vehicle to Istanbul to demonstrate its capabilities.[10] The trial of the new vehicle was conducted on the palace grounds with great success, and the Sultan was so pleased with what he observed that he honored his visitor from the field of electricity with a decoration.[11]

Ordering an Electric Boat from Europe and Its Use at Yıldız Palace

Sultan Abdülhamid II's fascination with the technological innovations of his time led him not only to commission an electric automobile from Magnus Volk but also to order an electric boat. In fact, the growing popularity of electrically powered vehicles had drawn the attention of many contemporary statesmen, and in this regard, Abdülhamid was by no means alone. With the increasing popularity of electric launches, several monarchs, including King Umberto I of Italy, Maharaja Mulam Thirunal Rama Varma of Travancore, and Sultan Moulay Abd al-Aziz of Morocco, purchased and utilized electric boats.[12]

It is well known that Abdülhamid II had various private spaces constructed within the Yıldız Palace complex. These included theater halls, workshops, a zoological garden, and even an aviary. The palace also featured an elaborate artificial lake specially designed for the Sultan's personal use. Instead of going to the large pool located beyond the small courtyard of the palace, Abdülhamid would spend time rowing on this artificial lake. The electric boat he intended to

[9]https://www.brightontoymuseum.co.uk/index/The_Career_of_Magnus_Volk_(1851-1937) (Retrieved November 14, 2025)

[10]https://www.brightontoymuseum.co.uk/index/The_Career_of_Magnus_Volk_(1851-1937) (Retrieved November 14, 2025)

[11] *The Telegraphic Journal and Electrical Review*, 9 November 1888, p.520.; *BOA, HR.SFR.3*, 341/76, 18 November 1888.

[12] Desmond, ibid, s. 26.; John K. Cooley, *Baal, Christ and Mohammed: Religion and Revolution in the North Africa*, Holt, Rinehort and Winston, Canada 1965, s.186-187.

purchase was likewise to be used on this lake, allowing him to enjoy leisurely moments within the confines of his private domain.[13]

Ottoman records indicate that the procedures concerning the electric boat commissioned from Magnus Volk for use at Yıldız Palace were overseen by Rüstem Pasha, the Ottoman ambassador in London. During this period, Abdülhamid II was engaged in diplomatic relations with various European powers to meet the Empire's need for modern weaponry. As a result of his preference for closer ties with Germany—rather than with Britain or France—he had instructed the officials of the Berlin Embassy to take charge of matters related to arms procurement. Nevertheless, Rüstem Pasha, based in London, closely monitored technological developments there and regularly sent examples and information to Istanbul.[14] In this respect, it is evident that Rüstem Pasha followed not only advancements in weaponry but also new technological products more broadly.

Within this framework, the products commissioned from Magnus Volk at the order of Abdülhamid II included an electric automobile and an electric boat. Following negotiations between the parties, it was agreed that a total payment of £650 would be made, comprising £200 for the electric automobile and £450 for the electric boat. The contract signed on 1 November 1888 between Rüstem Pasha, on behalf of the Ottoman Empire, and Magnus Volk set out in detail the specifications and requirements of the boat. According to the agreement, the boat was to be constructed with a length of 6.5 meters and with proportionate width and depth. At the stern, a saloon—namely, an enclosed cabin—would be built. The windows of this cabin were to have rounded upper sections and be made of glass. Both the boat and the enclosed compartment were to be constructed from mahogany, while the interior of the saloon would be furnished with red cushions and curtains. The vessel was to be fully equipped with a pair of oars, all

[13] Georges Dorys, *The Private Life of Sultan of Turkey*, Translated by Arthur Hornblow, D. Appleton, New York 1902, p.123-124.; Edwin Pears, *Life of Abdul Hamid*, Constable, London 1917, p.109, 111; Joan Haslip, *The Life of Abdul Hamid II*, Holt, Rinehart and Winston, United States of Amerika 1958, p.153; François Georgeon, *Sultan Abdülhamid*, Translated by Ali Berktay, Homer Kitapevi, İstanbul 2006, p.151.

[14] Zeynep Bostan, *Osmanlı Hariciyesinin Modern Temelleri, II. Abdülhamid Döneminde Diplomasi*, Kitap Yayınevi, İstanbul 2021, p.197.

necessary electrical machinery, and complete sailing gear. The payment agreed upon for the products included the costs of packaging, transportation, and freight to the Port of Istanbul. According to the contract, Magnus Volk undertook to deliver the items within eight to ten weeks. Furthermore, once the electric automobile and the electric boat had been completed, Rüstem Pasha would examine and test both vehicles, and only after determining that they were functioning properly would he issue a certificate of approval.[15]

The payment to Magnus Volk was to be made through the Ottoman Bank in London. In this context, in a letter dated 29 November 1888, Rüstem Pasha informed him that a credit of £650 had been made available at the Ottoman Bank in London for the products he had undertaken to construct for Sultan Abdülhamid II. The letter further requested that he be notified in advance once the vehicles were ready. It stated that he would prepare the necessary documentation enabling Volk to receive payment immediately after the inspection was completed. The correspondence also advised that the construction be completed promptly to avoid production delays and to prevent shipment from being adversely affected by unfavorable weather conditions.[16] The fact that the payment was made available even before the completion of the products, along with Rüstem Pasha's efforts to expedite their manufacture, is highly significant, as it reflects Abdülhamid II's eagerness to acquire new technological devices. Moreover, the Sultan's personal commission and the intended private use of these items appear to have prompted Rüstem Pasha to follow the entire process with particular care and attention.

In this context, it appears that Magnus Volk also provided the Ottoman authorities with an instruction manual—prepared before the June 1886 order—explaining how the electric boat was to be operated. This manual specified how the motor should be maintained during use, emphasizing in particular that it should never be kept fully immersed in water and that if water were to enter the motor box, the device would quickly become damaged. It was further noted that the batteries had been fully charged to ensure maximum endurance during the journey,

[15] *BOA, HR.SFR.3*, 341/76, 18 November 1888.
[16] *BOA, HR.SFR.3*, 347/89, 29 November 1888.

and that upon delivery, it would suffice to check whether any of the acid had evaporated. The manual also detailed the steps to be taken in the event of such evaporation. Additionally, it explained how the wires in the motor box should be connected to operate the motor and emphasized that placing the cables in a manner that ensured their proper protection would prolong their operational life.[17]

The correspondence between Magnus Volk and Rüstem Pasha following the signing of the contract indicates that the construction of the boat progressed rapidly. In his letter dated 3 January 1889, Mr. Volk reported that production was advancing swiftly; however, he noted the need for the Turkish equivalents of certain terms—such as "km/h, slow, fast, forward, reverse, and stop"—which were to be inscribed on the speed indicator and various other parts of the boat. He requested that these words be sent to him clearly and legibly, in a form that would allow the English artisans to copy them with ease. In response, Rüstem Pasha promptly provided the required Turkish terms.[18]

In another letter dated 14 March, it was reported that the construction of the automobile requested by the Sultan had been completed, whereas the electric boat still required the application of the final three coats of varnish, despite the stern section already being finished. It was explained that the prevailing weather conditions were unsuitable for this procedure and that it was not possible to accelerate the process. The letter further noted that, had the weather been favorable, it would have been possible to deliver the boat at an earlier date.[19]

Mr. Volk emphasized that these vehicles were entirely different from the models he had previously produced, noting that they had been equipped in accordance with the Sultan's specific requests and that no expense had been spared during their construction. He even stated explicitly that he would not make any profit from these items. Moreover, he reported that the electric boat had attracted considerable interest in England; in particular, he had received

[17] *BOA, Y.PRK.ASK*, 33/24, No Date.
[18] *BOA, HR.SFR.3*, 350/2, 3 January 1889.
[19] *BOA, HR.SFR.3*, 350/2, 14 March 1889.

requests for it to be exhibited at upcoming boat races in Oxford and Cambridge. Indicating that he could display the vessel at these events if deemed appropriate, Volk reiterated this offer in his correspondence, adding that he could make all the necessary arrangements and that the technical inspections of the boat could easily be carried out at the exhibition site.[20]

However, Rüstem Pasha reminded Volk that the electric boat had been constructed specifically for the Ottoman Sultan and therefore should be exhibited only in a more exceptional and distinguished setting. He further noted that, since the boat was reportedly ready, he wished to test it without delay and was awaiting notification on this matter. If no problems were detected during the inspection, he stated, the shipment would be carried out without postponement, and the payment would be made immediately.[21]

Although the electric boat had been completed, several modifications and additional features were also requested. Foremost among these was the ability to operate the rudder from the seating area within the cabin, as well as the installation of a second rudder on the exterior front section of the boat, to be used when necessary. Although the electric boat had been completed, several modifications and additional features were subsequently requested. Chief among these was the ability to operate the rudder from the seating area within the cabin, as well as the installation of a second rudder on the forward exterior section of the boat to be engaged when necessary. Although this addition had not been specified in the contract, the request likely emerged in accordance with Abdülhamid II's personal preferences. In response to this request, Mr. Volk acknowledged that a second rudder would indeed facilitate the boat's operation; however, he demanded an additional fee of fifteen liras for this modification. Rüstem Pasha insisted that the rudder be added without any extra payment, but Mr. Volk did not agree to these terms.[22] In the end, it was reported that the orders had been completed, and Rüstem Pasha stated, following his inspections, that he had found no deficiencies.

[20] *BOA, HR.SFR.3*, 350/2, 15 March 1889.
[21] *BOA, HR.SFR.3*, 350/2, 16 March 1889.
[22] *BOA, HR.SFR.3*, 350/2, 22 April 1889; *BOA, ML.EEM.* 116/52, 24 March 1889.

The electric boat and the automobile, prepared for shipment, were then loaded onto the steamships *Bolderaa* and *Rhino* and dispatched to Istanbul.[23] Additionally, the London branch of the Ottoman Bank forwarded a confirmation letter to Rüstem Pasha regarding the payments made to Mr. Volk.[24]

Abdülhamid II began using the electric boat he had specially commissioned for himself on the artificial lake that formed one of the central elements of the landscaped grounds of Yıldız Palace. According to a report published in *The Electrical Engineer*, although the Sultan was said to be somewhat hesitant about the widespread adoption of innovations such as electric lighting and the telephone within his Empire, he was nonetheless deeply interested in matters related to electricity. The report emphasized that the palace was "magnificently illuminated by electricity" and noted that Abdülhamid made use of his electric boat on the palace lake "every day."[25]

The spatial context of this use is directly linked to the carefully designed grounds of Yıldız Palace, which reflected the modern landscape aesthetics of the period. Sources note that Yıldız was situated atop one of the highest points of the capital and that at the center of the Sultan's private gardens lay a large artificial lake or a winding watercourse. This body of water was furnished with various boats and craft, including an electric ceremonial launch.[26] The water feature thus served not only as an aesthetic element but also as a stage upon which the Sultan's interest in modern technologies was materially expressed. Within this setting, the electric boat occupied a prominent place in the palace gardens.

Indeed, the Swedish tent that Abdülhamid purchased from the Thames became one of the focal points of this landscape, placed directly above a faux-stone nymphaeum featuring an artificial waterfall façade. This structure served both as one of the Sultan's resting and viewing points within the gardens and as one of the embarkation

[23] *BOA, ML.EEM.* 116/52, 12 June 1889.
[24] *BOA, HR.SFR.3*, 358/57, 6 June 1889; *BOA, HR.SFR.3*, 360/85, 14 June 1889.
[25] *The Electrical Engineer*, 1 January 1897, p.2; *The Electrical Engineer*, 8 July 1898, p.34; *The Electrical Engineer*, 9 September 1898, p.323.
[26] Türker, *The Accidental Palace,* p.57.

platforms for the electric boat. In this sense, it is also known that the Sultan possessed a dedicated landing stage specifically for his electric launch. Moreover, it is recorded that members of the palace household could board the electric craft operating on the winding lake by following the path that began at the nymphaeum located beneath the Sultan's private residence.[27] This spatial configuration positioned the electric boat as both a practical means of movement within the palace grounds and a symbolic element that complemented the modernizing aesthetic of the Yıldız gardens. Moreover, the fact that members of the palace household also utilized the electric boat illustrates the broader interest in technological devices within the palace environment.

Thus, the electric boat constituted a multilayered symbol that derived its meaning not only from Abdülhamid II's personal fascination with new technologies but also from its integration into the aesthetic composition, modern landscape elements, and exclusive spatial design of Yıldız Palace. When combined with the palace's artificial lake, nymphaea, waterfall façades, and European-style garden arrangements, the electric boat emerged as both a material and symbolic marker of palace-centered modernization during the reign of Abdülhamid II.

The Waning of Mechanical Modernity: The Fate of the Electric Boat After Abdülhamid II

Following the deposition of Abdülhamid II in 1909, Yıldız Palace and its associated structures continued to be used intermittently by subsequent sultans; however, they never regained the splendor or the continuous level of activity they had enjoyed during his reign. Ottoman archival documents indicate that many of the objects and instruments within the palace complex gradually fell into disuse, among them the electric boat that had been specially commissioned in London and delivered to Yıldız. Records dated March 1910 state that the boat had long remained unused and was found partially submerged, buried beneath debris, and in a severely dilapidated condition.[28] It remains unclear from the available evidence whether the electric boat had

[27] Türker, *The Accidental Palace,* p.51, 138,139.
[28] *BOA, DH. MUİ,* 81/56, 19 April 1910.

been neglected during the final years of Abdülhamid II's reign or whether it fell into this state only after his removal from the throne. Nevertheless, by 1910, it was evidently no longer operational.

The fact that the electric boat was out of use and found in a dilapidated condition by this date clearly indicates that it had ceased to serve any functional purpose within the palace. This situation created the conditions for the vessel to be reconsidered by other state institutions. Indeed, the available documents show that, despite its inoperable state, the boat was not entirely discarded; rather, it was requested by another governmental unit with the intention of repurposing it.

In this context, it appears that the cadets of the Engineering School of the Imperial Army (Mühendishane-i Berrî Hümâyun), specifically those in the Fortification Battalion, required a steam launch for their bridge-building exercises and therefore requested the electric boat to be repurposed for instructional and practical use. Thus, a vessel that had once served as a symbol of modernity within the palace gardens re-emerged after the reign of Abdülhamid II in an entirely different setting—as an auxiliary tool for military engineering education. According to the report submitted by the technician dispatched from the Engineering School, the electric boat could be used in place of the needed steam launch after undergoing minor repairs.

However, to operate the vessel and employ it in the Fortification Battalion's demolition exercises and wireless telegraphy drills, it was deemed necessary to obtain the relevant machinery from Yıldız's former electrical facilities—specifically, the disused boiler components and two dynamos (one with four stages and the other with two), as well as the electric motor. The report emphasized that transferring these items to the Engineering School would also spare the military treasury a significant expense.[29]

As a result of the assessments carried out, the Ministry of War deemed it appropriate for the electric boat to be used for instructional purposes at the Imperial School of Military Engineering

[29] *BOA, DH. MUİ* 81/56, 30 March 1910.

(Mühendishane-i Berrî Hümâyun).[30] However, within only a few months, the vessel was reported to have been severely damaged in ways not fully understood, with some of its parts missing and its hull significantly impaired. It was stated that the cost of repairing the damage would be nearly equivalent to purchasing a new boat. Given the existing financial constraints, acquiring a new vessel in the short term appeared impossible, and this situation risked disrupting training activities. Consequently, it was requested that, should a smaller electric motorboat no longer in use at Yıldız Palace be available, it be transferred to the Engineering School.[31] In response to this request, it was instructed that the appropriate means of procuring such boats was to apply to the Department of the Naval Police Station, and that the matter should also be communicated to the Istanbul Police Directorate.[32]

This correspondence between state institutions is noteworthy in that it demonstrates the presence of at least one additional small electric motorboat at Yıldız Palace, apart from the electric boat that Abdülhamid II had specially commissioned from London and used in the palace gardens. This record suggests that electrically powered transport at the palace was not limited to a single object of curiosity, but instead exhibited a certain degree of variety, indicating that modern technical devices were tested at Yıldız in more than one form. It also reveals that these boats were regarded as "public assets" that could be transferred to other state bodies when necessary. In this way, the documents illustrate how modern technologies that had fallen into disuse at the palace after Abdülhamid II were subsequently considered for repurposing by different branches of the Ottoman administration.

Conclusion

The Ottoman Empire's relations with European states extended beyond the realm of political and diplomatic affairs, increasingly encompassing technical, scientific, and cultural developments. Ottoman statesmen closely monitored innovations emerging in

[30] *BOA, DH. MUİ* 81/56, 19 April 1910.
[31] *BOA, DH. EUM. THR* 41/2, 5 July 1910.
[32] *BOA, DH. EUM. THR* 41/2, 9 July 1910.

Europe, and those deemed appropriate were implemented across the Empire, particularly during periods of intensified modernization efforts. Developments in numerous fields—most notably military technology—were introduced into the Ottoman military system in various forms. Throughout this process, the transfer of knowledge and technology was facilitated primarily through European experts and engineers. The Ottoman state followed military advancements through its ambassadors stationed in major European centers, while other technical and scientific innovations were likewise collected with equal care and regularly reported to Istanbul.

Sultan Abdülhamid II's interest in technological innovation prompted Ottoman diplomats to pay closer attention to developments in their host countries. In this context, the electric boat produced by Magnus Volk—one of the pioneers of electrically powered vehicles in London—attracted the Sultan's particular interest. At the time, the Ottoman ambassador in London, Rüstem Pasha, was tasked with purchasing an electric boat to be specially constructed for the Sultan. After establishing contact with Magnus Volk and conveying Abdülhamid II's personal preferences, Rüstem Pasha placed an order for an electric boat at the cost of £450.

Following the signing of the contract between Mr. Volk and Rüstem Pasha, construction of the boat commenced, and once completed, the vessel was shipped and delivered to Yıldız Palace. Sultan Abdülhamid II used the electric boat on the artificial lake located within the palace gardens, and the vessel soon became one of the notable symbols complementing the palace's modern and increasingly Europeanized ambiance.

The use of the electric boat by the Ottoman Sultan in this manner is significant, as it demonstrates the Empire's interest in modern technologies and its attentiveness to developments in Europe. At a time when modern modes of transportation were only beginning to enter Ottoman territories, the adoption of such an electric vehicle highlights the extent to which modernization efforts had extended beyond a limited set of domains.

However, following the deposition of Abdülhamid II, the electric boat fell into disuse and was eventually forgotten, left partially

submerged and overgrown with algae in the palace lake. Its subsequent trajectory continued within a completely different context, as it was taken up as instructional material for the students of the Imperial School of Military Engineering (Mühendishane-i Berrî Hümâyun). The abandoned vessel was requested for use in bridge construction courses, and upon approval of this request, the boat was transferred to the school. Yet during training exercises, the electric boat sustained severe damage and soon became entirely inoperable.

This outcome highlights the inherent fragility of palace-centered modernization initiatives. It demonstrates that the sustainability of technological innovations heavily depended on the continuity of the institutional structures that supported them.

Beyond the specific case of Abdülhamid's electric boat, this episode invites a broader reflection on the nature of technology transfer in the late Ottoman Empire. Although the electric boat commissioned from Magnus Volk was entirely imported, archival documents from the 1890s indicate that the Ottoman administration was not confined solely to the consumption and symbolic display of such technologies. Records from the Imperial Arsenal (Tersane-i Âmire) reveal that electrically powered steam launches were constructed locally, including vessels built for foreign rulers and for use within the palace itself.[33] At the same time, these documents demonstrate that key components such as accumulators were still procured from Europe, pointing to a hybrid model of technological adaptation—one that combined limited domestic production with continued dependence on imported expertise and materials.[34] The eventual abandonment of Abdülhamid's electric boat, together with the difficulties encountered in its maintenance and institutional continuity, thus reflects not merely political change but also the structural constraints of a modernization process that struggled to establish a fully sustainable technological infrastructure.

[33] *BOA, Y. PRK. ASK* 132/63, 27 September 1897.
[34] *BOA, Y. PRK. HH* 30/6, 3 August 1897.

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