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Dogovor Nikole Tesle i J. P. Morgana: nove procjene*

Agreement between Nikola Tesla and J. P. Morgan: New assessments*

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SAŽETAK

Rad analizira složene poslovne i osobne odnose između Nikole Tesle (1856. – 1943.) i J. P. Morgana starijeg (1837. – 1913.) u razdoblju od 1900. do 1913. godine. Uključuje razloge Morganova ulaganja u Teslin nerealizirani bežični sustav, razvijen u Wardenclyffeu (Long Island, New

SUMMARY

The paper analyses the complex business and personal relations between Nikola Tesla (1856–1943) and J. P. Morgan Senior (1837–1913) in the period from 1900 to 1913. It includes the reasons behind Morgan's investment in Tesla's unrealised wireless system, developed at Wardencly-

* Članak se djelomice temelji na uvodnoj studiji Tibora Hrsa Pandura *Nikola Tesla proti J. P. Morganu*, objavljenoj u knjizi *Nikola Tesla: Korespondenca z J. P. Morganom & Co.* [1] / The article is partially based on Tibor Hrs Pandur's introductory study *Nikola Tesla proti J. P. Morganu*, published in *Nikola Tesla: Korespondenca z J. P. Morganom & Co.* [1]

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York) između 1900. i 1907. godine, Morganove motivacije i druge čimbenike koji su pridonijeli otkazivanju njegove podrške već 30. ožujka 1902. godine. To je označilo veliku i tragičnu prekretnicu u životu i radu Nikole Tesle.

KLJUČNE RIJEČI: bežični prijenos energije, Nikola Tesla, J. P. Morgan, Wardenclyffe

UVOD

Prvi dio članka predstavlja kontekst i sadržaj Teslina dogovora s Morganom, proizvoljnost njihova sporazuma i Tesline kasnije pokušaje njegova restrukturiranja. Autor nudi prave razloge zašto je Morgan u početku tako velikodušno podržavao Teslu, ali mu je potom otkazao svoju podršku i kasnije vjerojatno spriječio uspješnu suradnju s drugim investitorima. U članku se pretpostavlja da je J. P. Morgan ili kupio većinski udjel u Teslinim temeljnim bežičnim patentima kako bi strateški suzbio razvoj tih tehnologija radi financijske koristi ili ih jednostavno odložio kako bi osigurao monopol u novoj bežičnoj industriji i olakšao širenje i uspjeh Teslinih konkurenata kojima je prijetio Teslin patentni prioritet u tom području. Autor objašnjava Tesline planove i motive koji su izazvali njegov razlaz s Morganom, kao i njegovu sociofilozofsku perspektivu kao čimbenike koji su pridonijeli gubitku Morganove podrške. Otkrivajući Morganove strategije inhibicije ili kooptiranja potencijalno sociotransformativnih tehnologija u reprodukciju postojećih vlasničkih odnosa, rad pokazuje kako ta prepiska otkriva pragmatičnu nemogućnost

ffe (Long Island, New York) between 1900 and 1907, Morgan's motivations for, and other contributing factors to, cancelling his support as early as March 30, 1902. This marked a major and tragic turning point in Nikola Tesla's life and work.

KEYWORDS: Nikola Tesla, J. P. Morgan, Wardenclyffe, wireless transmission of energy

INTRODUCTION

The first part of the article presents the context and content of Tesla's deal with Morgan, the arbitrariness of their agreement, and Tesla's later attempts to restructure it. The author offers the real reasons as to why Morgan seemed to initially support Tesla so generously but then cancelled his backing and later probably prevented Tesla's successful cooperation with other investors. The article argues that J. P. Morgan either purchased the majority interest in Tesla's fundamental wireless patents to strategically suppress the development of these technologies for financial gain or simply to shelve them in order to secure a monopoly in the emerging wireless industry and facilitate the expansion and success of Tesla's rivals which were threatened by Tesla's patent priority in this field. The author explains Tesla's plans and motivations that triggered his split with Morgan as well as his socio-philosophical perspective as a contributing factor in the loss of Morgan's support. In disclosing Morgan's strategies of inhibiting or co-opting potentially socio-transformative technologies into the reproduction of existing ownership relations, the paper shows how these letters reveal the

prevladavanja tada nadmoćne kapitalističke paradigme samo tehničkim sredstvima. To pokazuje kako nam ta prepiska omogućuje dublji uvid u Teslin način razmišljanja i donošenja odluka u to vrijeme, a istodobno razbija nekoliko raširenih i upornih mitova o Tesli i njegovim ambicijama u vezi s projektom Wardenclyffe.

Nikola Tesla jedna je od najzanimljivijih osoba u povijesti elektrotehnike, inženjerstva i prirodne filozofije (slika 1). Njegovo otkriće rotirajućega magnetskoga polja, na kojemu se temelji njegov izum indukcijskog motora i polifaznog sustava izmjenične struje, inženjeri i svijet općenito prepoznaju kao jedan od najgenijalnijih izuma u modernoj povijesti. Njegovi principi rezonantnog pojačanja napona u distribuiranim rezonatorima poslužili su kao osnova za razvoj radija dugog dometa, daljinskog upravljanja i linearnih akceleratora.[1] Tesla je bio rani ekološki pionir i predvodnik ključnoga koncepta univerzalne energetske pravde, tj. energetske neovisnosti. Već je godine 1897. prepoznao iskorištavanje fosilnih goriva kao problem eksponencijalnoga rasta u odnosu na neobnovljive izvore [3]. Godine

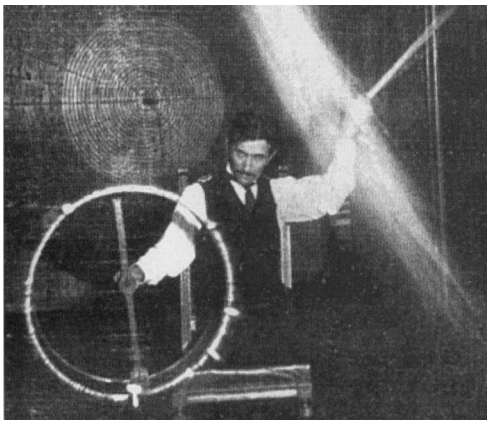
[1] Braća Corum, fizičari, inženjeri i Teslini učenjaci tvrde da Teslin izum i otkriće različitih vrsta „Teslinih zavojnica" koje uključuju „povećanje električnoga potencijala prostorno raspoređenim rezonatorskim modovima" „korištenjem interferencijskoga uzorka ili oscilirajućih modova na raspoređenim krugovima (uglavnom spiralnim rezonatorima) stoje uz njegovo stvaranje rotirajućega magnetskoga polja kao jedno od najvećih dostignuća ljudskog intelekta." [2]

pragmatic impossibility of transcending the then-prevailing capitalist paradigm by technical means alone. It demonstrates how this correspondence allows us to gain a deeper insight into Tesla's mind and decision-making at the time while dispelling a couple of widespread and persistent myths about Tesla and his ambitions concerning the project Wardenclyffe.

Nikola Tesla is one of the most intriguing figures in the history of electrical science, engineering and natural philosophy (Figure 1). His discovery of the rotating magnetic field, on which his invention of the induction motor and alternating current polyphase system is based, is recognized by engineers and the world at large as one of the most ingenious inventions in modern history. His principles of resonant voltage amplification in distributed resonators served as the basis for the development of long-range radio, remote control and linear accelerators.[1] Tesla was an early ecological pioneer and harbinger of the key concept of universal energy justice, i.e. energy independence. As early as 1897, he recognised the exploitation of fossil fuels as a problem of exponential growth in relation to non-renewable sources [3]. He

[1] The Corum brothers, physicists, engineers and Tesla scholars, state that Tesla's invention and discovery of various types of „Tesla coils" that include „the magnification of electrical potential by spatially distributed resonator modes" by „employing the interference pattern or oscillating modes on distributed circuits (principally helical resonators) stand next to his creation of the rotating magnetic field as one of the greatest achievements of the human intellect." [2]

1914. napisao je da će se „u vrlo bliskoj budućnosti takvo rasipanje smatrati kriminalnim." [4]



Slika 1. **Nikola Tesla, u svom laboratoriju u ulici Houston godine 1899., šalje 500 000 volti preko površine svoga tijela, napajajući svijetleću fluorescentnu cijev koju okreće u lijevoj ruci. Objavljeno u:** Tesla N: *Some Experiments in Tesla's Laboratory with Currents of High Potential and High Frequency*, The Electrical Review, March 29, 1899, p. 195–197.
https://teslauniverse.com/nikola-tesla/articles/some-experiments-teslas-laboratory-currents-high-potential-and-high-frequency

Figure 1. ***Nikola Tesla, in his Houston Street laboratory in 1899, sends 500 000 volts across the surface of his body, powering a luminous fluorescent tube that he rotates in his left hand. Published in:*** Tesla N: Some Experiments in Tesla's Laboratory with Currents of High Potential and High Frequency, *The Electrical Review, March 29, 1899, p. 195–197.*
https://teslauniverse.com/nikola-tesla/articles/some-experiments-teslas-laboratory-currents-high-potential-and-high-frequency

Glavni razlog zašto su mnoge Tesline tehnologije i teorije još uvijek pretežito neistražene ili pogrješno shvaćene jest

wrote in 1914 that „in the very near future such waste will be looked upon as criminal." [4]

The main reason why so many of Tesla's technologies and theories are still predominantly unexplored or misunderstood is the fact that most of his notes and correspondence remain unpublished in critical editions. This contributes to the spread of unscientific claims, false histories and conspiracy theories. With a combination of visualisation techniques and empirical scientific methods, Tesla managed to discover a certain „natural principle" (i.e. the rotating magnetic field, voltage magnification) and translate it directly into functional technology. He did not concern himself explicitly with mathematical theories explaining it. Others performed this enormous feat, but without a functional prototype, he lacked fundamental proof of the feasibility of certain technologies. The „failure" of his global wireless system that he was developing at Wardenclyffe whose goal was to provide humanity with access to wireless energy (first in terms of global telecommunications while it would also serve as a proof of concept for the global transmission of industrial quantities of energy) was crucial for the lack of recognition of Tesla's later achievements.

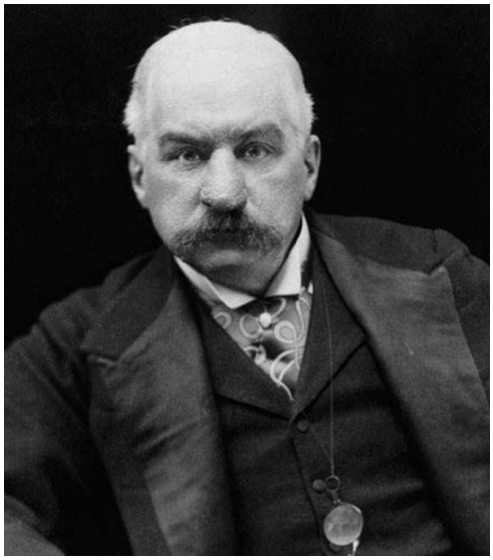
After he lost the support of J. P. Morgan, Tesla never again recovered financially. The context and content of this business agreement is documented in the recently published *Nikola Tesla: Korespondenca z J. P. Morganom & Co.* [1]. It contains the first complete annotated surviving correspondence between Niko-

činjenica što većina njegovih bilješki i korespondencije ostaje neobjavljena u kritičkim izdanjima. To doprinosi širenju neznanstvenih tvrdnji, lažnih povijesti i teorija zavjere. Kombinacijom tehnika vizualizacije i empirijskih znanstvenih metoda, Tesla je uspio otkriti određeni „prirodni princip" (tj. rotirajuće magnetsko polje, povećanje napona) i izravno ga prevesti u funkcionalnu tehnologiju. Nije se izričito bavio matematičkim teorijama koje ga objašnjavaju. Drugi su izveli taj ogroman podvig, a bez funkcionalnog prototipa, nedostajao mu je temeljni dokaz izvedivosti određenih tehnologija. „Neuspjeh" njegova globalnoga bežičnoga sustava koji je razvijao u Wardenclyffeu, a čiji je cilj bio omogućiti čovječanstvu pristup bežičnoj energiji (prvo u smislu globalnih telekomunikacija, a ujedno i kao dokaz koncepta za globalni prijenos industrijskih količina energije) bio je ključan za nedostatak priznanja Teslinih kasnijih postignuća.

Nakon što je izgubio podršku J. P. Morgana, Tesla se više nikada nije financijski oporavio. Kontekst i sadržaj njihova poslovnoga sporazuma dokumentirani su u nedavno objavljenoj knjizi *Nikola Tesla: Korespondenca z J. P. Morganom & Co.* [1]. Ona sadrži prvu cjelovitu očuvanu prepisku s bilješkama između Nikole Tesle i dva vodeća predstavnika bankarske dinastije i trgovačke banke *J. P. Morgan & Co.*[2], J. P. Morgana (slika 2) i nje-

[2] Trgovačka banka nudi bankarske i investicijske usluge. To uključuje prikupljanje sredstava i druge specijalizirane usluge kreditiranja i financijskog savjetovanja pojedincima s visokom

la Tesla and the two leading representatives of the banking dynasty and merchant bank *J. P. Morgan & Co.*,[2] J. P. Morgan



Slika 2. **John Pierpont Morgan, dominantan američki financijer i investicijski bankar**
(17. travnja 1837., Hartford, Connecticut, SAD, – 31. ožujka 1913., Rim, Italija)

Figure 2. ***John Pierpont Morgan, dominant American financier and investment banker***
(April 17, 1837, Hartford, Connecticut, USA, – March 31, 1913, Rome, Italy)

[2] A merchant bank offers banking and investment services. They include fund-raising and other specialised lending and financial advisory services to high net worth individuals or large companies. Merchant banks are similar to investment banks. They differ from modern banks in that they offer specialized services and are engaged in international trade. J. P. Morgan & Co. is the name of the New York branch of the bank which was located at 23 Wall Street and Broad. It had branches in Philadelphia (Drexel & Co.), London (Morgan & Grenfell) and Paris (Morgan & Cie.). All formed the banking empire known as the „House of Morgan" [5].

gova sina i nasljednika, J. P. Morgana Jr. (1867. – 1943.). Njihova je korespondencija rekonstruirana na temelju tri glavna arhiva (Teslina osobna arhiva u Muzeju Nikole Tesle u Beogradu (NTM), Kongresne knjižnice (LOC) u Washingtonu D.C. (mikrofilmovi naručeni od NTM-a 1963.) i Morganove knjižnice i arhiva u New Yorku).[3] Služi kao glavni izvor za

neto vrijednošću ili velikim tvrtkama. Trgovačke banke slične su investicijskim bankama. Razlikuju se od modernih banaka po tome što nude specijalizirane usluge i bave se međunarodnom trgovinom. J. P. Morgan & Co. naziv je njujorške podružnice banke koja se nalazila na uglu Wall Streeta i Broad ulice 23. Imala je podružnice u Philadelphiji (Drexel & Co.), Londonu (Morgan & Grenfell) i Parizu (Morgan & Cie.). Svi su činili bankarsko carstvo poznato kao „House of Morgan" [5].

[3] Dio te korespondencije mogao se prije saznati kroz citate ili ulomke u vodećim Teslinim biografijama (Hunt & Draper, Seifer, Carlson). Drugi pokušaji objavljivanja bili su djelomični, neadekvatni ili nepotpuni. Nisu korištene sve dostupne arhive i nisu uspjeli prepisati sve Tesline rukom pisane nacrte. Velimir Abramović je 2015. objavio nepotpune transkripcije izvornih pisama (temeljene samo na arhivi u NTM-u u Beogradu) u engleskoj online verziji svoje knjige *Tesla and the Rise of Spiritual Physics* (Tesla i uspon duhovne fizike). Čini se da je riječ o nedovršenoj, nepotpunoj i neslužbenoj publikaciji verzije iz 2004. koju NTM još uvijek objavljuje. (Abramović je ponovno objavio taj materijal 2019. [6] u donekle revidiranom obliku, ali bez ispravljanja bilo kojega od spomenutih nedostataka.) Ernst van den Bergh je samostalno objavio knjigu *The Battle for Wardenclyffe: a story in letters* (Bitka za Wardenclyffe: priča u pismima) 2018. godine. Ali u tom svesku nalazimo samo izbor iz korespondencije između Tesle i Morgana starijeg. Nema pisama između Tesle i J. P. Morgana mlađeg. Kao i u

(Figure 2) and his son and successor, J. P. Morgan Jr. (1867–1943). Their correspondence is reconstructed based on three main archives (Tesla's personal archive in the Nikola Tesla Museum in Belgrade (NTM), the Library of Congress (LOC) in Washington D. C. (microfilms commissioned from the NTM in 1963) and The Morgan Library and Archive in New York).[3] It serves as the main source for the present article which focuses only on Tesla's business relations with J. P. Morgan.[4]

[3] A portion of this correspondence could previously be gleaned through quotes or excerpts in leading Tesla biographies (Hunt & Draper, Seifer, Carlson). Other publication attempts were partial, inadequate or incomplete. They did not make use of all of the available archives and failed to transcribe all of Tesla's handwritten drafts. In 2015, Velimir Abramović published the incomplete transcriptions of the original letters (based only on the archive in the NTM in Belgrade) in the English online version of his book *Tesla and the Rise of Spiritual Physics*. It appears to be an unfinished, incomplete and unofficial publication of the 2004 version the NTM is still in the process of publishing. (Abramović republished this material in 2019 [6] in a somewhat revised format but without remedying any of the mentioned deficiencies.) Ernst van den Bergh self-published *The Battle for Wardenclyffe: a story in letters* in 2018. But in this volume, we find only a selection of the correspondence between Tesla and Morgan Sr. There are no letters between Tesla and J. P. Morgan Jr. As in Abramović's edition almost all of Tesla's enclosures are missing. Because Bergh's edition relies solely on black and white microfilms, commissioned from the NTM by the LOC, it contains transcription errors and omissions due to its difficult legibility. In Abramović's, as well as in Bergh's version, a large portion of Tesla's handwritten drafts were omitted and remained unpublished.

[4] An important contribution of this book is the transcription and first publication of Te-

ovaj članak koji se usredotočuje samo na Tesline poslovne odnose s J. P. Morganom.[4]

Cjelokupna postojeća prepiska između Tesle i J. P. Morgana čuva se samo u NTM-u. Sastoji se uglavnom od otipkanih kopija i rukom pisanih nacrta Teslinih pisama Morganu koje je Tesla pažljivo čuvao u svojoj arhivi kao što je to činio i sa svim svojim poslovnim dopisima. Svako poslovno pismo bilo je otipkano s pomoću indigo papira. To je omogućilo da se pismo očuva u više primjeraka. Za razliku od J. P. Morgana Jr. koji je čuvao svoju korespondenciju s Teslom, J. P. Morgan je najvjerojatnije uništio sva Teslina pisma prije svoje smrti godine 1913., kao i sve kopije pisama koje je poslao (ako su uopće bile napravljene). To ne bi bilo ne-

The entire surviving correspondence between Tesla and J. P. Morgan is held only by the NTM. It consists mainly of typescript carbon copies and handwritten drafts of Tesla's letters to Morgan which Tesla carefully preserved in his archives like he did all his business correspondence. Each business letter was typed using carbon paper. This allowed the letter to be preserved in multiple copies. Unlike J. P. Morgan Jr. who preserved his correspondence with Tesla, J. P. Morgan most likely destroyed all of Tesla's letters before his death in 1913 as well as any carbon copies of the letters he sent (if any were in fact made). That would not have been unusual. On the death of his father in 1890, J. P. Morgan burned almost all of their personal and business correspondence [9]. Morgan's motto, engraved in „blue Provençal script" on a „white enamel plaque" that hung above the fireplace in his private office, read: „*Pense moult, parle peu, écris rien* (Think a lot, say little, write nothing)." [10]

Abramovićevu izdanju, nedostaju gotovo svi Teslini prilozi. Budući da se Berghovo izdanje oslanja isključivo na crno-bijele mikrofilmove, koje je od NTM-a naručio LOC, sadrži pogrješke u transkripciji i propuste zbog teške čitljivosti. U Abramovićevoj, kao i u Berghovoj verziji, veliki dio Teslinih rukom pisanih nacrta je izostavljen i ostao neobjavljen.

[4] Važan doprinos ove knjige je transkripcija i prvo objavljivanje Teslinih rukom pisanih nacrta Morganu starijem, uglavnom između 1906. i 1907., koji su se dotad smatrali gotovo ili potpuno nečitljivima. Na temelju grafološke analize te navodno „nečitljive" prepiske, Seifer je razvio svoju tezu da je Tesla godine 1906. doživio teški živčani slom. [7] Pandurovi napori opovrgavaju tu tezu. Seiferova analiza je manjkava čak i s psihodijagnostičke perspektive (pogledajte [8]). Ti nacrti pokazuju Teslinu tipičnu lucidnost. Iako su očito napisani u žurbi i pod velikim pritiskom, često tupom olovkom, oni su doista uglavnom čitljivi i ne pokazuju znakove ikakvih psiholoških poremećaja.

sla's handwritten drafts to Morgan Sr. mainly between 1906 to 1907 which were heretofore considered almost or completely illegible. Based on the graphological analysis of these allegedly „unreadable" drafts, Seifer developed his thesis that Tesla suffered a severe nervous breakdown in 1906. [7] Pandur's efforts refute this thesis. Seifer's analysis is flawed even from a psycho-diagnostic perspective (see [8]). These drafts show Tesla's typical lucidity. Although apparently written in haste and under great pressure, often with a dull pencil, they are indeed mostly legible and show no signs of any psychological disturbances.

obično. Nakon očeve smrti 1890. godine, J. P. Morgan je spalio gotovo svu njihovu osobnu i poslovnu korespondenciju [9]. Morganov moto, ugraviran „plavim provansalskim pismom" na „bijeloj emajliranoj ploči" koja je visjela iznad kamina u njegovom privatnom uredu, glasio je: „Pense moult, parle peu, écris rien (Mnogo misli, malo govori, ništa ne piši)." [10]

TESLA „SMJEŠTA" J. P. MORGANU

Tesla se trijumfalno vratio u New York iz Colorado Springsa početkom godine 1900. Napravio je važna otkrića. Od svibnja 1899. do siječnja 1900. provodio je brojne pokuse u eksperimentalnoj stanici koju je tamo izgradio kako bi razvio (prema vlastitu iskazu) svoj najveći izum. Pojačavajući odašiljač ili Teslin oscilatorni transformator s dodatnom zavojnicom čini temelj njegova bežičnoga sustava prijenosa energije utjelovljenoga u prototipu njegove stanice Wardenclyffe. Nazvao ga je „Svjetski bežični". Objedinio je sve svoje temeljne izume na tom području u jedan univerzalni sustav. Tesline eksperimente u Coloradu također je neizravno financirao i J. J. Astor IV. (1864. – 1912.). Astor je uložio 30 000 dolara u Teslinu matičnu tvrtku, Nikola Tesla Company. Želio je na tržište plasirati oscilatore i sustav „hladnoga svjetla" ili fluorescentne rasvjete (specifičnoga preteču neonske rasvjete). Tesla je sav novac uložio u razvoj svoga bežičnoga sustava [11]. Iako mu je Astor eventualno oprostio i nije tražio odštetu, nakon toga su se razišli [12].

TESLA „LANDS" J. P. MORGAN

Tesla returned to New York triumphant from Colorado Springs early in 1900. He made important discoveries. From May 1899 to January 1900, he carried out numerous experiments in the experimental station he built there to develop (according to his own account) his greatest invention. *The Magnifying Transmitter* or Tesla's oscillatory transformer with an extra coil forms the foundation of his wireless system of energy transmission embodied in the prototype of his Wardenclyffe station. He called it „The World Wireless." It combined all his fundamental inventions in this field into one universal system. Tesla's experiments in Colorado were also indirectly financed by J. J. Astor IV (1864-1912). Astor invested $30 000 in Tesla's parent company, the Nikola Tesla Company. He wanted to bring oscillators and a system of „cold light" or fluorescent lighting (a specific precursor to neon) to market. Tesla invested all of it in developing his wireless system [11]. Although Astor eventually forgave him and did not ask for reimbursement, they grew apart after that [12].

Tesla met J. P. Morgan on November 23, 1900. He presented his idea of a wireless transatlantic radio-telegraph station. It was followed by the first letter on November 26. Tesla and Morgan reached an agreement on March 1, 1901. They concluded it on March 5, 1901. These letters are the only surviving documents of their agreement. Tesla granted Morgan a 51 % interest in the patents he had already obtained relating to lighting and

Tesla se sastao s J. P. Morganom 23. studenog 1900. Predstavio mu je svoju ideju o bežičnoj transatlantskoj radio-telegrafskoj stanici. Nakon toga uslijedilo je prvo pismo 26. studenog. Tesla i Morgan postigli su sporazum 1. ožujka 1901. Zaključili su ga 5. ožujka 1901. Ta su pisma jedini očuvani dokumenti o njihovu sporazumu. Tesla je Morganu dodijelio 51 % udjela u patentima koje je već stekao u vezi s rasvjetom i bežičnom telegrafijom, telefonijom i prijenosom energije. To je uključivalo i sve takve patente koje bi mogao dobiti u budućnosti. Morgan se složio isplatiti mu ukupan iznos od 150 000 dolara (kupovna moć u današnjim uvjetima prilagođena inflaciji iznosi oko 5 259 000 dolara) u obrocima uz predočenje „potvrda o troškovima" u zamjenu za izradu uređaja koji bi „ta otkrića i izume primijenili u praksi"[5] (slike 3-5). Morgan je također inzistirao da je taj iznos konačan te da bi on ostao takozvani „tihi partner", tj. da Tesla ne bi mogao javno otkriti svoju potporu, koja bi nesumnjivo privukla dodatni i potreban kapital [13].[6] Tesla je uvje-

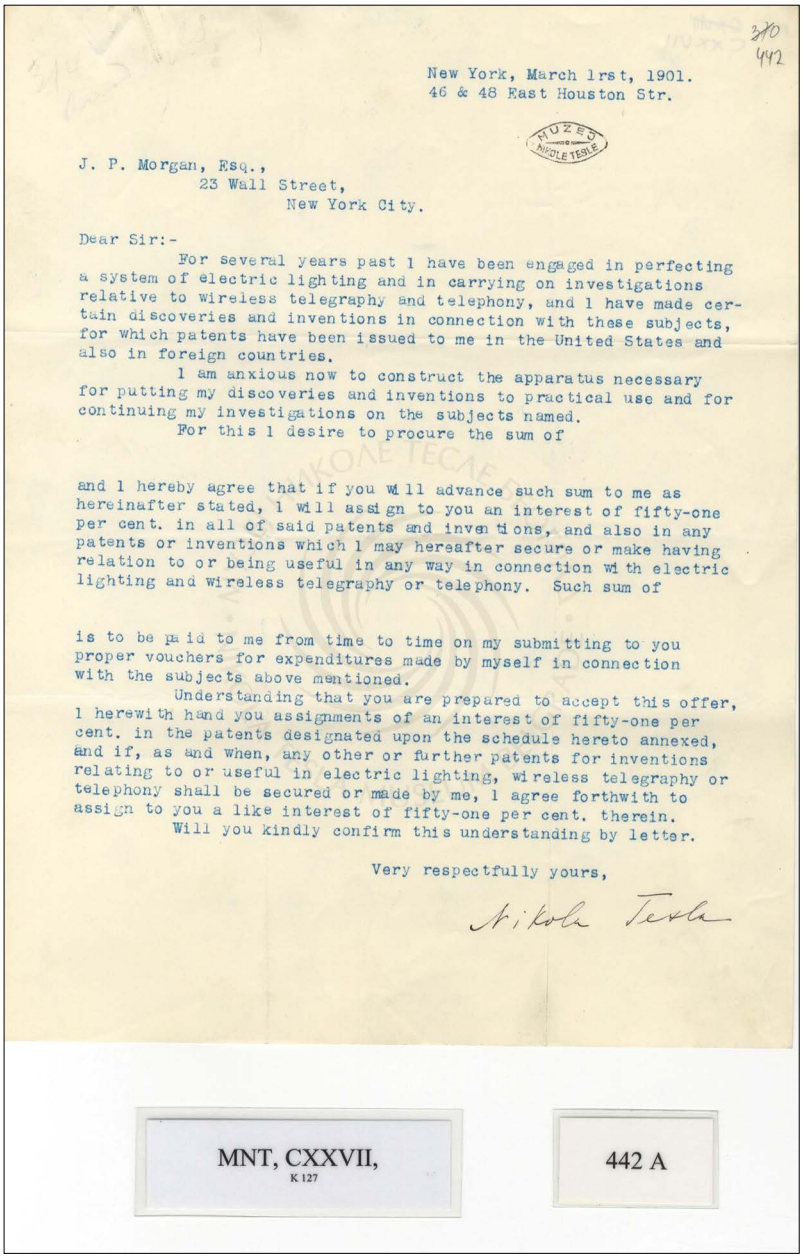
wireless telegraphy, telephony and power transmission. This included any such patents he might receive in the future. Morgan agreed to pay him the total sum of $150 000 (the purchasing power in today's terms adjusted for inflation equals approx. $5 259 000) in instalments upon presentation of „vouchers for expenditures" in return for the manufacture of devices which would put „these discoveries and inventions to practical use"[5]) (Figure 3-5). Morgan also insisted that this sum was final, and that he would remain a so-called "silent partner", i.e. that Tesla could publicly disclose his backing, which would undoubtedly have attracted additional and necessary capital [13].[6] Tesla assured that a station for wireless telegraphic communication across the Atlantic would be built within six to eight months. Their agreement was not a contract in the usual legal sense. It did not oblige Tesla to build a transmitter of certain capabilities. They did not specify what would happen if Morgan were to cancel his fund-

[5] Charles Steele (JPM-ov tajnik) za NT, 4. ožujak 1901.; LFNT (Lični fond Nikole Tesle), Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 445A; NT za Charlesa Steelea, 5. ožujka 1901.; LFNT (Lični fond Nikole Tesle), Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 446A; Priložena pisma ugovora: NT za JPM, 1. ožujka 1901.; LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 442A–443A; JPM za NT, 5. ožujka 1901.; LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 447A

[6] Pogledajte također NT za JPM Jr., 23. prosinca 1914.; Pierpont Morgan Library Archives, The Morgan Library & Museum, New

[5] Charles Steele (JPM's secretary) to NT, March 4, 1901; LFNT (Lični fond Nikole Tesle), Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 445A; NT to Charles Steele, March 5, 1901; LFNT (Lični fond Nikole Tesle), Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 446A; Enclosed letters of the agreement: NT to JPM, March 1, 1901; LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 442A–443A; JPM to NT, March 5, 1901; LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 447A.

[6] See also NT to JPM Jr., December 23, 1914; Pierpont Morgan Library Archives, The Morgan Library & Museum, New York; Nikola Tesla correspondence with J. P. Morgan Jr., ARC 1216, folder 80:262a-b, p. 59–60.



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442

New York, March 1rst, 1901.
46 & 48 East Houston Str.

MUZEJ NIKOLE TESLE

J. P. Morgan, Esq.,
23 Wall Street,
New York City.

Dear Sir:-

For several years past I have been engaged in perfecting a system of electric lighting and in carrying on investigations relative to wireless telegraphy and telephony, and I have made certain discoveries and inventions in connection with these subjects, for which patents have been issued to me in the United States and also in foreign countries.

I am anxious now to construct the apparatus necessary for putting my discoveries and inventions to practical use and for continuing my investigations on the subjects named.

For this I desire to procure the sum of

and I hereby agree that if you will advance such sum to me as hereinafter stated, I will assign to you an interest of fifty-one per cent. in all of said patents and inventions, and also in any patents or inventions which I may hereafter secure or make having relation to or being useful in any way in connection with electric lighting and wireless telegraphy or telephony. Such sum of

is to be paid to me from time to time on my submitting to you proper vouchers for expenditures made by myself in connection with the subjects above mentioned.

Understanding that you are prepared to accept this offer, I herewith hand you assignments of an interest of fifty-one per cent. in the patents designated upon the schedule hereto annexed, and if, as and when, any other or further patents for inventions relating to or useful in electric lighting, wireless telegraphy or telephony shall be secured or made by me, I agree forthwith to assign to you a like interest of fifty-one per cent. therein.

Will you kindly confirm this understanding by letter.

Very respectfully yours,

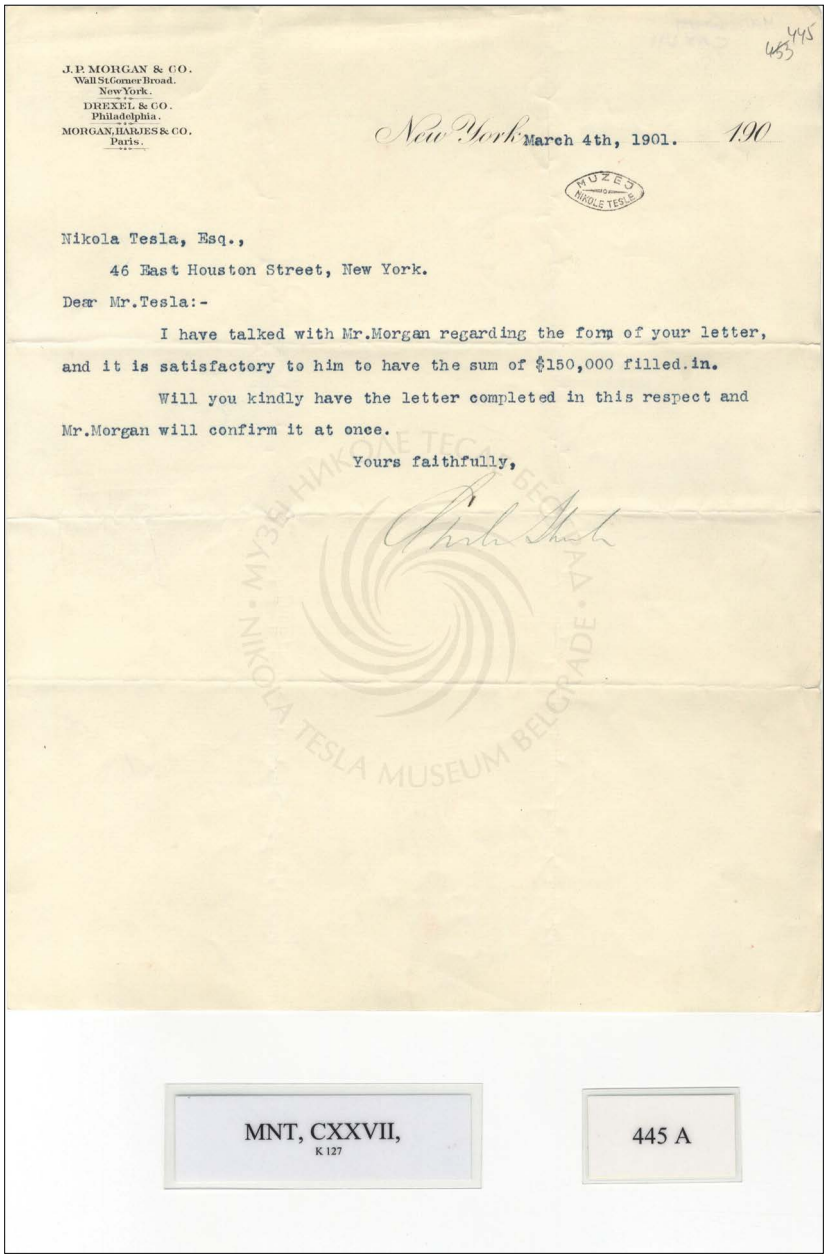
Nikola Tesla

MNT, CXXVII,
K 127

442 A

Slika 3. **Pismo Nikole Tesle J. P. Morganu od 1. ožujka 1901., koje sadrži njihov sporazum bez umetnutoga konačnoga iznosa za financiranje njegovih bežičnih izuma**
(LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 442A)

Figure 3. ***Nikola Tesla's letter to J. P. Morgan on March 1, 1901 comprises their agreement without the inserted final sum to finance his wireless inventions***
(LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 442A)



J. P. MORGAN & CO.
Wall St. Corner Broad.
New York.
DREXEL & CO.
Philadelphia.
MORGAN, HARJES & CO.
Paris.

New York March 4th, 1901. 190

Nikola Tesla, Esq.,
46 East Houston Street, New York.

Dear Mr. Tesla:-

I have talked with Mr. Morgan regarding the form of your letter, and it is satisfactory to him to have the sum of $150,000 filled in.

Will you kindly have the letter completed in this respect and Mr. Morgan will confirm it at once.

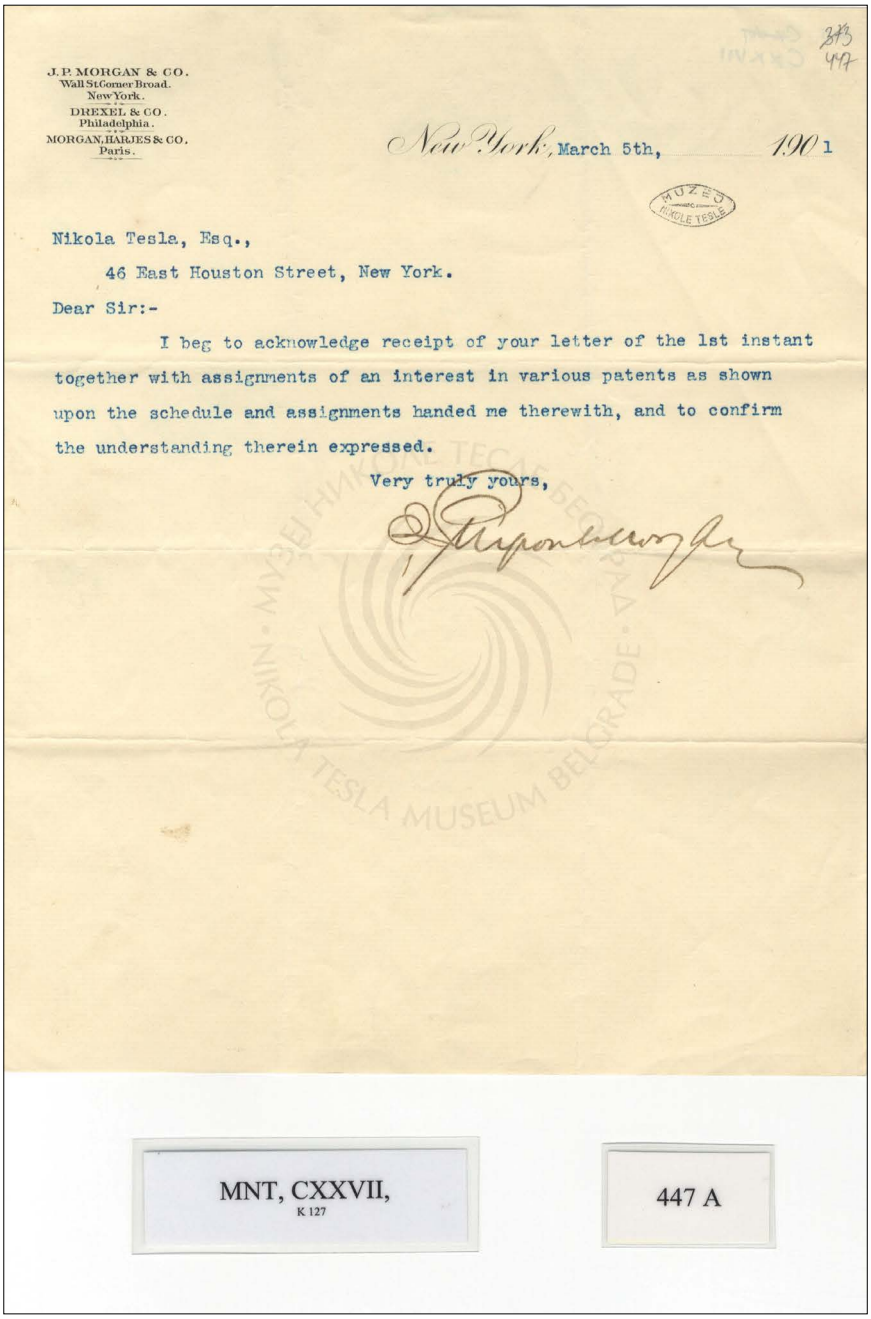
Yours faithfully,

MNT, CXXVII, K 127

445 A

Slika 4. **Pismo Charlesa Steelea (tajnika J. P. Morgana) Nikoli Tesli od 4. ožujka 1901., u kojemu se navodi iznos od 150 000 dolara koji će biti uvršten u konačni sporazum**
(LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 445A)

Figure 4. ***Charles Steele's (secretary to J. P. Morgan) letter to Nikola Tesla on March 4, 1901*** *stipulates* ***the sum of $150 000 to be inserted into the final agreement***
(LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 445A)



J. P. MORGAN & CO.
Wall St. Corner Broad.
New York.
DREXEL & CO.
Philadelphia.
MORGAN, HARJES & CO.
Paris.

New York, March 5th, 1901

Nikola Tesla, Esq.,
46 East Houston Street, New York.

Dear Sir:-

I beg to acknowledge receipt of your letter of the 1st instant together with assignments of an interest in various patents as shown upon the schedule and assignments handed me therewith, and to confirm the understanding therein expressed.

Very truly yours,

MNT, CXXVII, K 127

447 A

Slika 5. **Pismo J. P. Morgana Nikoli Tesli od 5. ožujka 1901. u kojemu potvrđuje njihov sporazum** (LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 447A)

Figure 5. ***J. P. Morgan's letter to Nikola Tesla on March 5, 1901 confirms their agreement*** *(LFNT, Muzej Nikole Tesle, Beograd, sig. MNT, CXXVII, K127: 447A)*

ravao da će stanica za bežičnu telegrafsku komunikaciju preko Atlantika biti izgrađena u roku od šest do osam mjeseci.

Njihov sporazum nije bio ugovor u uobičajenom pravnom smislu. Nije obvezivao Teslu da izgradi odašiljač određenih mogućnosti. Nisu precizirali što bi se dogodilo ako Morgan otkaže financiranje ili ako bi plaćanja kasnila. To se dogodilo tijekom i nakon panike na burzi 1901. Morgan je bio djelomično odgovoran.[7] Također nije postojala klauzula o višoj sili ili izuzeću u slučaju nepredviđenih događaja. Ulaganje trećih strana ili pitanje koji je sud nadležan u slučaju spora nije bilo predviđeno. To je objema stranama omogućilo tumačenje svojih prava [14].[8] Tesla spominje da su Morganovi uvjeti bili nebitni. Znao je da se takav kolosalni podvig može izvesti samo uz Morganovu pomoć, koji je u to doba

York; Nikola Tesla prepiska J. P. Morganom Jr., ARC 1216, folder 80:262a-b, p. 59–60.

[7] Pogledajte NT za JPM, 19. prosinca 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla korespondencija (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

[8] Tesla 1905. citira Goetheova Fausta (I. dio, stihovi 1741–1743) Morganu. On aludira na Morganovu nepopustljivost *(„Nur keine Furcht, das ich dies Bündnis breche, das Streben meiner ganzen Kraft ist grade das*, was *ich verspreche*"). „Uvjeti" toga dogovora labavo su i neobvezujuće definirani kao i Teslin sporazum s Morganom. Faust izgovara ove retke. Potpisuje krvni „ugovor". Njime prodaje svoju dušu vragu. (Pogledajte NT JPM-u, 15. prosinca 1905.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 519B.)

ing or if payments were delayed. This occurred during and after the stock market panic of 1901. Morgan was partially responsible.[7] There was also no *force majeure* or exemption clause in case of unforeseen events. The investment of third parties or the question of which court is competent in the event of a dispute was not foreseen. This allowed both sides to interpret their rights [14].[8] Tesla mentions that Morgan's conditions were immaterial. He knew that such a colossal feat could only be pulled off with the help of Morgan, who at the time, „held a monopoly on the ability to raise capital".[9]

[7] See NT to JPM, December 19, 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

[8] Tesla quotes Goethe's *Faust* (Part I, lines 1741–1743) to Morgan in 1905. He alludes to Morgan's intransigence (*„Nur keine Furcht, das ich dies Bündnis breche, das Streben meiner ganzen Kraft ist grade das, was ich verspreche*"). The „terms" of this deal are as loosely and non-bindingly defined as Tesla's agreement with Morgan. Faust utters these lines. He signs the blood „contract". It sells his soul to the devil. (See NT to JPM, December 15, 1905; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 519B.)

[9] „Every time in the first decade of the twentieth century that an American corporation had sought to raise more than $10 000 000 in capital, it had done so by hiring the services of and paying commissions to the partnership of J. P. Morgan & Co., or to one of its handful of smaller peers [...]. If Morgan did not think he should help a corporation raise money, money would not be raised. The firm's expansion plans would not be carried out. The flow of investment in the United States was thus directed to and the expansion of industrial capacity took place in industries and firms that Morgan and his few peers wished to see expand, not elsewhere." [15].

„imao monopol na sposobnost prikupljanja kapitala".[9]

Detalji Morganove uključenosti bili su u to vrijeme poznati samo Teslinim najbližim poznanicima i suradnicima. Tesla je svom prvom biografu, novinaru Johnu O'Neillu (koji nije imao pristup Teslinoj osobnoj arhivi kad je 1944. objavljena biografija „*Prodigal Genius*"), rekao da je Morganovo ulaganje bilo isključivo filantropsko, „to uopće nije bio slučaj" [16]. Tesla ga je tako predstavio 1904. Članak „Prijenos električne energije bez žica" bio je očajnički pokušaj privlačenja dodatnih investitora. Otkrio je Morganovu podršku razvoju Wardenclyffea. Tesla mu je zahvalio na njegovoj „plemenitoj velikodušnosti" [59].

Pravi razlozi Morganove početne investicije ostali su nejasni. Dva vodeća Teslina biografa (Seifer i Carlson) nude različita i međusobno isključiva tumačenja. Morgan „nije imao koherentnu filozofiju i nikada nije objasnio svoje odluke". Izjavio je: „Čovjek uvijek ima dva razloga za stvari koje radi: dobar razlog – i pravi razlog." [17]. Carlson smatra da je Morgan

The details of Morgan's involvement were known at the time only to Tesla's closest acquaintances and associates. Tesla told his first biographer, the journalist John O'Neill (who did not have access to Tesla's personal archive when „*Prodigal Genius*" was published in 1944), that Morgan's investment was purely philanthropic, „although this was not the case at all" [16]. Tesla presented it as such in 1904. The article „The Transmission of Electricity without Wires" was a desperate attempt to attract additional investors. It revealed Morgan's backing for the development of Wardenclyffe. Tesla thanked him for his „noble generosity" [59].

The real reasons behind Morgan's initial investment remained unclear. The two leading Tesla biographers (Seifer and Carlson) offer different and mutually exclusive interpretations. Morgan „had no coherent philosophy and never explained his decisions". He stated: „A man always has two reasons for the things he does: a good reason – and the real reason." [17] Carlson believes that Morgan considered Tesla „an interesting artist or scholar and wireless telegraphy as a promising research venture, and as such, Morgan was not particularly worried about whether Tesla's project succeeded commercially". [19] This interpretation sticks to Tesla's public statements. It considers Morgan's investment purely „philanthropic". Tesla mentions that Morgan considered their agreement a „simple sale" of patent rights for a pittance[10] (see

[9] „Svaki put u prvom desetljeću dvadesetog stoljeća kad je neka američka korporacija pokušala prikupiti više od 10 000 000 dolara kapitala, to je činila angažiranjem usluga i isplatom provizija partnerstvu J. P. Morgan & Co. ili jednom od svojih nekoliko manjih kolega [...]. Ako Morgan nije smatrao da bi trebao pomoći korporaciji prikupiti novac, novac se ne bi prikupljao. Planovi širenja tvrtke ne bi se provodili. Tok ulaganja u Sjedinjenim Državama stoga je bio usmjeren prema industrijama i tvrtkama koje su Morgan i njegovih nekoliko kolega željeli vidjeti u širenju, a ne negdje drugdje." [15]

[10] NT to JPM, October 13, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A–498A.

Teslu smatrao „zanimljivim umjetnikom ili znanstvenikom, a bežičnu telegrafiju obećavajućim istraživačkim pothvatom, te kao takav nije bio osobito zabrinut hoće li Teslin projekt komercijalno uspjeti". [19] To se tumačenje drži Teslinih javnih izjava, koji smatra Morganovo ulaganje isključivo „filantropskim". Tesla spominje da je Morgan njihov sporazum smatrao „jednostavnom prodajom" patentnih prava za bagatelu[10] (pogledajte također [19]). Carlson tvrdi da ih je proizvoljna priroda njihova sporazuma navela da očekuju vrlo različite stvari. Tvrdi da Morgan nije namjeravao preuzeti kontrolu nad patentnim pravima kako bi osigurao monopol nad novonastalom bežičnom industrijom. Činjenica ostaje da je Morgan kupio ta prava (čak ih je i iznudio). Osujetio je Tesline pokušaje da dobije dodatno financiranje od drugih investitora i Morganovih suradnika (T. F. Ryan, H. C. Frick). Tu tezu, koju je predložio Seifer [20], podupire Morganova modifikacija Teslina izvornoga prijedloga. Tesla to spominje 13. listopada 1904. Predložio je Morganu da preuzme većinski udjel u dionicama jedne ili više novih tvrtki koje je planirao osnovati. Konačni sporazum[11] određivao je većinski udjel u svim Teslinim temelj-

also [19]). Carlson argues that the arbitrary nature of their agreement led them to expect very different things. He claims that Morgan did not intend to take control of the patent rights in order to secure a monopoly over the nascent wireless industry. The fact remains that Morgan bought those rights (even extorted them). He thwarted Tesla's attempts to obtain additional funding from other investors and Morgan's associates (T. F. Ryan, H. C. Frick). This thesis, proposed by Seifer [20], is supported by Morgan's modification of Tesla's original proposal. Tesla mentions it on October 13, 1904. Tesla proposed that Morgan take a majority stake in the shares of a new company or companies he planned to set up. The final agreement[11] stipulated a majority interest in all of Tesla's fundamental wireless patents. Tesla accepted it out of reverence:

„I contemplated the formation of one or two companies, to which all my inventions in wireless telegraphy and telephony and in my system of lighting were, respectively, to be assigned, and proposed that you take fifty-one percent of the stock (not fifty, as you yourself said in our first conversation, because then you would not control), the remainder to go to my Parent Company. But when I received your formal letter it specified an interest of fifty-one percent in patents on these inventions. That was different though my share was the same. It was a simple sale. The terms were entirely immateri-

[10] NT za JPM, 13. listopada 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A–498A.

[11] NT za Charlesa Steelea (JPM-ova tajnika), 5. ožujak 1901.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 446A; Priložena pisma ugovora: NT za JPM, 1. ožujka 1901.; LFNT, Muzej Nikole Tesle, Beograd sig. MNT, CXXVII, K127: 442A-443A.

[11] NT to Charles Steele (JPM's secretary), March 5, 1901; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 446A; Enclosed letters of the agreement: NT to JPM, March 1, 1901; LFNT, Muzej Nikole Tesle, Beograd sig. MNT, CXXVII, K127: 442A-443A.

nim bežičnim patentima. Tesla ga je prihvatio iz poštovanja:

„Razmišljao sam o osnivanju jedne ili dvije tvrtke, kojima bi se dodijelili svi moji izumi u bežičnoj telegrafiji i telefoniji te u mom sustavu rasvjete te sam predložio da uzmete pedeset i jedan posto dionica (ne pedeset, kako ste sami rekli u našem prvom razgovoru, jer tada ne biste imali kontrolu), a ostatak da pripadne mojoj matičnoj tvrtki. Ali kada sam primio vaše formalno pismo, u njemu je navedeno da je udjel od pedeset i jedan posto u patentima na te izume. To je bilo drugačije, iako je moj udjel bio isti. Bila je to jednostavna prodaja. Uvjeti su mi bili potpuno nebitni i nisam ništa rekao, bojeći se da vas ne uvrijedim."[12]

Tesla nije namjeravao da njihov sporazum bude „jednostavna prodaja" patentnih prava, već početno ulaganje za uspostavljanje novoga industrijskoga poduzeća i poslovnoga partnerstva. Pretpostavio je da će on pridonijeti svojim tehničkim genijem, a Morgan svojim financijskim vještinama te da će zajedno razviti njegovu bežičnu tehnologiju u prekrasan i profitabilan posao koji će u tom procesu riješiti većinu problema materijalnoga postojanja čovječanstva, a istovremeno će započeti novo doba u ljudskoj povijesti.[13] Čini se da je Tesla previdio činjenicu da se Morgan ponajviše bavio stvaranjem i konsolidacijom trustova i konglomerata vri-

[12] NT za JPM, 13. listopada 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 496A.

[13] Pogledajte NT za JPM, 19. prosinca 1904.; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla korespondencija (1890. –1934.), MSS50302, J. P. Morgan: microfilm no. 0080.

al to me and I said nothing, for fear of offending you."[12]

Tesla did not intend their agreement to be a „simple sale" of patent rights but an initial investment to establish a new industrial enterprise and business partnership. He assumed that he would contribute his technical genius and Morgan his financial skills and that together they would develop his wireless technology into a wonderful and profitable business which would in the process solve most of the problems of mankind's material existence while ushering in a new era in human history.[13] Tesla seems to have overlooked the fact that Morgan was primarily concerned with the creation and consolidation of billion-dollar trusts and conglomerates ranging from the iron (U. S. Steel), railway (Northern Pacific), telephone (AT&T), shipping (White Star Lines) and electric power (General Electric) industries rather than with the creation of world-changing „start-ups" [21].[14] Tes-

[12] NT to JPM, October 13, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 496A.

[13] See NT to JPM, December 19, 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

[14] Morgan „favored industrial cooperation" (i.e. monopolies) and was against competition: „He liked his capitalism neat, tidy and under bankers' control. The House of Morgan was banker to established enterprises – the great industrial planning systems that favored stability over innovation, predictability over experimentation, and where threatened by upstart companies; so the bank had a heavy stake in the status quo." [22]

jednih milijarde dolara, od željezare (U. S. Steel), željezničke (Northern Pacific), telefonske (AT&T), brodarske (White Star Lines) i elektroenergetske industrije (General Electric), a ne stvaranjem „start-upova" koji mijenjaju svijet [21].[14] Tesla je smatrao da će, ako njegov projekt uspije, Morgan na kraju uložiti više ili barem pomoći u osiguravanju sredstava od drugih potencijalnih investitora.

Branimir Jovanović je Teslin učenjak i bivši direktor NTM-a. Seiferovu tvrdnju potkrijepio je izjavom da je J. P. Morgan uložio ogromne količine novca u elektranu na Niagarinim slapovima (i u Teslin polifazni sustav izmjenične struje i indukcijski motor koji ga je pokretao). Očekivao je eksponencijalnu dobit u desetljećima koja dolaze. Sustav koji ne koristi žice za prijenos komunikacija (ili energije) globalno sigurno nije bio dio njegova poslovnoga plana [23].[15] Jovanović tvrdi da je bilo...

„vrlo malo vjerojatno da su mu motivi bili filantropski. Njegovi savjetnici rekli su mu da je rješenje za problem bežične telegrafije na vidiku i da, sudeći po ogromnom komercijalnom uspjehu elektrifikacije, one koji su isporučivali novu tehnologiju treba staviti pod kontrolu." [25]

[14] Morgan je „favorizirao industrijsku suradnju" (tj. monopole) i bio je protiv konkurencije: „Volio je svoj kapitalizam uredan, čist i pod kontrolom bankara. Kuća Morgan bila je bankar za etablirana poduzeća – velike industrijske sustave planiranja koji su favorizirali stabilnost nad inovacijama, predvidljivost nad eksperimentiranjem i tamo gdje su im prijetile novoosnovane tvrtke; stoga je banka imala veliki ulog u „statusu quo." [22]

[15] Cf. [24].

la reckoned that if his project succeeded Morgan would eventually invest more or at least help secure funds from other potential investors.

Branimir Jovanović is a Tesla scholar and former director of the NTM. He supported Seifer's claim by stating that J. P. Morgan invested huge amounts of money in the power plant at Niagara Falls (and in Tesla's polyphase alternating current system and the induction motor that drove it). He expected exponential profits in the decades to come. A system that did not use wires to transmit communications (or energy) globally was certainly not part of his business plan [23].[15] Jovanović argues that it was...

„highly unlikely that his motives were philanthropic. His advisers told him that a solution for the problem of wireless telegraphy was in sight and that, judging by the enormous commercial success of electrification, those who were delivering new technology should be brought under control." [25]

According to this interpretation, Morgan purchased the majority interest in Tesla's wireless patents merely to strategically suppress the development of these technologies for financial gain, or simply to shelve them in order to facilitate the US expansion and success of Tesla's rivals, who were legally threatened by Tesla's patent priority in this field.[16]

[15] Cf. [24].

[16] For more on the inhibition of technology through the deliberate shelving or non-use of patents and the social harm caused by such practices, see [26].

Prema tomu tumačenju, Morgan je kupio većinski udio u Teslinim bežičnim patentima samo kako bi strateški suzbio razvoj tih tehnologija radi financijske koristi ili ih jednostavno odložio kako bi olakšao širenje u SAD-u i uspjeh Teslinih konkurenata, kojima je Teslin patentni prioritet u tom području pravno prijetio.[16]

Veliko pitanje zašto je Morgan u početku tako velikodušno podržavao Teslu ako je, kako Seifer tvrdi, kasnije brutalno osujetio i ugušio njegove napore, rješava se kada uzmemo u obzir opseg rivalstva između Tesle i Guglielma Marconija (1874. – 1937.) u to vrijeme, te ključnu ulogu koju su Marconijevi uspjesi odigrali u Morganovoj odluci da osigura kontrolu nad novonastalom bežičnom (telegrafskom i radijskom) industrijom. Morganovi motivi čini se da su bili isključivo pragmatični i vođeni logikom tipičnom za velike investitore. Uložio je rizično i podržao razvoj Teslina bežičnoga sustava samo da vidi hoće li uspjeti. Morgan se isprva kladio na Teslu, vjerojatno pretpostavljajući da bi bilo besmisleno podržavati stranca Marconija ako je Teslin „američki" bežični sustav bolji i učinkovitiji, u što ga je Tesla stalno uvjeravao.[17] Teslin „potencijal da isporuči konkurentski bežični telegraf koji ne krši Marconijeve patente bio je glavni razlog Morganova interesa za Tesline eksperimente." [27]

[16] Za više informacija o inhibiciji tehnologije namjernim odlaganjem ili nekorištenjem patenata i društvenoj šteti koju uzrokuju takve prakse, pogledajte [26].

[17] Pogledajte NT za JPM, 11. studenoga 1901.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 452A–453A.

The big question as to why Morgan initially supported Tesla so generously if, as Seifer claims, he later brutally thwarted and suppressed his endeavours, is resolved when we consider the scope of the rivalry between Tesla and Guglielmo Marconi (1874–1937) at the time, and the key role Marconi's successes played in Morgan's decision to secure control of the emerging wireless (telegraph and radio) industry. Morgan's motives appear to have been purely pragmatic and driven by logic typical of big investors. He made a risky investment and supported the development of Tesla's wireless system just to see if it would succeed. Morgan initially bet on Tesla, probably assuming that it would be pointless to support the foreigner Marconi if Tesla's „American" wireless system was better and more efficient, which Tesla kept assuring him.[17] Tesla's „potential to deliver a rival wireless telegraph that did not breach Marconi's patents was the main reason for Morgan's interest in Tesla's experiments." [27]

If we return to Tesla's statement regarding his original proposal to Morgan, there is an important difference between a majority stake in the patents and a majority stake in the shares of a company that owns those patents. If you have a majority stake in the shares of a company, you probably want it to succeed, because you are responsible for it, and Tesla wanted Morgan to basically manage such a company. But if you have a majority stake in the patents, you control those patents, regardless

[17] See NT to JPM, November 11, 1901; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 452A–453A.

Ako se vratimo na Teslinu izjavu u vezi s njegovim izvornim prijedlogom Morganu, postoji važna razlika između većinskoga udjela u patentima i većinskoga udjela u dionicama tvrtke koja posjeduje te patente. Ako imate većinski udio u dionicama tvrtke, vjerojatno želite da ona uspije, jer ste odgovorni za nju, a Tesla je želio da Morgan u osnovi upravlja takvom tvrtkom. Ali ako imate većinski udio u patentima, kontrolirate te patente, bez obzira na sudbinu tvrtke. Uzimanjem 51 % (udjela na kojem je Tesla inzistirao) u patentima umjesto dionica u predloženoj tvrtki, Morgan je od samoga početka osigurao ogromnu prednost u kontroli bežičnih tehnologija i bez obzira na konačni ishod utrke Marconi – Tesla.

Da je Tesla uspio, Morgan bi imao većinsku kontrolu nad patentima i mogao bi odlučiti dalje ulagati. Međutim, ako bi Tesla propao i pokazao se nepouzdanim, Morgan bi imao kontrolu nad svojim temeljnim bežičnim patentima i mogao bi osigurati uspjeh Teslinim konkurentima. I čini se da se upravo to dogodilo. Tesla to izričito spominje 14. siječnja 1904.: „Pogodovali ste spletkarima koji nemaju znanja ni vještine, već samo prokletstvo prijevare, kako biste prevarili svijet i više naštetili mom radu svojim nesposobnim pokušajima i daleko više nego što bi ikada mogli uspjehom."[18] Nijedan drugi značajan dokaz Morganove otvorene podrške Marconiju ne može se pronaći u objavljenim Teslinim biografijama (uz uvjet-

[18] NT za JPM, 14. siječnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A–487A.

of the fate of the company. By taking 51% (a share on which Tesla insisted) in patents instead of shares in the proposed company, Morgan secured a huge advantage in controlling wireless technologies from the outset and regardless of the final outcome of the Marconi-Tesla race.

If Tesla had succeeded, Morgan would have had majority control of the patents and could have chosen to invest further. However, if Tesla failed and proved to be unreliable, Morgan would have had control over his fundamental wireless patents and could have ensured success for Tesla's competitors. And this seems to be exactly what happened. Tesla mentions this explicitly on January 14, 1904: „You have favored the schemers who have no knowledge or skill, but merely the cursing sense of fraud, to fool the world and to hurt my work more by their incompetent attempts and far more than they ever could by success."[18] No other substantial evidence for Morgan's overt support for Marconi can be found in the published biographies of Tesla (with the conditional exception of Vassilatos [28] since he does not provide any sources to support his claims), and it is not mentioned in any of the major biographies on Morgan or Marconi the author was able to consult. But Thomas H. White [29] provides irrefutable evidence to that effect, revealing that Morgan supported the expansion of American Marconi as early as March 30, 1902, with the amount of

[18] NT to JPM, January 14, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A–487A.

nu iznimku Vassilatosa [28] jer ne navode nikakve izvore koji bi potkrijepili njegove tvrdnje), a ne spominje se ni u jednoj od glavnih biografija o Morganu ili Marconiju koje je autor mogao konzultirati. Ali Thomas H. White [29] pruža nepobitne dokaze u tom smislu, otkrivajući da je Morgan podržavao širenje američkoga Marconija već 30. ožujka 1902. s iznosom od tadašnjih 6 milijuna dolara (kupovna moć današnjih 214 milijuna):

„Objava o osnivanju,Marconi Wireless Telegraph Company for America' pojavila se 2. prosinca 1899. u časopisu *Electrical World and Engineer* [...] [K]asnije je proširenje vrijedno 6 000 000 dolara, koje je financirala grupa povezana s J. Pierpontom Morganom, objavljeno 6. travnja 1902. u članku,Morgan in the Wireless' u New-York Daily Tribuneu i članku,Financiers Aid Signor Marconi' u *San Francisco Call*.[19]

[19] Posao je sklopljen 30. ožujka 1902. („Morgan in the Wireless", New York Daily Tribune, 6. travnja 1902., str. 6). Marconi Wireless Telegraph Company of America (obično nazvan American Marconi) osnovana je 1899. kao podružnica britanske Marconi Company, s tadašnjom kapitalizacijom od 10 000 000 dolara. Marconi Company se brzo širila i do 24. prosinca 1904. „upravljala je sa 69 kopnenih stanica i imala 124 broda opremljena svojim sustavom bežične telegrafije." [30] Godine 1912., American Marconi preuzeo je ogromnu imovinu ugašene tvrtke United Wireless Telegraph Company i postao dominantni pružatelj radio komunikacija u SAD-u. Tijekom Prvoga svjetskoga rata, američka vlada preuzela je kontrolu nad radioindustrijom, a nakon rata, vladini dužnosnici opirali su se povratku Marconijevih stanica izvornim vlasnicima, jer nisu vjerovali britanskoj kontroli radiokomunikacija zbog zabrinutosti za nacionalnu sigurnost. Pod vodstvom američke mornarice, vlada je osigurala

then $6 million (the purchasing power of today's $214 million):

„An announcement that, A Marconi Wireless Telegraph Company for America' had been formed appeared in the December 2, 1899 *Electrical World and Engineer* [...] [L]ater a $6 000 000 expansion, funded by a group affiliated with J. Pierpont Morgan, was reported on April 6, 1902 by, Morgan in the Wireless' in the *New-York Daily Tribune* and, Financiers Aid Signor Marconi' from the *San Francisco Call*."[19]

Morgan's initial investment of $150 000 in Tesla's enterprise turns out to be trivial compared to his support for Marconi. Morgan's support also seems to explain why Marconi was suddenly granted his US

[19] The deal was closed on March 30, 1902 („Morgan in the Wireless", *New York Daily Tribune*, April 6, 1902, p. 6). The Marconi Wireless Telegraph Company of America (usually called American Marconi) was founded in 1899 as a subsidiary of the British Marconi Company, with a capitalization of $10 000 000 at the time. The Marconi Company expanded rapidly and by December 24, 1904 „operated 69 land stations and had 124 ships equipped with its system of wireless telegraphy." [30] In 1912, American Marconi took over the vast assets of the defunct United Wireless Telegraph Company and became the dominant provider of radio communications in the US. During the First World War, the US government took control of the radio industry, and after the war, government officials resisted the return of American Marconi's stations to the original owners, because they distrusted British control of radio communications due to national security concerns. Under the leadership of the US Navy, the government secured the transfer of American Marconi's stations to an American owner. In 1919, American Marconi's assets were bought by General Electric, which provided the basis for the creation of its new subsidiary, the Radio Corporation of America (RCA).

Morganovo početno ulaganje od 150 000 dolara u Teslino poduzeće pokazalo se beznačajnim u usporedbi s njegovom podrškom Marconiju. Morganova podrška također objašnjava zašto je Marconi iznenada dobio svoj američki patent br. 763.772 (odbijen 1902. i odobren 26. lipnja 1904.) u drugom pokušaju, zbog čega ga je Tesla kasnije bezuspješno tužio.[20] Morgan mu je stoga odlučio otkazati svoju podršku, jer je Marconi uspio uspostaviti svoju transatlantsku bežičnu telegrafiju uz desetinu Teslinih troškova i uspješno proširiti svoje poslovanje diljem svijeta dok je Teslina stanica još bila u fazi razvoja [32]. Posljedično, Morgan je kasnije očito spriječio druge investitore da ulažu u Teslin pothvat, procjenjujući Marconija kao sigurnog pobjednika u praktičnoj primjeni

prijenos Marconijevih stanica američkom vlasniku. Godine 1919., imovinu American Marconija kupio je General Electric, što je osiguralo osnovu za stvaranje njegove nove podružnice, Radio Corporation of America (RCA).

[20] Pogledajte NT za JPM, 14. siječnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A–487A i NT za JPM Jr., 19. ožujka 1914.; Arhiv knjižnice Pierpont Morgan, Knjižnica i muzej Morgan, New York; prepiska Nikole Tesle s J. P. Morganom Jr., ARC 1216, mapa 80:262a-b, str. 34–46. Brand, u vezi s odobravanjem Marconijeva američkoga patenta br. 763.772 (nakon brojnih odbijanja u korist Teslinih ranijih patenata), piše: „Nakon što je J. P. Morgan postao jedan od Marconijevih podupiratelja, Marconi je 19. veljače 1904. podnio još jednu peticiju za obnovu. Povjerenik za patente ju je odobrio. Novi ispitivač postupio je u slučaju i prihvatio sve zahtjeve koji su prethodno odbijeni iz razloga navedenih u kratkom pismu." [31] Za više informacija o tome, pogledajte [93] i [94].

Patent No. 763,772 (rejected in 1902 and granted on June 26, 1904) on his second attempt, for which Tesla unsuccessfully sued him later on.[20] Morgan thus decided to cancel his support, because Marconi had managed to establish his transatlantic wireless telegraphy at one tenth of Tesla's cost and successfully expanded his operations worldwide while Tesla's station was still in its developmental phase [32]. Consequently, Morgan apparently later prevented other investors from investing in Tesla's enterprise, judging Marconi to be a sure winner in the practical implementation of wireless telegraphy, while the fact that Marconi pirated Tesla's patents apparently did not play a major role in Morgan's decision, although Tesla kept reminding him of this fact (most notably on January 9, 1902).[21] [94]

[20] See NT to JPM, January 14, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A–487A and NT to JPM Jr., March 19, 1914; Pierpont Morgan Library Archives, The Morgan Library & Museum, New York; Nikola Tesla correspondence with J. P. Morgan Jr., ARC 1216, folder 80:262a-b, p. 34–46. Brand, in connection with the granting of Marconi's US Patent No. 763,772 (after numerous rejections in favor of Tesla's earlier patents), writes: „After J. P. Morgan became one of Marconi's backers, Marconi presented another petition for revival on February 19, 1904. The Commissioner of Patents granted it. A new examiner acted on the case and allowed all claims formerly rejected for reasons stated in a brief letter." [31] For more on this, see [93] and [94].

[21] SEE NT to JPM, January 9, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 456A–458A.

ni bežične telegrafije, dok činjenica da je Marconi piratizirao Tesline patente očito nije igrala veliku ulogu u Morganovoj odluci, iako ga je Tesla stalno podsjećao na tu činjenicu (najviše 9. siječnja 1902.). [94] Kasnije je Tesla nekoliko puta pokušao restrukturirati ugovor, također uz pomoć novih potencijalnih investitora, koje prvi put spominje u svom pismu od 17. rujna 1902.[21] [94] Predlaže da se svi njegovi bežični patenti dodijele novoosnovanoj tvrtki, dok bi njegova matična tvrtka, The Nikola Tesla Company, prodala dio svojih obveznica; tim novcem Morganu bi se „vratio" „unaprijed plaćeni iznos", dok bi Morganov „udio u cijeloj imovini ostao netaknut".[22] Financijski plan za tu predloženu izmjenu njihova sporazuma, s kojom se Morgan složio, poslao je Tesli Morganov tajnik (21. listopada 1902.). U njemu stoji da bi od preostalog iznosa „nakon što se osigura povrat predujmova", Morgan primio „jednu trećinu vrijednosnih papira" nove tvrtke koju je Tesla planirao osnovati u zamjenu za Morganova prava na patente, koja bi bila prenesena na novu tvrtku.[23] Morgan je predložio preuzimanje jedne trećine vrijednosnih papira nove tvrtke u zamjenu za svoje većinske udjele u patentima i povrat već unaprijed

[21] Pogledajte NT za JPM, 9. siječnja 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 456A–458A.

[22] NT za JPM, 17. rujna 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 464A.

[23] Charles Steele za NT, 21. listopada 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 466A–467A.

Later, Tesla made several attempts to restructure the agreement, also with the help of new potential investors, whom he mentions for the first time in his letter of September 17, 1902. He proposes that all his wireless patents be assigned to a newly created company, while his parent company, The Nikola Tesla Company, would sell some of its bonds; with this money, Morgan would be „refund[ed]" the „advanced sum", while Morgan's „share in the whole property would remain untouched".[22] The financial plan for this proposed modification of their agreement, which Morgan agreed to, was sent to Tesla by Morgan's secretary (on October 21, 1902). It states that, of the amount remaining „after providing for reimbursement of advances", Morgan would receive „one-third of the securities" of a new company that Tesla planned to establish in exchange for Morgan's rights in the patents, which would be transferred to the new company.[23] Morgan proposed to take one-third of the securities of the new company in exchange for his majority patent interests and for the reimbursement of the sum already advanced, but this modification and the creation of a new proposed company certainly did not take place at that time, since Tesla kept sending Morgan „assignments of interests" in seven new patents on July 3, 1903. Tesla also mentions that Morgan

[22] NT to JPM, September 17, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 464A.

[23] Charles Steele to NT, October 21, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 466A–467A.

plaćenoga iznosa, ali do te izmjene i stvaranja nove predložene tvrtke sigurno nije došlo u to vrijeme, jer je Tesla 3. srpnja 1903. Morganu slao „dodjele udjela" u sedam novih patenata. Tesla također spominje da je Morgan još uvijek imao većinski udio u patentima 13. prosinca 1905.[24]

Iako Morganovi dodatni uvjeti nisu u potpunosti jasni, jer nije očuvana nikakva prepiska gotovo pet mjeseci (između 23. listopada 1902. i 8. travnja 1903.), čini se da Tesla jednostavno nije uspio prikupiti dovoljno novca za otplatu početne investicije, što je bio Morganov vjerojatni preduvjet za promjenu njihova dogovora. Morgan je vjerojatno postavio isti uvjet kao i u Teslinom drugom pokušaju osnivanja nove tvrtke krajem 1905. Ovaj put Morgan se ponovno nije protivio Teslinoj ideji o osiguravanju dodatnih investitora, iako je i dalje inzistirao na tome da ostane tihi partner za širu javnost.[25] Carlson [33] vjeruje da je Morgan pomogao Tesli u njegovim pokušajima konsolidacije i osnivanja nove tvrtke, dok Seifer [34] tvrdi da je namjerno osujetio Teslinu gotovo uspješnu suradnju s drugim investitorima (posebno T. F. Ryanom i H. C. Frickom), što se može zaključiti iz prepiske. Prilikom Teslina drugoga pokušaja izmjene njihova dogovora, Morgan je ponovno u nastill held a majority share in the patents on December 13, 1905.[24]

Although Morgan's additional conditions are not entirely clear, as no correspondence is preserved for almost five months (between October 23, 1902 and April 8, 1903), it seems that Tesla simply failed to raise enough money to repay the original investment, which was Morgan's probable precondition for changing their deal. Morgan probably imposed the same condition as in Tesla's second attempt to set up a new company late in 1905. This time around Morgan again did not oppose Tesla's idea of securing additional investors, although he still insisted on remaining a silent partner for the public at large.[25] Carlson [33] believes that Morgan helped Tesla in his attempts to consolidate and set up a new company, while Seifer [34] claims that he deliberately thwarted Tesla's near-successful collaboration with other investors (notably T. F. Ryan and H. C. Frick), as can be inferred from the correspondence. On Tesla's second attempt to modify their deal, Morgan again agreed in principle to „one-third of the securities" of any new company „as full settlement for [his] loan", „provided there is secured other capital adequate for the purpose of car-

[24] Pogledajte NT za JPM, 3. srpnja 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A i 13. prosinca 1905.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 514A.

[25] Pogledajte JPM za NT, 14. prosinca 1905.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 517A.

[24] See NT to JPM, July 3, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A and December 13, 1905; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 514A.

[25] See JPM to NT, December 14, 1905; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 517A.

čelu pristao na „trećinu vrijednosnih papira" bilo koje nove tvrtke „kao potpuno poravnanje za [njegov] zajam", „pod uvjetom da je osiguran drugi kapital dovoljan za obavljanje poslovanja",[26] dok je Tesla bio spreman smanjiti svoj udjel „na otprilike 20 posto" [35]. Predloženi sporazum o restrukturiranju od 16. ožujka 1906.,[27] (priložen pismu od 13. kolovoza 1906.), koji nikada nije postao obvezujući (jer Tesla nije uspio osigurati konačni ugovoreni iznos iz drugih izvora), izričito navodi da J. P. Morgan...

„pristao je da se navedeni izumi koje je stekla tvrtka (u daljnjem tekstu Nova tvrtka) organiziraju u svrhu dovršetka navedenoga postrojenja, [...] te je u tu svrhu spreman ustupiti Novoj tvrtki svoja prava na navedene izume, pod uvjetom da za ta prava primi jednu trećinu dionica Nove tvrtke i da potrebnih dodatnih 100 000 USD osiguraju drugi."[28]

Kako Tesli nije bilo moguće osigurati ta sredstva bez Morganove otvorene i javne podrške, postaje očito da je to bio manevar odugovlačenja i da je Morgan očito „dao sve od sebe da upropasti posao" [36]. Tesla je Morganu prodao većinski udjel u

[26] JPM za NT, 16. veljače 1906.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 525A.

[27] Pogledajte NT za JPM, 13. kolovoza 1906.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 527A–527B; Nikola Tesla Company, Nikola Tesla i drugi, Ugovor od 16. ožujka 1906.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, V, K5: 84A–94A.

[28] Nikola Tesla Company, Nikola Tesla i drugi, Ugovor od 16. ožujka 1906.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, V, K5: 84A–85A.

rying out the business",[26] while Tesla was willing to reduce his share „to approximately 20 per cent" [35]. The proposed restructuring agreement of March 16, 1906 (attached to letter of August 13, 1906),[27] which never became binding (as Tesla failed to secure the final stipulated amount from other sources), explicitly states that J. P. Morgan...

„has consented that the said inventions acquired by a Company (hereinafter called the New Company) to be organized for the purpose of completing said plant, [...] and to that end is willing to assign to the New Company his rights in said inventions, provided that he receive for such rights one-third of the stock of the New Company, and that the additional $100,000 required be furnished by others."[28]

But because it was impossible to secure these funds without Morgan's overt and public support, it becomes obvious that this was a stalling manoeuvre, and that Morgan apparently „did his best to scuttle the deal" [36]. Tesla sold Morgan a majority interest in all his wireless patents, but since he failed to carry out the agreed venture in due time, their agreement eventually took the form of „a loan" [37], which

[26] JPM to NT, February 16, 1906; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 525A.

[27] See NT to JPM, Aug 13, 1906; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 527A–527B; Nikola Tesla Company, Nikola Tesla and others, Agreement, March 16, 1906; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, V, K5: 84A–94A.

[28] Nikola Tesla Company, Nikola Tesla and others, Agreement, March 16, 1906; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, V, K5: 84A–85A.

svim svojim bežičnim patentima, ali kako nije uspio ostvariti dogovoreni pothvat na vrijeme, njihov je sporazum na kraju poprimio oblik „zajma" [37], koji bi Tesla morao otplatiti predajom Morganu jedne trećine dionica Nove tvrtke u zamjenu za Morganov većinski udjel u patentima. Tesla na kraju nije uspio osnovati Novu tvrtku zbog nedostatka dodatnih sredstava, koja su ovisila o Morganovoj podršci. Iako je Morgan možda dopustio minimalne izglede za Teslin konačni uspjeh, njihov labavo definirani sporazum omogućio mu je da ga u potpunosti protumači u svoju korist, dok je naizgled odgađao razvoj Teslina projekta neodrživim uvjetima i učinkovito ga blokirao svojom masovnom i otvorenom podrškom Marconijevoj američkoj podružnici, a kasnije i vjerojatnim uspješnim obeshrabrivanjem drugih investitora.

TESLINI MOTIVI I DRUGI ČIMBENICI KOJI SU PRIDONIJELI GUBITKU MORGANOVE PODRŠKE

Ali, gubitak Morganove početne podrške, suočen sa složenim ekonomskim i političkim događajima, zapravo je potaknut Teslinom odlukom da promijeni njihov početni sporazum, što je Morgan morao protumačiti kao kobno kršenje, dok je Tesla to vidio kao neizbježnu nužnost, što je dovelo do „žalosnoga nesporazuma"[29] i rastućega međusobna nepo-

Tesla would have to repay by handing over to Morgan one third of the shares of a new company in exchange for Morgan's majority interest in the patents. Tesla ultimately failed to establish the new company due to a lack of additional funds, which were contingent on Morgan's support. Although Morgan may have allowed for a minimal chance of Tesla's eventual success, their loosely defined agreement allowed him to interpret it entirely in his favour, while seemingly delaying the development of Tesla's project by untenable conditions, and effectively blocking it by his massive and overt support for Marconi's American subsidiary and later by his probable successful discouragement of other investors.

TESLA'S MOTIVES AND OTHER FACTORS CONTRIBUTING TO THE LOSS OF MORGAN'S SUPPORT

But the loss of Morgan's initial support, in the face of complex economic and political developments, was actually triggered by Tesla's decision to change their initial agreement, which Morgan must have interpreted as a fatal breach, while Tesla saw it as an unavoidable necessity, which led to „a regrettable misunderstanding"[29] and to a growing mutual distrust between them. Morgan probably learned of Tesla's changes before September and certainly after July 4, 1901, when he returned from Europe to mitigate the effects of the financial

[29] NT za JPM, 22. srpnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 493A.

[29] NT to JPM, July 22, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 493A.

vjerenja. Morgan je vjerojatno saznao za Tesline promjene prije rujna, a svakako nakon 4. srpnja 1901., kada se vratio iz Europe kako bi ublažio posljedice financijske panike izazvane njegovim rivalstvom s Harrimanom.[30] Tesla, u svom pismu od 13. rujna 1901. već spominje nedostatak sredstava i tvrdi da su „kao sredstvo prenošenja općega znanja kabeli apsolutno i beznadno osuđeni na propast", te otkriva Morganu da ono što namjerava „nije jednostavan prijenos poruka bez žica na velike udaljenosti, već transformacija cijeloga svijeta u osjećajno biće, takoreći, koje može osjećati u svim svojim dijelovima i kroz koje se misli mogu prenositi kao kroz mozak."[31] Iako je Tesla pokušao objasniti svoju odluku,[32] Morgan je Teslinu promjenu izvornoga plana morao shvatiti kao izdaju i znak nepouzdanosti ekscentričnoga izumitelja, što ga je navelo da zauvijek napusti projekt, a istovremeno je potaknulo njegovu odluku da podrži Marconija.

Tesla je izvorno namjeravao izgraditi „Svjetski telegrafski centar" na Long Islandu, s laboratorijem, bežičnim odašiljačem i proizvodnim pogonima za os-

[30] Pogledajte NT za JPM, 8. travnja 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 469A–470A. Za više informacija o panici na burzi 1901. i Morganovoj umiješanosti, pogledajte [95] i bilješke uz to pismo u [96].

[31] NT za JPM, 13. rujna 1901.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 450–451A.

[32] Pogledajte NT za JPM, 13. listopada 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A–498A.

panic triggered by his rivalry with Harriman.[30] Tesla, in his letter of September 13, 1901, already mentions a lack of funds and claims that „as a means of conveying general knowledge the cables are absolutely and hopelessly doomed", and reveals to Morgan that what he intends „is not a simple transmission of messages without wires to great distances, but it is transformation of the entire globe into a sentient being, as it were, which can feel in all its parts and through which thoughts may be flashed as through a brain."[31] Although Tesla tried to explain his decision,[32] Morgan must have seen Tesla's change of the original plan as a betrayal and a sign of the eccentric inventor's unreliability, which prompted him to abandon the project for good, while triggering his decision to back Marconi.

Tesla originally intended to build a „World Telegraphy Centre" on Long Island, with a laboratory, a wireless transmitter and manufacturing facilities for oscillators and vacuum tubes: „He had negotiated with Morgan the first step, that is, to build the laboratory and a simple tower for reporting yacht races, signaling ocean steamers, and sending Morse-coded messages to England." [38]. But when Te-

[30] See NT to JPM, April 8, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 469A–470A. For more on the stock market panic of 1901 and Morgan's involvement, see [95] and notes to this letter in [96].

[31] NT to JPM, September 13, 1901; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 450–451A.

[32] See NT to JPM, October 13, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A–498A.

cilatore i vakuumske cijevi: „Dogovorio se s Morganom o prvom koraku, odnosno izgradnji laboratorija i jednostavnoga tornja za izvještavanje o utrkama jahti, signaliziranje oceanskih parobroda i slanje poruka Morseovim signalima u Englesku." [38] Ali kada je Tesla otkrio da Marconi koristi nekoliko njegovih patenata za bežični prijenos bez dopuštenja, potpuno je promijenio svoj plan nakon samo šezdeset dana od sklapanja ugovora (i trideset dana nakon Morganova godišnjega odlaska u Europu).[33] Umjesto jednostavnoga odašiljača kojega je izvorno planirao, Tesla je odlučio izgraditi ogroman odašiljački toranj sa složenom podzemnom strukturom, koja bi omogućila bežični prijenos signala diljem svijeta, a ne samo bežičnu telegrafiju preko Atlantika [42]. Ta odluka, koju je isprva skrivao od Morgana, bila je posljedica niza čimbenika, koje Tesla pokušava objasniti u njihovoj korespondenciji. Međutim, za Morgana je to predstavljalo kobno kršenje koje je moralo biti

[33] Marconi je u članku, koji je Tesla nesumnjivo u to vrijeme pročitao, sam to otvoreno priznao (spominjući upotrebu „ugođenoga Teslina oscilatora" četiri puta [39]). Svaki transformator (uključujući one u radiju i bežičnom telegrafu vremena) ima dvije različite zavojnice, primarnu i sekundarnu, koje su magnetski povezane jedna s drugom. Marconijev vodeći biograf navodi da je „među Marconijevim pristašama Teslina briljantnost bila prepoznata i da su je se bojali. Prepiska iz 1900. i 1901., kada je Marconi pripremao svoju prvu transatlantsku vezu, pokazuje da su dužnosnici tvrtke i sam Marconi bili zabrinuti, čak i prestravljeni, da bi ih Tesla mogao preduhitriti." [40] Tesla, međutim, nije bio svjestan koliko je Marconi zapravo napredovao i samouvjereno se kladio na superiornost svog sustava [41].

sla discovered that Marconi was using several of his patents for wireless transmission without permission, he changed his plan completely after only sixty days of the agreement (and thirty days after Morgan's annual departure for Europe).[33] Instead of the simple transmitter he had originally planned, Tesla decided to build a huge transmission tower with a complex underground structure, which would allow wireless transmission of signals across the globe, rather than just wireless telegraphy across the Atlantic [42]. This decision, which he initially withheld from Morgan, was due to a number of factors, which Tesla attempts to explain in their correspondence. For Morgan, however, it represented a fatal breach which must have been intolerable for a man of his character. We should consider that Morgan's very presence was a source of awe; he was feared even by his favoured executives. Charles Mellen, manager of the New Haven Railway, stated that no one dared to think of „going to Mr. Morgan a second time on a matter, after he has already expressed his

[33] Marconi, in an article that Tesla had undoubtedly read at the time, openly admitted to this himself (mentioning the use of a "tuned Tesla oscillator" four times [39]). Every transformer (including those in radio and the wireless telegraph of the time) has two different coils, a primary and a secondary, which are magnetically coupled to each other. Marconi's leading biographer states that "[a]mong Marconi's supporters, Tesla's brilliance was recognized and feared. Correspondence from 1900 and 1901, when Marconi was preparing his first transatlantic connection, shows company officials and Marconi himself concerned, even terrified, that Tesla might beat them to it." [40] Tesla, however, was unaware of how far Marconi had actually progressed and confidently bet on the superiority of his system [41].

nepodnošljivo za čovjeka njegova karaktera. Trebalo bi se uzeti u obzir da je sama Morganova prisutnost bila izvor strahopoštovanja; bojali su ga se čak i njegovi omiljeni rukovoditelji. Charles Mellen, upravitelj željeznice New Haven, izjavio je da se nitko nije usudio pomisliti da „drugi put ode gospodinu Morganu po nekom pitanju, nakon što je već izrazio svoje mišljenje o tome“ [43]. Tko god je potratio Morganovo povjerenje, nikada ga više nije stekao. A Tesla je, sa svojom smjelom ambicijom, upravo to i učinio.

Kada je Teslu u bežičnoj utrci „zasjenio“ Marconi, koji je 12. prosinca 1901. telegrafski poslao slovo *S* preko Atlantika koristeći Tesline patente (uključujući patente drugih), te zbog kašnjenja u Morganovoj posljednjoj uplati i devalvacije dolara, uključujući inflaciju izazvanu panikom na burzi 1901., Tesla je bio prisiljen otkriti Morganu da je promijenio svoj izvorni plan. Gradio je sustav koji bi omogućio bežični prijenos malih količina energije (za telekomunikacije) do bilo koje točke na svijetu. To bi, po Teslinu mišljenju, dokazalo da se i ogromne količine energije mogu bežično prenositi s pomoću sličnoga sustava koji „oporavlja“ ili čak dobiva energiju u tom procesu [44].[34] Tesla je želio bežični prijenos energije (zvuka, slike i telekomunikacija) uključiti u jedinstveni sustav koji bi jednim potezom povezao cijeli svijet, a istovremeno se zaštitio od pronevjere svojih izuma i patentnih prava, jer je „jedini način da se u potpunosti zašti-

[34] Pogledajte također NT za JPM, 3. srpnja 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A.

opinion on it“ [43]. Whoever had squandered Morgan's trust never regained it again. And Tesla, with his bold ambition, had done precisely that.

When Tesla was „upstaged“ in the wireless race by Marconi, who telegraphed the letter S across the Atlantic on December 12, 1901 using Tesla's patents (including patents of others), and because of delays in Morgan's last payment, and the devaluation of the dollar including inflation triggered by the stock market panic of 1901, Tesla was forced to disclose to Morgan that he had changed his original plan. He was building a system that would allow small amounts of energy (for telecommunications) to be transmitted wirelessly to any point on the globe. This would, in Tesla's view, prove that huge amounts of energy could also be transmitted wirelessly using a similar system that „recovered“ or even gained energy in the process as well [44].[34] Tesla wanted to incorporate the wireless transmission of energy (sound, images and telecommunications) in a single system that would connect the entire globe in one fell swoop, while protecting himself from the misappropriation of his inventions and patent rights, since „the only way to fully protect [himself] was to develop apparatus of such power as to enable [him] to control effectively the vibrations throughout the globe“.[35] „If you will imagine that I have

[34] See also NT to JPM, July 3, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A.

[35] NT to JPM, September 5, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

ti bio razviti aparat takve snage koji bi mu omogućio učinkovitu kontrolu vibracija diljem svijeta".[35] „Ako zamislite da sam pronašao kamen mudraca, ne ćete biti daleko od istine", piše Tesla Morganu (15. listopada 1903.) i dodaje da će principi koje je otkrio „izazvati revoluciju toliko veliku da će gotovo sve vrijednosti i svi ljudski odnosi biti duboko izmijenjeni."[36] Vjerojatno je nakon 17. veljače 1902. (ili ranije) Morgan izbacio Teslu iz ureda,[37] nije bio voljan dati dodatna sredstva[38] i preusmjerio je svoje oklade na Marconija, kojega je i osnovao, i preusmjerio je svoje oklade na Marconija, kojega je počeo podržavati već 30. ožujka 1902. Dana 5. rujna 1902. Tesla spominje njihov prekid: „Jednom sam pokušao objasniti vam ovo, na svoju veliku žalost, jer sam vas pogrješno dojmio",

found the stone of the philosophers you will be not far from the truth", writes Tesla to Morgan (on October 15, 1903) and adds that the principles he discovered „will cause a revolution so great that almost all values and all human relations will be profoundly modified."[36] Probably after February 17, 1902 (or earlier) Morgan threw Tesla out of his office,[37] was unwilling to advance any additional funds[38] and shifted his bets to Marconi, whom he started supporting as early as March 30, 1902. On September 5, 1902 Tesla mentions their split: „I endeavoured once to explain this to you, much to my sorrow, as I impressed you wrongly", and defines it as a „misfortunate misunderstanding, the cause of which I have been vainly trying to discover".[39]

[35] NT za JPM, 5. rujna 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

[36] NT za JPM, 15. listopada 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 478A.

[37] Tesla to prepričava 14. siječnja 1904.: „Počinjemo s prijedlogom, sve je propisno izračunato, financijski je krhko. Upuštate se u nemoguće operacije, tjerate me da platim dvostruko, da, tjerate me da čekam deset mjeseci na strojeve. Uz to, izazivate paniku. Kada nakon što sam uložio sve što sam mogao skupiti, dođem vam pokazati da sam učinio najbolje što se moglo učiniti, otpuštate me kao uredskog dječaka i urlate tako glasno da vas se čuje šest blokova dalje: ni centa. Proširilo se po cijelom gradu, diskreditiran sam, ruglo mojih neprijatelja." NT za JPM, 14. siječnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A.

[38] Pogledajte JPM za NT, 17. srpnja 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 475A.

[36] NT to JPM, October 15, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 478A.

[37] Tesla recounts this on January 14, 1904: „We start on a proposition, everything duly calculated it is financially frail. You engage in impossible operations, you make me pay double, yes, make me wait ten months for machinery. On the top of that you produce a panic. When after putting in all I could scrape together I come to show you that I have done the best that could be done you fire me out like an office boy and roar so loudly that you are heard six blocks away: not a cent. It is spread all over town, I am discredited, the laughing stock of my enemies." NT to JPM, January 14, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 486A.

[38] See JPM to NT, July 17, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 475A.

[39] NT to JPM, September 5, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

definira ga kao „nesretni nesporazum, čiji uzrok uzalud pokušavam otkriti".[39]

Teslina pisma Morganu pokazuju kako očajnički iskušava sve moguće strategije da spasi Wardenclyffe, jer nitko drugi nije bio spreman preuzeti financijski rizik. Učinio bi sve kako bi dokazao učinkovitost svoga sustava kao rješenja za „najveći industrijski problem s kojim se čovječanstvo suočava stoljećima",[40] ali je ubrzo postalo jasno da je „projekt koji je gospodin Morgan napustio mrtav kao čavao na vratima".[41] Kao rezultat toga, već do kraja 1902. Tesla nije uspio „postaviti konačnu vatrootpornu zaštitnu vanjsku oblogu na kupolu i toranj". Dana 4. svibnja 1905. istekli su Teslini patenti za izmjenične motore i druge metode prijenosa energije žicom, koji su prodani tvrtki Westinghouse Co., a isplate tantijema su prestale, što je značajno smanjilo sredstva koja je on sam mogao posvetiti Wardenclyffeu. [45] Stoga je između 1905. i 1906. većina aktivnosti tamo prestala. Pokušaji oživljavanja projekta bili su neuspješni i stanica nikada nije službeno postala operativna.[42]

The letters to Morgan show Tesla desperately trying out all possible strategies to save Wardenclyffe, as no one else was willing to take the financial risk. He would do anything to prove the efficiency of his system as the solution to „the greatest industrial problem which has confronted humanity since ages",[40] but it soon became clear that „a project abandoned by Mr. Morgan is as dead as a door nail".[41] As a result, already by the end of 1902, Tesla had failed „to put the final fireproof protective outer facing on the cupola and tower." On May 4, 1905, Tesla's patents for AC motors and other methods of power transmission by wire, which were sold to the Westinghouse Co., expired and royalty payments ceased, significantly reducing the funds he was himself able to devote to Wardenclyffe. [45] Thus, between 1905 and 1906, most activities there ceased. Attempts to revive the project were unsuccessful, and the station never became officially operational.[42]

[39] NT za JPM, 5. rujna 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

[40] NT za JPM, 1. travnja 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 489A.

[41] NT za King (JPM-ov tajnik), 16. veljače 1906.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 523.

[42] Tesla nas uvjerava da je Wardenclyffe, barem eksperimentalno, definitivno radio, odašiljao i primao do određene mjere. Kada ga je njegov odvjetnik u preliminarnom iskazu pitao je li se energija „ikada pretvarala" u antenu tornja,

[40] NT to JPM, April 1, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 489A.

[41] NT to King (JPM's secretary), February 16, 1906; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 523.

[42] Tesla assures us that Wardenclyffe, at least experimentally, definitely did operate, transmitted and received to a certain extent. When asked by his lawyer in a preliminary deposition whether the power „was ever turned" into the tower's antenna, Tesla replied in 1916: „Oh yes. I used the antenna. I used it right along up to 1907. I made measurements and experiments, and I transmitted for the purpose of tests, energy and all that, but it never went further than that [...]." [46] For support

Sve do 1907., kada prepiska s Morganom zapravo završava, Tesla je neprestano slao tjeskobna, bijesna i očajna pisma u kojima je krivio i vrijeđao Morgana za njegovu ulogu u neuspjehu Wardenclyffea.[43] Neprestano ga je molio da pomogne dovršiti „veliko djelo" koje će unaprijediti čovječanstvo stoljećima i koje će im oboma podariti „besmrtnu krunu" i nevjerojatno bogatstvo[44]. Iako se kasnije ispričao što je ta pisma napisao „u trenutcima malodušnosti kada je bol postala preteška za podnijeti",[45] financijer, koji se „nadvijao nad svim ljudima s Wall Streeta poput Samsona nad Filistejcima" [51], odlučio je i nikada više nije financirao Teslu.

Značajno je da Tesla nikada nije javno iznio te ispade; u tisku je uvijek s poštovanjem spominjao Morganovo ime, zajed-

Up until 1907, when the correspondence with Morgan actually ends, Tesla kept sending anguished, furious and despairing letters, in which he blamed and insulted Morgan for his part in the failure of Wardenclyffe.[43] He kept begging him to help finish the „great work" which would advance humanity for centuries and which would bestow on them both an „immortal crown" and fabulous wealth.[44] Although he later apologised for writing these letters „in moments of despondency when the pain became too hard to bear",[45] the financier, who „towered over all the Wall Street people like Samson over the Philistines" [51], had made up his mind and never financed Tesla again.

Notably, Tesla never made these outbursts public; in the press he always mentioned Morgan's name with respect, along with his „generous contribution". In his autobiography of 1919, for example, he goes so far as to say the following:

„I would add further, in view of various rumors which have reached me, that Mr. J.

Tesla je 1916. odgovorio: „O da. Koristio sam antenu. Koristio sam je sve do 1907. Vršio sam mjerenja i eksperimente, odašiljao sam u svrhu ispitivanja, energije i svega toga, ali nikada nije išlo dalje od toga [...]." [46] Za potporu Teslinim tvrdnjama, pogledajte na primjer opsežna istraživanja i rekonstrukcije njegovih uređaja braće Corum (http://nedyn.com/Tesla.html), također E. van den Bergh [47] i A. Marinčić [48]; za hipoteze da Wardenclyffe nije radio onako kako je Tesla zamišljao pogledajte [49] i [50].

[43] Pogledajte, na primjer NT za JPM, 17. listopada 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 500A.

[44] Pogledajte NT za JPM, 24. travnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig MNT, CXXVII, K127: 492A; i 17. listopada 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig MNT, CXXVII, K127: 500A.

[45] NT za JPM, 15. prosinca 1905.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 518B.

of Tesla's claims, see for example, the extensive research and reconstructions of his devices by the Corum brothers (http://nedyn.com/Tesla.html), also E. van den Bergh [47] and A. Marinčić [48]; for hypotheses that Wardenclyffe did not work as Tesla imagined see [49] and [50].

[43] See, for example, NT to JPM, October 17, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 500A.

[44] See NT to JPM, April 24, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 492A; and October 17, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 500A.

[45] NT to JPM, December 15, 1905; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 518B.

no s njegovim „velikodušnim doprinosom". U svojoj autobiografiji iz 1919., na primjer, ide toliko daleko da kaže sljedeće:

„Dodao bih još, s obzirom na razne glasine koje su do mene doprle, da se gospodin J. Pierpont Morgan nije zanimao za mene poslovno, već u istom velikodušnom duhu kojim je pomogao mnogim drugim pionirima. Svoje velikodušno obećanje ispunio je doslovno i bilo bi krajnje nerazumno očekivati od njega išta više. Imao je najveće poštovanje prema mojim postignućima i dao mi je sve dokaze svoga potpunoga povjerenja u moju sposobnost da u konačnici postignem ono što sam naumio. Nisam voljan dati nekim uskogrudnim i ljubomornim pojedincima zadovoljstvo što su osujetili moje napore. Ti ljudi su za mene ništa više od mikroba gadne bolesti. Moj projekt je usporen zakonima prirode. Svijet nije bio spreman za to. Bio je previše ispred vremena. Ali isti zakoni će na kraju prevladati i učiniti ga trijumfalnim uspjehom." [52]

Tesline višestruke javne izjave, koje su često služile skrivenim motivima i ciljevima, dok je reklamirao svoje izume potencijalnim investitorima i nastojao pridobiti njihovu naklonost javnim izražavanjem podrške, moraju se, naravno, uzeti s rezervom, posebno nakon pažljiva pregleda te prepiske. S druge strane, korespondencija se također mora čitati u kontekstu njegovih pokušaja da nagovori Morgana na dodatnu podršku i stoga da upotrijebi svaku moguću strategiju kako bi „paukovom niti duše uhvatio najveće čudovište s Wall Streeta!"[46]

Pierpont Morgan did not interest himself with me in a business way but in the same large spirit in which he has assisted many other pioneers. He carried out his generous promise to the letter and it would have been most unreasonable to expect from him anything more. He had the highest regard for my attainments and gave me every evidence of his complete faith in my ability to ultimately achieve what I had set out to do. I am unwilling to accord to some smallminded and jealous individuals the satisfaction of having thwarted my efforts. These men are to me nothing more than microbes of a nasty disease. My project was retarded by laws of nature. The world was not prepared for it. It was too far ahead of time. But the same laws will prevail in the end and make it a triumphal success." [52]

Tesla's multifaceted public statements, which often served ulterior motives and objectives, as he advertised his inventions to potential investors and sought to win their favour through public expressions of support, must, of course, be taken with reserve, especially after a careful examination of the present correspondence. On the other hand, the correspondence must also be read in the context of his attempts to persuade Morgan to give additional support and, therefore, to use every possible strategy in order „to land the biggest Wall Street monster with the soul's spider thread!"[46]

[46] NT za JPM, 19. prosinca 1904.; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

[46] NT to JPM, December 19, 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

Carlson pokušava razbiti „mit" o zavjeri u vezi s Morganovom odlukom da zaustavi Teslino financiranje citirajući transkript intervjua prije saslušanja iz 1916. s odvjetnikom Druryjem W. Cooperom u pripremi za Teslina različita svjedočenja. U njemu Tesla, govoreći o svojim pokušajima promicanja bežične tehnologije, spominje „velikoga čovjeka" koji je prestao financirati njegov projekt jer se bojao da je bežična industrija ušla u fazu špekulacija, uglavnom zbog šarlatana koji su pljačkali ljude obećanjima tehnoloških čuda. (pogledajte [53]) Carlson stoga zaključuje: „Morgan je povukao svoju podršku Tesli, dakle, ne zato što je nužno sumnjao u Teslu, već zato što su ga uznemirile spekulacije u bežičnoj industriji. Zapravo, ono što se Tesli dogodilo u kritičnom trenutku njegova bežičnoga rada bilo je to da je bio kažnjen upitnim ponašanjem drugih poduzetnika u industriji." [54] Čak i ako je to bio jedan od razloga zašto je Morgan povukao svoju podršku, Seifer inzistira na tomu da je Teslin pothvat predstavljao prijetnju mnogim tadašnjim industrijama u nastajanju, posebno onima čiji je razvoj pokrenuo Teslin vlastiti polifazni sustav izmjenične struje [55].

TESLINO SOCIOFILOZOFSKO RAZMIŠLJANJE KAO UZROK GUBITKA MORGANOVE PODRŠKE

Priču da je Tesla izgubio Morganovu podršku kada je Morgan saznao za Teslinu namjeru da svima na svijetu šalje energiju „besplatno", odnosno da namjerava svima dati besplatan pristup neregulira-

Carlson attempts to dispel the „myth" of a conspiracy regarding Morgan's decision to stop Tesla's funding by quoting the transcript of a pre-hearing interview from 1916 with attorney Drury W. Cooper in preparation for Tesla's various testimonies. In it, Tesla, speaking of his attempts to promote wireless technology, mentions a „great man" who stopped funding his project because he feared that the wireless industry had entered a phase of speculation, mainly due to charlatans who were robbing people with promises of technological miracles. (see [53]) Carlson therefore concludes: „Morgan withdrew his support of Tesla, then, not because he necessarily doubted Tesla but because he was disturbed by speculation in the wireless industry. In effect, what happened to Tesla at the critical moment in his wireless work was that he was penalized by the questionable behaviour of other entrepreneurs in the industry."[54] Even if this was one of the reasons why Morgan withdrew his support, Seifer insists that Tesla's venture posed a threat to many of the then-emerging industries, especially those whose development was initiated by Tesla's own polyphase alternating current system [55].

TESLA'S SOCIO-PHILOSOPHICAL PERSPECTIVE AS A CONTRIBUTING FACTOR IN THE LOSS OF MORGAN'S SUPPORT

The story that Tesla lost Morgan's support when Morgan learned of Tesla's intentions to send energy to everyone in the world „for free", or that he intended to give every-

nim i navodno decentraliziranim izvorima potencijalno neiscrpne energije, koju bi bilo nemoguće izmjeriti i, posljedično, naplatiti, prenio je, prema Seiferu, izumitelj, fizičar i parapsiholog Andrija Puharich, koji ju je navodno čuo od Teslinoga prvoga biografa, Johna O'Neilla [56].[47] Međutim, taj mit koji se i danas neumorno širi, potpuno je neutemeljen.[48] Tesla je želio uvesti globalni sustav u kojem bi oblik održive i jeftine energije bio dostupan na svakoj točki planeta, a njegova proizvodnja i distribucija „ne bi podrazumijevale potrošnju i rasipanje bilo kakvoga materijala" [58], ali nije bilo zamišljeno da bude *besplatno*. Prepiska s Morganom jasno otkriva da se Tesla, osim što je pokušavao riješiti sve materijalne probleme čovječanstva, nesumnjivo nadao velikoj financijskoj dobiti od stanice Wardenclyffe. Ipak, istina je da je bio i svjestan potencijalno remetilačke prirode svoga bežičnoga sustava. Na primjer, 1. travnja 1904. napisao je Morganu:

„Mogu isporučiti energiju u bilo kojoj željenoj količini na bilo koju udaljenost bez žice, na praktičan i najekonomičniji način. To će imati neprocjenjive posljedice na cijenu potrepština i roba. Cijene nafte i ugljena posebno će biti uvelike pogođene, samo moralnim učinkom prvih javnih demonstracija."[49]

one free access to unregulated and supposedly decentralised sources of potentially inexhaustible energy, that would be impossible to measure and, consequently, to charge for, was relayed, according to Seifer, by inventor, physicist and parapsychologist Andrija Puharich, who allegedly heard it from Tesla's first biographer, John O'Neill [56].[47] However, this myth, still tirelessly spread today, is entirely unsubstantiated.[48] Tesla wanted to introduce a global system whereby a form of sustainable and cheap energy would be available at every point on the planet, and its production and distribution would „not imply consumption and waste of any material whatever" [58], but it was not meant to be *free of charge*. The correspondence with Morgan clearly reveals that Tesla, in addition to attempting to solve all of the material problems of mankind, was undoubtedly hoping for great financial gains from the Wardenclyffe station. It is nevertheless true that he was also aware of the potentially disruptive nature of his wireless system. For example, on April 1, 1904 he wrote to Morgan:

„I can deliver power in any desired amounts to any distance without wire, in a practical and most economical manner. This will be of incalculable consequence on the cost of necessities and commodities. The prices of oil and coal in particular will be greatly affected, merely by the moral effect of the first public demonstrations."[49]

[47] Za više informacija o Puharichevu istraživanju vezanom uz Teslu, pogledajte [57].

[48] Pogledajte NT za JPM, 5. rujna 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

[49] NT za JPM, 1. travnja 1904.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 489A.

[47] For more on Puharich's Tesla-related research, see [57].

[48] See NT to JPM, September 5, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 461A.

[49] NT to JPM, April 1, 1904; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 489A.

U svom članku iz 1905. „Prijenos električne energije bez žica kao sredstvo za unaprjeđenje mira", Tesla spominje da bi uvođenje njegova sustava moglo prevladati ekonomiju oskudice i stvoriti „uvjete kakvi nikada prije nisu postojali u trgovini [...] Ponuda bi uvijek bila neadekvatna za potražnju." [63] Slične tvrdnje o utjecaju takve „slobodno dostupne električne energije" (besplatne električne energije) koja bi okončala monopol korporacija nad distribucijom energije i oslobodila čovječanstvo, nalaze se u članku „*Earth Electricity to Kill Monopoly*" iz 1896. Semantičko tumačenje pojma „besplatna električna energija" ovdje je ključno. U tom članku novinar sažima, na temelju razgovora s Teslom, da će uz pomoć Tesline bežične tehnologije i korištenjem Zemljinih struja „električna energija biti besplatna kao zrak" [60].[50] Tesla je uvijek govorio o potencijalno „neograničenoj", čistoj i jeftinoj energiji, koja se bežično prenosi s minimalnim gubitcima, energiji koja bi (idealno) bila slobodno dostupna svima – ne besplatno, ali, na ovaj ili onaj način, izuzetno jeftina. U mnogočemu, to je slična razlika koju je pionir slobodnoga softwera Richard Stallman koristio za besplatni softver u smislu arhitektonskoga slobodnoga pristupa i uvida u izvorni kod: „Zamislite besplatno kao slobodu govora, a ne besplatno kao pivo."

Druga ključna preprjeka provedbi Wardenclyffea bila je činjenica što Teslini planovi poništavali teško izborenu pobjedu

In his 1905 article „The Transmission of Electricity Without Wires as a Means of Furthering Peace", Tesla mentions that the introduction of his system could overcome scarcity economics and bring about „conditions, such as never existed before in commerce [...]. Supply would be ever inadequate to demand." [63] Similar claims about the impact of such „freely accessible electricity" (free electricity) which would end the monopoly of corporations over energy distribution and liberate mankind, are found in the article „Earth Electricity to Kill Monopoly" from 1896. The semantic interpretation of the term „free electricity" is crucial here. In this article, the journalist summarises, based on a conversation with Tesla, that with the help of Tesla's wireless technology and by tapping into Earth's currents, „electricity will be as free as the air" [60].[50] Tesla always talked about potentially „unlimited", clean and cheap energy, transmitted wirelessly with minimal losses, energy that would (ideally) be freely available to all – not free of charge but, in one way or another, extremely cheap. In many ways, this is a similar distinction that free-software pioneer Richard Stallman used for freesoftware in terms of architectural free access and insight into the original source code: „Think of free as in freedom, not free as in beer."

Another key obstacle to the implementation of Wardenclyffe was the fact that Tesla's plans were undoing the hard-won victory of his AC transmission by wire over Edison's DC system, while at the same time his new wireless technology threatened

K127: 489A.

[50] Pogledajte također [61].

[50] See also [61].

njegova prijenosa izmjenične struje žicom nad Edisonovim istosmjernim sustavom, dok je istodobno njegova nova bežična tehnologija prijetila mnogim tada rastućim industrijama koje su se oslanjale na ubrzanu proizvodnju bakrenih žica [62]. Iako su Teslini planovi za prijenos industrijski značajnih količina energije mogli utjecati na Morgana da napusti projekt, jasno je da je njegova podrška izgubljena prije nego što je shvatio da je Wardenclyffe također bio zamišljen kao prototip za tu vrstu prijenosa. Unatoč tome što je ranije (recimo, 9. siječnja 1902.)[51] nagovijestio svoj konačni plan bežičnoga prijenosa energije „u bilo kojoj količini, na bilo koju željenu udaljenost i s visokom ekonomičnošću", Tesla je to izričito otkrio Morganu 3. srpnja 1903. Napisao je: „otpustili biste me iz ureda... da sam vam to prije rekao", dodajući: „Sada vidite, gospodine Morgan, za što radim. To znači veliku industrijsku revoluciju."[52] Ta revolucija ne bi bila samo industrijska već i ekološka, jer joj je krajnji cilj bio eliminirati potrebu za fosilnim gorivima. U djelu „Prijenos električne energije bez žica kao sredstvo za unaprjeđenje mira", Tesla piše:

„Ekonomski prijenos energije bez žica od najveće je važnosti za čovjeka. Njime će postići potpunu vlast nad zrakom, morem i pustinjom. Omogućit će mu da se riješi potrebe za rudarenjem, crpljenjem, transportom i izgaramany of the then-growing industries that relied on the accelerating production of copper wires [62]. Although Tesla's plans to transmit industrially significant amounts of energy could have influenced Morgan to abandon the project, it is clear that his support was lost before he realised that Wardenclyffe was also meant as a prototype for this kind of transmission. Despite hinting at his ultimate plan to wirelessly transmit power „in any amount, to any desired distance and with high economy" earlier (say, on January 9, 1902),[51] Tesla explicitly revealed this to Morgan on July 3, 1903. He wrote: „you would have fired me out of your office ... if I would have told you such as this before", while adding: „You see now, Mr. Morgan, what I am working for. It means a great industrial revolution."[52] This revolution would not have been only industrial but also ecological, as its ultimate aim was to eliminate the need for fossil fuels. In „The Transmission of Electricity Without Wires as a Means of Furthering Peace", Tesla writes:

„The economic transmission of power without wires is of all-surpassing importance to man. By its means he will gain complete mastery of the air, the sea and the desert. It will enable him to dispense with the necessity of mining, pumping, transporting and burning fuel, and so do away with innumerable causes of sinful waste." [63]

[51] NT za JPM, 9. siječnja 1902.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 456A–458A.

[52] NT za JPM, 3. srpnja 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A.

[51] NT to JPM, January 9, 1902; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 456A–458A.

[52] NT to JPM, July 3, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 473A.

njem goriva, te tako ukloni bezbrojne uzroke grješna rasipanja." [63]

Samo četrnaest godina nakon uvođenja polifaznoga prijenosnoga sustava putem žice, koji je pokrenuo drugu industrijsku revoluciju, Tesla ga je želio nadmašiti novom, po njegovu mišljenju još radikalnijom, bežičnom revolucijom. U poslovnom smislu, to je možda bilo nerazumno, s obzirom na brzo širenje dalekovoda. Međutim, ako pretpostavimo s Teslom da je njegov projekt bio temelj revolucionarne bežične tehnologije od povijesne važnosti, Teslini potezi i planovi za promicanje globalnoga bežičnoga prijenosa čine se uvjerljivima.[53]

Iz današnje perspektive, pretpostavljeni učinci Teslina megalomanskoga plana mogu se činiti uglavnom posljedicom njegova tehnološkoga determinizma. S obzirom na veliku ranjivost takvih sustava centraliziranoga skladištenja i distribucije energije na totalitarne i hegemo-

[53] Jovanović, koji je desetljećima proučavao Teslinu arhivu u Beogradu, navodi da „temeljne povijesne i znanstvene rekonstrukcije Teslina rada još uvijek nisu napravljene i vrjednovane u skladu s današnjim znanjem. I premda je Teslin dnevnik iz Colorado Springsa objavljen 1976., tisuće bilješki s Long Islanda još uvijek čekaju na pravilnu analizu." [64] Razlozi zašto još uvijek nemamo „detaljnu i znanstvenu procjenu Teslinog rada" [65] leže u velikoj složenosti Teslina bežičnoga sustava, nedostatku točnih eksperimentalnih podataka o njegovu preciznom načinu rada i nedostatku „temeljne rekonstrukcije očuvanih dokumenata iz njegove ostavštine". Slaba dostupnost modernih istraživanja navodno provedenih na terenu, kako tvrdi Jovanović, također „otežava procjenu Teslinih rezultata" [66]. Za više o tome pogledajte [67] i [68].

Just fourteen years after the introduction of polyphase transmission system by wire, which triggered the second industrial revolution, Tesla wanted to surpass it with a new, in his view, even more radical, wireless revolution. In business terms, this may have been unsound, given the rapid proliferation of power lines. If we, however, assume with Tesla that his project was the foundation of a ground-breaking wireless technology of historic importance, Tesla's moves and plans to push global wireless transmission appear plausible.[53]

From today's perspective, the assumed effects of Tesla's megalomaniacal plan may appear to be largely a consequence of his technological determinism. Given the great vulnerability of such systems of centralised energy storage and distribution to totalitarian and hegemonic abuses, which Tesla was not aware of at the turn of the century, we cannot but view his mega-idea with some ethical and political reservations. There is no reason to doubt, however, that he keen-

[53] Jovanović, who has studied Tesla's Belgrade archives for decades, states that „fundamental historical and scientific reconstructions of Tesla's work have still not been made and evaluated in line with today's knowledge. And even though Tesla's Colorado Springs diary was published in 1976, thousands of notes from Long Island are still waiting to be properly analyzed." [64] The reasons that we still do not have „a detailed and scientific evaluation of Tesla's work" [65] lie in the great complexity of Tesla's wireless system, the lack of accurate experimental data concerning its precise mode of operation and the lack of „a fundamental reconstruction of the surviving documents from his legacy". The poor accessibility of modern research supposedly conducted in the field, as Jovanović argues, also „makes it difficult to assess Tesla's results" [66]. For more on this, see [67] and [68].

nističke zlouporabe, kojih Tesla nije bio svjestan na prijelazu stoljeća, ne možemo na njegovu mega-ideju gledati bez određenih etičkih i političkih rezervi. Međutim, nema razloga sumnjati da je on žarko želio ujediniti čovječanstvo i osigurati jednak pristup obnovljivoj i čistoj energiji za sve, na temelju svoje optimistične, teleutopijske, postnacionalne vizije napretka [69]. Prema Tesli, međunarodna jednakost trebala bi se temeljiti na univerzalno zajamčenom pristupu obnovljivim izvorima energije, samo na temelju toga bi se moglo razviti istinski globalno demokratsko društvo i ujedinjeno čovječanstvo. Sanjao je o transnacionalnoj, besklasnoj konfederaciji čovječanstva u kojoj bi se nametnute ekonomije oskudice konačno ukinule i svima bi bio zajamčen pristup održivoj energiji, zdravoj hrani, čistoj pitkoj vodi i obrazovanju. Vjerovao je da samo bežični distribucijski sustav, sa svojim globalnim dosegom i dugoročnim utjecajem, može radikalno transformirati ekonomske i osobne odnose između ljudi i naroda, pridonoseći tako uspostavljanju univerzalnoga mira [70]; (cf. [71]). Ali, ostaje pitanje zahtijeva li ostvarenje Tesline teleutopije, koja bi nadišla eksploatatorske proizvodne odnose i uspostavila osnovu za stvarnu električnu i financijsku neovisnost, prethodnu, radikalnu transformaciju svjetske energetske infrastrukture, globalno tržište i političke odnose te, na kraju, ali ne i najmanje važno, naizgled temeljne koordinate kapitalizma. Ili bi njegovo globalno postavljanje uspostavilo tehnološku osnovu za pojavu radikalno drugačijih i egalitarnih ekonomsko-po-

ly wanted to unite humanity and ensure equal access to renewable and clean energy for all, based on his optimistic, teleutopian, post-national vision of progress [69]. According to Tesla, international equality should be based on universally guaranteed access to renewable energy sources, only on the basis of which a true global democratic society and united humanity could develop. He dreamt of a transnational, classless confederation of humanity in which imposed scarcity economies would finally be abolished and everyone would be guaranteed access to sustainable energy, healthy food, clean drinking water and education. He believed that only a wireless distribution system, with its global reach and long-term impact, could radically transform the economic and personal relations between people and nations, thus contributing to the establishment of universal peace [70]; (cf. [71]). But the question remains whether the realisation of Tesla's teleutopia, which would go beyond exploitative production relations and establish the basis for real electrical and financial independence, does not require a prior, radical transformation of the world's energy infrastructure, global market and political relations, and, last but not least, capitalism's seemingly fundamental coordinates. Or would its global deployment establish the technological basis for the emergence of radically different and egalitarian economic-political structures that could ensure the global energy independence of humanity? It seems naive to expect that any scientific and technological innovation, including disruptive technologies (such as the wireless distribution of en-

litičkih struktura koje bi mogle osigurati globalnu energetsku neovisnost čovječanstva? Čini se naivnim očekivati da bi bilo koja znanstvena i tehnološka inovacija, uključujući disruptivne tehnologije poput bežične distribucije energije, mogla transformirati kapitalizam bez politički radikalne transformacije, ili čak napuštanja, samog kapitalizma. Povlačeći analogiju sa suvremenim razvojem u kontroli iskorištavanja i skladištenja energetskih resursa, lako možemo zamisliti elektrokorporacije koje naplaćuju bežično prenesenu energiju na sličan način kao što to trenutno čine telekomunikacijski pružatelji usluga putem mjesečnih pretplata.

Teslina bitka za Wardenclyffe, bitka za „univerzalno prosvjetiteljstvo i spajanje rasa" [72], u konačnici je postala osuđeni pokušaj transformacije najvećega živućega kapitalista toga doba u stvarnoga, a ne deklariranoga, filantropa, prijatelja, mecenu i poslovnoga partnera. Tesla je otkrio da je znatno teže promijeniti vektor i način razmišljanja bankara – a kamoli strukturu kapitalizma – nego „prosvijetliti" cijeli svijet. Očuvana korespondencija između Tesle i dvojice Morganovih može poslužiti kao dokaz te strukture i njezine uloge u inhibiranju potencijalno socio-transformativnih tehnologija, otkrivajući prije svega „kontradiktorne tendencije" i „unutarnja ograničenja ugrađena u sam političko-ekonomski sustav kapitalističkoga društva dvadesetoga stoljeća, koja su [...] ometala, ili čak sprječavala, provedbu revolucionarno drugačijih tehnoloških rješenja, poput onih koje je Tesla zamislio." [73]

ergy undoubtedly would have been), could transform capitalism without a politically radical transformation, or indeed abandonment, of capitalism itself. Drawing an analogy with modern developments in the control of exploitation and storage of energy resources, we can easily imagine electro-corporations charging for wirelessly transmitted energy in a manner similar to that telecommunications providers currently do through monthly subscriptions.

Tesla's battle for Wardenclyffe, the battle for „universal enlightenment and the merging of races" [72], ultimately became a doomed attempt to transform the greatest living capitalist at the time into an actual, rather than declared, philanthropist, friend, patron and business partner. Tesla discovered that it is considerably more difficult to change the vector and the frame of mind of a banker – let alone the structure of capitalism – than to „enlighten" the entire globe. The surviving correspondence between Tesla and the two Morgans can serve as evidence of this structure and its role in inhibiting potentially socio-transformative technologies, revealing above all the „contradictory tendencies" and „internal constraints built into the very political-economic system of twentieth-century capitalist society, which [...] hindered, or even prevented, the implementation of revolutionary different technological solutions, such as Tesla envisaged." [73]

The correspondence analysed in the present article therefore says at least as much about the history and reasons for the failure of Tesla's most ambitious venture as it does about the evolution and establishment of a

Korespondencija analizirana u ovom članku stoga govori barem jednako o povijesti i razlozima neuspjeha Teslina najambicioznijega pothvata kao i o evoluciji i uspostavljanju novoga oblika kapitalizma u to doba, što je uvelike omogućeno Teslinom prvom (i dijelom drugom) fazom izuma, koje je uspješno financirao i promovirao J. P. Morgan & Co. i njegovi povezani dionici putem niza industrijskih korporacija, partnerstava i saveza. Teslini planovi koji nisu odgovarali njihovoj paradigmi i smjeru jednostavno su odbačeni. Varoufakis spominje da je spajanje i interakcija novih tehnologija i kapitala koji je financirao implementaciju modernih električnih mreža stvorilo potpuno novu „tehnostrukturu", kako je ekonomist James K. Galbraith nazvao birokratsku strukturu modernih korporacija, uključujući nove financijsko-kreditne mehanizme potrebne za njihov razvoj, koje su zapravo razvili i primijenili J. P. Morgan i njegovi partneri [74].

Politička i ekonomska situacija u to doba, kao i ambicije vladinih aktera povezane s Prvim svjetskim ratom, također su bili važni čimbenici u neuspjehu dovršetka i implementacije Teslina bežičnoga sustava. Dana 6. travnja 1917., tri mjeseca prije rušenja tornja Wardenclyffe, SAD su objavile rat Njemačkoj, iako su napetosti između dviju zemalja rasle od 1914. i izbijanja rata u Europi. Ulazak SAD-a u Prvi svjetski rat, a zatim i Wilsonov Zakon o ratnim ovlastima, koji je pozivao na „obustavu svih patentnih sporova" tijekom ratnog vremena [75], spriječili su rješavanje velikoga patentnog spo-

new form of capitalism at the time, largely made possible by Tesla's first (and partly second) phase of inventions, which were successfully financed and promoted by J. P. Morgan & Co. and its affiliated stakeholders through a number of industrial corporations, partnerships and alliances. Tesla's plans that did not fit their paradigm and direction were simply rejected. Varoufakis mentions that the confluence and interaction of new technologies and the capital that financed the deployment of modern electricity grids created an entirely new „technostructure", as the economist James K. Galbraith called the bureaucratic structure of modern corporations, including new financial credit mechanisms needed for their development, which were in fact developed and deployed by J. P. Morgan and his partners [74].

The political and economic situation at the time, as well as the ambitions of government actors linked to the First World War, were also important factors in the failure to complete and implement Tesla's wireless system. On April 6, 1917, three months before the demolition of Wardenclyffe tower, the US declared war on Germany, even though tensions between the two countries had been rising since 1914 and the outbreak of war in Europe. The entry of the US into the First World War and then Wilson's War Powers Act, which called „for the suspension of all patent litigation" during wartime [75], prevented the resolution of a major patent litigation in 1915 between the US subsidiary of the German company Telefunken and Marconi's (Marconi Wireless Telegraph Company v. Atlantic Communi-

ra 1915. između američke podružnice njemačke tvrtke Telefunken i Marconija (Marconi Wireless Telegraph Company protiv Atlantic Communications Company i dr.) u vezi s prioritetom u izumu radija na velike udaljenosti, koji je trebao biti riješen u Teslinu (Lodge i Stone) korist (protiv Marconija i dr.). Tesla o tome detaljno izvještava J. P. Morgana Jr.[54] Tako je američka vlada „doslovno spriječila sudove da potvrde odluku" [76]. Seifer također spominje da

„Franklin Roosevelt, [tadašnji] pomoćnik tajnika mornarice, napisao je poznato Farragutovo pismo. Taj je dokument omogućio velikim tvrtkama poput AT&T-a, Westinghousea i American Marconija pravo udruživanja u proizvodnji međusobne opreme bez brige o naknadi zakonitih izumitelja. Nadalje, uvjeravao je izvođače radova da će Vlada preuzeti odgovornost u tužbama za kršenje prava." [77]

Američka vlada uložila je više od 40 milijuna dolara u razvoj bežične tehnologije do 1921. i isplatila izumiteljima tek nakon rata, ali Tesla je ispao kao korisnik jer si više nije mogao priuštiti obnovu svojih patenata[55]. Svih dvanaest njegovih ključnih radio patenata isteklo je 1902. i postali su „zajedničko vlasništvo", iako je Tesla obnovio ključni patent koji

cations Company et al.) concerning the priority in the invention of long distance radio, which should have been resolved in Tesla's (Lodge's and Stone's) favour (against Marconi et al.). Tesla reports this at length to J. P. Morgan Jr.[54] Thus, the US government „literally prevented the courts from sustaining a decision" [76]. Seifer also mentions that

„Franklin Roosevelt, [then] assistant secretary of the navy, penned the famous Farragut letter. This document allowed such major companies as AT&T, Westinghouse, and American Marconi the right to pool together to produce each other's equipment without concern for compensating rightful inventors. Furthermore, it assured contractors that the Government would assume liability in infringement suits." [77]

The US government invested more than $40 million in wireless technology development by 1921 and paid the inventors only after the war, but Tesla lost out as a beneficiary because he could no longer afford to renew his patents.[55] All twelve of his key radio patents expired in 1902 and became „common property", although Tesla did renew the key patent covering the Wardenclyffe station in 1914 and should have been entitled to it. As Seifer put it:

[54] Pogledajte NT za JPM Jr., 7. siječnja – 19. veljače 1915.; Pierpont Morgan Library Archives, The Morgan Library & Museum, New York; Nikola Tesla correspondence with J. P. Morgan Jr., ARC 1216, folder 80:262a-b, p. 62–72.

[55] Za više informacija o tome i konačnoj presudi o prioritetu izuma radija na velike udaljenosti, pogledajte bilješke uz pismo NT upućeno JPM Jr., 19. veljače 1915. u [97], kao i [31], [78] i [79].

[54] See NT to JPM Jr., January 7–February 19, 1915; Pierpont Morgan Library Archives, The Morgan Library & Museum, New York; Nikola Tesla correspondence with J. P. Morgan Jr., ARC 1216, folder 80:262a-b, p. 62–72.

[55] For more on this and the final verdict on the priority of the invention of long-distance radio, see notes to letter NT to JPM Jr., February 19, 1915 in [97], as well as [31], [78] and [79].

pokriva stanicu Wardenclyffe 1914. i trebao je imati pravo na njega. Kako je Seifer rekao:

„[S]mrću [Teslina] Svjetskoga telegrafskoga centra rođena je Radio Broadcasting Corporation [17. listopada 1919.], jedinstveni konglomerat privatnih tvrtki pod pokroviteljstvom američke vlade. Sastanci su se održavali iza zatvorenih vrata u Washingtonu između predsjednika Wilsona, koji je želio da Amerika stekne „radio nadmoć", ministra mornarice Danielsa, njegova pomoćnika Franklina Roosevelta i predstavnika kompanija [General Electric], American Marconi, AT&T i Westinghouse Corporation, u upravnom odboru s J. P. Morgan & Company i Marconijevim patentima kao okosnicom organizacije, osnovana je RCA [Radio Corporation of America]. Kombinirala bi resurse tih mega-korporacija, koje su sve imale ugovore o unakrsnom licenciranju i bile suvlasnice tvrtke. [...] American Marconi, sada RCA, naravno, bio je veliki korisnik." [80]

ZAKLJUČAK

Razlozi neuspjeha Wardenclyffea i, posljedično, tragedije Nikole Tesle složeniji su nego što se na prvi pogled čine. Tesla se kockao s „najvećim čudovištem s Wall Streeta"[56] i izgubio zbog proizvoljne prirode njihova sporazuma, financijske nestabilnosti (u kojoj je J. P. Morgan odigrao ključnu ulogu) i tektonskih političkih previranja toga vremena, Tesline ambicio-

[56] NT za JPM, 19. prosinca 1904.; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

„[W]ith the death of [Tesla's] World Telegraphy Center came the birth of the Radio Broadcasting Corporation [on October 17, 1919], a unique conglomerate of private concerns under the auspices of the U.S. government. Meetings were held behind closed doors in Washington between President Wilson, who wanted America to gain „radio supremacy," Navy Secretary Daniels, his assistant Franklin Roosevelt, and representatives from [General Electric], American Marconi, AT&T, and the Westinghouse Corporation. With J. P. Morgan & Company on the board of directors and the Marconi patents as the backbone of the organization, RCA [Radio Corporation of America] was formed. It would combine resources from these mega-corporations, all of which had cross-licensing agreements with each other and co-owned the company. [...] American Marconi, now RCA, of course, was the big beneficiary." [80]

CONCLUSIONS

The reasons behind the failure of Wardenclyffe and, consequently, the tragedy of Nikola Tesla are more complex than they might have appeared at first sight. Tesla gambled with „the biggest Wall Street monster"[56] and lost due to the arbitrary nature of their agreement, the financial instability (in which J. P. Morgan played a crucial role) and tectonic political upheavals of the time, Tesla's ambitious modification of the original plan, his misjudgement of Morgan's charac-

[56] NT to JPM, December 19, 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

zne modifikacije izvornoga plana, njegove pogrješne procjene Morganova karaktera i posljedične dobrovoljne predaje većinskoga udjela u svojim temeljnim bežičnim patentima, te prije svega Morganove skrivene agende za kontrolu nad novonastalom bežičnom industrijom.

Iako su Teslini napori bili usmjereni „više" prema „dobrobiti svijeta nego prema [njegovoj] vlastitoj", kako je napisao Morganu,[57] a njegov „etički stav", koji je pokušavao održati čak i „u surovom korporativnom svijetu New Yorka" [81], dobro je poznat i divljenja vrijedan, prepiska s Morganom omogućuje nam da steknemo dublji uvid u Tesline motive i donošenje odluka u ključnom trenutku njegova života, kao i da razbijemo neke uobičajene mitove.

Iako se to može protumačiti kao neuspješna strategija, Tesla je neprestano pokušavao uvjeriti Morgana u izvanrednu profitabilnost Wardenclyffea te se više puta predstavljao kao jedan od odabranih koji zaslužuje bezuvjetnu podršku zbog svojih izvanrednih postignuća.[58] Louis Adamič u svom Teslinom hvalospjevu, koji je na njegovu sprovodu 10. siječnja 1943. pročitao gradonačelnik New Yorka Fiorello La Guardia, a emitiran je na radiju WNYC, predstavlja Teslu kao „velikoga humanista" i „čistoga znanstvenoga

[57] NT za JPM, 13. listopada 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A.

[58] Pogledajte NT za JPM, 19. prosinca 1904.; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

ter and his consequent voluntary surrender of the majority interest in his fundamental wireless patents, and above all Morgan's hidden agenda to control the nascent wireless industry.

Although Tesla's efforts were directed „more" towards „the good of the world than for [his] own", as he wrote to Morgan,[57] and his „ethical stance", which he tried to maintain even „in the harsh corporate world of New York" [81], is well-known and admirable, the correspondence with Morgan allows us to gain a deeper insight into Tesla's motives and decision making at a crucial time of his life, as well as to dispel some common myths.

Although this can be interpreted as a failed strategy, Tesla continuously tried to convince Morgan of the extraordinary profitability of Wardenclyffe, and repeatedly presented himself as one of the chosen, who deserve unconditional support because of his outstanding achievements.[58] Louis Adamič in his eulogy for Tesla, read at his funeral on January 10, 1943 by the mayor of New York, Fiorello LaGuardia, and broadcast on WNYC radio, presents Tesla as „a great humanitarian" and „a pure scientific genius, a poet of science". His moving eulogy contributed greatly to the creation of the mythical, almost saintly image of Tesla as a man who did not care about material gains, as he is said to have

[57] NT to JPM, October 13, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 495A.

[58] See NT to JPM, December 19, 1904; Library of Congress, Washington D.C., Manuscript division; Nikola Tesla correspondence (1890–1934), MSS50302, J. P. Morgan: microfilm no. 0080.

genija, pjesnika znanosti". Njegov dirljiv hvalospjev uvelike je pridonio stvaranju mitske, gotovo svetačke slike Tesle kao čovjeka koji nije mario za materijalne dobitke, jer se kaže da se svjesno odrekao bogatstva koje je lako mogao steći „da je htio". Ali budući da „nije mario da bude plaćen za bilo što što je radio", neumorno i nesebično je radio samo da bi „služio čovječanstvu" [82]. Larson [83] nazvao je taj hvalospjev jednim od „središnjih dokumenata koji su uspostavili mit o Tesli u Sjedinjenim Državama", transformirajući ga u antikapitalistički simbol i „utopijskog altruista" kojega „nije pokretao motiv profita". [84] Larson ne obraća pažnju na činjenicu da su premise toga posthumnoga mita izravno prisutne u Teslinoj filozofskoj i društvenoj misli već na prijelazu stoljeća [85], a ne samo proizvoljne reinterpretacije koje Tesli pripisuju Adamič, Kosanović ili O'Neill, a koje su u mnogim aspektima pretjerane i pogrješno protumačene. Larson tvrdi da su i Adamič i O'Neill Tesli pripisali „novi element iz Edisonova mita, ideju služenja čovječanstvu", koja je prevladavala u počastima Edisonu tijekom međuratnoga razdoblja. Edison je izumio, tako je priča išla, ne zbog bogatstva ili slave, već kako bi poboljšao materijalne uvjete svojih bližnjih. [86] Ali sve se više čini da je Tesla, u svom ranom rivalstvu s Edisonom, već usvojio taj prometejski mit do te mjere da ga je pokušao provesti u praksi, nadmašivši tako Edisona na svakoj razini (u prijenosu energije, rasvjeti i razvoju superoružja). Čini se da je Tesla, više od bilo koga drugoga, nakon godine 1900., doživio da opravda vlastiti mit.

consciously renounced the riches he could have easily acquired „if he had wanted to". But because he „did not care to be paid for anything he did", he worked tirelessly and selflessly only to „serve mankind" [82]. Larson [83] called this eulogy one of the „central documents that established the Tesla myth in the United States", transforming him into an anti-capitalist symbol and „utopian altruist" who was „not driven by the profit motive". [84] Larson pays no attention to the fact that the premises of this posthumous myth are directly present in Tesla's philosophical and social thought already at the turn of the century [85], and are not merely arbitrary reinterpretations attributed to Tesla by Adamič, Kosanović or O'Neill, which are in many respects exaggerated and misconstrued. Larson argues that both Adamič and O'Neill attributed to Tesla „a new element from Edison's myth, the idea of service to mankind", which had predominated in tributes to Edison during the interwar period. Edison invented, this narrative went, not for fortune or fame but to improve the material conditions of his fellow man. [86] But it increasingly seems that Tesla, in his early rivalry with Edison, had already internalised this Promethean myth to such a degree, that he tried to put it into practice, thus surpassing Edison on every level (in energy transmission, in lighting and in the development of superweapons). Tesla, more than anyone else, after 1900, seems to have lived to justify his own myth.

Adamič claims that Tesla was not seeking wealth for wealth's sake, but fails to mention that he continuously invested huge amounts

Adamič tvrdi da Tesla nije tražio bogatstvo radi samoga bogatstva, ali ne spominje da je kontinuirano ulagao ogromne količine novca u razvoj svojih izuma i istraživanja. Stoga nije posve istina da njime nisu „dominirali niski komercijalni interesi", kako je to rekao u pismu svom prijatelju Robertu Johnsonu 24. siječnja 1904. [87], te da se nije borio da se njegova postignuća priznaju. Teslina ogorčenost, superioran stav, pa čak i bijes, u kasnijem dijelu njegova života, proizašli su ponajprije iz njegove dugogodišnje frustracije što nije uspio usavršiti, implementirati ili ostvariti svoje temeljne izume kako je planirao, niti osigurati dovoljno sredstava za njihov razvoj.

Tijekom razdoblja od 1902. do smrti, na razne se načine borio kako bi povratio milijune i uložio ih u razvoj i uvođenje svojih izuma[59]. Ono što je Adamič u svom govoru previdio bila je, prije svega, činjenica da je Tesla od 1897. do 1917. živio u najskupljem i najprestižnijem hotelu u New Yorku te se kockao da će s uspjehom Wardenclyffea prije ili kasnije moći otplatiti sve svoje nepodmirene dugove. Novac mu je bio sredstvo za postizanje znanstvenih ciljeva. Bio mu je očajnički potreban i neumorno se borio za njega, kao i za priznanje svojih postignuća. Najviše ga je boljela nepravda što su drugi prisvajali njegove izume. Osobna čast i integritet imali su veliku ulogu u njegovu svjetonazoru.

[59] Pogledajte NT za JPM Jr., 30. studenoga 1934.; Arhiv knjižnice Pierpont Morgan, Knjižnica i muzej Morgan, New York; korespondencija Nikole Tesle s J. P. Morganom Jr., ARC 1216, mapa 80:262a-b, str. 106–109.

of money in the development of his inventions and research. It is therefore not entirely true that he was not „dominated by low commercial interests", as he put it in a letter to his friend Robert Johnson on January 24, 1904 [87], and that he did not struggle to have his achievements recognised. Tesla's bitterness, superior attitude, and even rage, in the later part of his life, stemmed primarily from his long-standing frustration at not having been able to perfect, implement or realise his fundamental inventions as he had planned, nor to secure sufficient funds for their development.

Throughout the period from 1902 until his death, he struggled in various ways to regain millions and to invest them in the development and introduction of his inventions.[59] What Adamič's speech overlooked was, above all, the fact that from 1897 to 1917 Tesla lived in the most expensive, prestigious hotel in New York, and gambled that with the success of Wardenclyffe he would sooner or later be able to pay off all his outstanding debts. Money was for him a means to achieve his scientific goals. He needed it badly and unwearyingly fought for it, as well as for the recognition of his achievements. What hurt him most was the injustice that others appropriated his inventions. Personal honour and integrity played a large part in his worldview.

[59] See NT to JPM Jr., November 30, 1934; Pierpont Morgan Library Archives, The Morgan Library & Museum, New York; Nikola Tesla correspondence with J. P. Morgan Jr., ARC 1216, folder 80:262a-b, p. 106–109.

Tesla nije bio ono što je O'Neill nazvao „samostalnim supermanom", [97] niti netko tko je nadilazio komercijalne interese, kako je to Adamič rekao. Nije bio nepogrješivi moralni div kakvim ga neki entuzijasti vole prikazivati, iako njegov stav, sposobnosti i nepokolebljiva ustrajnost mogu u mnogočemu poslužiti kao inspirativan pozitivan primjer. Svjesno previdjeti njegove mane i propuste te ga samo nekritički veličati izdalo bi načela za koja se borio i živio.

Tesla je bio čovjek izrazite dualnosti i upečatljivih proturječnosti. S jedne strane, njegova misao je povezana s tada prevladavajućim strujama pozitivizma i progresivizma, dok s druge strane njegova „znanstvena filantropija" [88], njegova kozmologija međusobne povezanosti svih živih bića i stvari, njegova filozofija nenasilja i njegova ekološka svijest u mnogočemu ih nadilaze. Njegove „ekološke i pluralističke težnje" često su bile „u suprotnosti s njegovom namjerom da osvoji prirodu" [89], dok je istovremeno tvrdio da „prirodu ne treba osvojiti, već je samo treba razumjeti" (citirano u [90]). Želio je izazvati takvu tehnološku „revoluciju" da će se „sve vrijednosti i svi ljudski odnosi radikalno transformirati",[60] ali da bi to učinio, sklopio je pogodbu s najvećim kapitalistom na zemlji. Kako Lukšič [91] primjećuje, upravo je „ta dualnost ono što se može uočiti kod Tesle" i što je „ugrađeno u trenutne dominantne ekološke diskurse kao odraz stvarnih kontradiktornih

[60] NT za JPM, 15. listopada 1903.; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 478A.

Tesla was not what O'Neill called a „self-made superman", [97] nor someone who transcended commercial interests, as Adamič put it. He was not the infallible moral giant that some enthusiasts like to portray him as, although his attitude, abilities and unwavering perseverance can in many ways serve as an inspiring positive example. To consciously overlook his faults and failings and merely glorify him uncritically would betray the principles for which he fought and lived.

Tesla was a man of marked duality and striking contradictions. On the one hand, his thought is bound up with the then-prevailing currents of positivism and progressivism, while on the other hand his „scientific philanthropy" [88], his cosmology of the interconnectedness of all living beings and things, his philosophy of non-violence and his environmental awareness in many ways transcend them. His „ecological and pluralist aspirations" were often „in contradiction with his intention to conquer nature" [89], while at the same time he argued that „nature does not need to be conquered, it only needs to be understood" (quoted in [90]. He wanted to bring about such a technological „revolution" that „all values and all human relations will be radically transformed",[60] but in order to do so he struck a bargain with the greatest capitalist on earth. As Lukšič [91] notes, it is precisely „this duality, that can be discerned in Tesla," and which „is embedded in the current dominant environmental discourses as a reflection of the real contradictory tendencies

[60] NT to JPM, October 15, 1903; LFNT, Muzej Nikole Tesle, Beograd; sig. MNT, CXXVII, K127: 478A.

tendencija kapitalističkoga načina proizvodnje dvadeset i prvoga stoljeća". Bio je odani idealist, tehnološki i ekološki pionir, „utopijski altruist" i samotnjak koji je živio za svoja istraživanja, te, naravno, izvanredan tehnološki izumitelj koji je, najčešće, uspješno preveo svoja izvanredna otkrića u elegantne i funkcionalne sustave.

Tesla je želio usavršiti svoje genijalne izume na način da promijene svijet na dobrobit svih, te je žrtvovao sve što je imao kako bi ih razvio i implementirao. Također ga je pokretala želja za posthumnom slavom, želja da bude spasitelj koji je olakšao i poboljšao život cijelom čovječanstvu te nije bio skroman u svojim ambicijama ili načinu života. Gradio je za budućnost, njegov je rad bio, kako je napisao, „poput rada plantažera", a njegova „dužnost" bila je „postaviti temelje za one koji će doći i pokazati put" [92].

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of the capitalist mode of production of the twenty-first century". He was a staunch idealist, a technological and ecological pioneer, a „utopian altruist" and a loner who lived for his research, and, of course, a remarkable technological inventor who, more often than not, successfully translated his remarkable discoveries into elegant and functioning systems.

Tesla wanted to perfect his ingenious inventions in such a way that they would change the world for the benefit of all, and he sacrificed everything he had to develop and implement them. He was also driven by a desire for posthumous glory, a desire to be a saviour who made life easier and better for all mankind, and was not modest in his ambitions or his lifestyle. He was building for the future, his work was, as he wrote, „like that of the planter", and his „duty" was „to lay the foundations for those who are to come, and point the way" [92].

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