

# Marconi's diktats.

## How Italian international wireless policy was shaped by a private company, 1903-1911

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**Abstract** — Wireless telegraphy, born in late 19<sup>th</sup> century, was regulated at international level very soon in two conferences both held in Berlin in 1903 and 1906. These conferences were organized by Germany in order to break up the British Marconi Company's monopoly. Germany, France and U.S.A. opposed this trust, while U.K. and Italy defended it for different reasons. This paper aims to identify the political, economic, technical, and social reasons that led, or in some cases forced, Italy to protect Marconi's interests at international level. This defensive strategy put the country at the center either of the international debate on wireless, or of the Marconi Company's global strategy.

**Index Terms** — Italy, Marconi Company, Non-intercommunication policy, Radio-Conferences in Berlin (1903 and 1906), Wireless History.

### I. INTRODUCTION. THE INTERNATIONAL DIMENSION OF WIRELESS

Wireless telegraphy was born at the end of the 19<sup>th</sup> century and immediately conceived as an international medium in many aspects. From a political point of view, wireless waves could hardly be restricted to national boundaries and, for this reason, international rules were established early. So early that, as often as not, they anticipated national legislations<sup>1</sup>. Furthermore, wireless was seen by national governments as an international weapon of communication and its control became crucial for states like the United Kingdom, Germany, France, and later the U.S.A.<sup>2</sup>. From an economic perspective, huge private companies such as British Marconi Company, German Telefunken, and French Société Générale struggled to acquire dominant positions in a European and, later, global markets. The wireless market was, in other words, supra-national. Finally, wireless was European also in terms of users. Radio amateurs, whose relevance increased in many European countries and in the U.S.A. during the 1910s, aimed at communicating to each other and at listening to common contents such as the Eiffel Tower signals.

One of the signs of the international dimension of wireless could be considered the early attempt to regulate it at worldwide level, with two conferences both organized in Berlin in 1903 and 1906. These conferences could be seen in a

dualistic perspective. On the one hand, they set up a series of common and international rules for wireless and traced the path for a common understanding of this new medium. On the other, the central topic of these conferences was the political and economic attempt to break up the monopoly owned at that time by the Marconi Company, a British firm mainly linked with U.K. and Italy<sup>3</sup>. The Marconi Company was set up by Guglielmo Marconi and a few stakeholders and it rapidly acquired a kind of worldwide monopoly: it either supplied stations and operators or it applied business strategies in order to maintain this monopoly.

Maybe the most important strategy was the so called non-intercommunication policy. For many reasons (political, economic, technic, patent protections, etc.), Marconi Company refused to communicate with other wireless companies established in the meanwhile and this created "diplomatic" misunderstandings: for instance, when the Kaiser's brother was returning to Germany after a trip in the U.S.A., he wasn't able to communicate on either side of Atlantic because he was travelling with a liner equipped with Slaby-Arco apparatus and Marconi stations refused to communicate with this ship<sup>4</sup>. The non-intercommunication policy turned out to be not only a business strategy adopted by a private company, but it also acquired a political significance. It was seen by United States, France and Germany as an attempt of United Kingdom to maintain its monopoly over telecommunications that it has gained with submarine cables and, obviously, these countries aimed to free themselves from British control over communications<sup>5</sup>.

With U.K., and for many reasons more than U.K., Italy acted to protect Marconi's monopoly at international level, struggling with other countries in order to achieve this goal. This paper aims to identify the political, economic, technical, and social reasons that suggested, or in some cases forces, Italy to adopt this strategy. A strategy of diversification and of isolation that put the country at the center of the international debate over early wireless.

## II. ITALY IN BERLIN, 1903-1906

The Preliminary Conference on wireless telegraphy opened up in Berlin at the beginning of August 1903, with delegates from Germany, Austria, Spain, U.S., France, Hungary, Russia, United Kingdom and Italy. This international meeting was organized by Germany in order to break up, as already mentioned, the Marconi Company's monopoly and to favor the competition among different wireless companies. Germany and France, which were launching wireless firms such as *Telefunken* and *Compagnie Général*, believed that determining one system's supremacy would be premature, that it would stop technical innovations, and that it would go against free competition<sup>6</sup>. U.K. and Italy, on the contrary, protected Marconi's monopoly and economic interests and, in particular, Italy made a strong diplomatic effort.

The most effective Italian delegate was Marquis Luigi Solari, who worked at the Ministry of Marine and, in 1903, was appointed by the Ministry of Post to manage commercial wireless stations. He claimed that free competition would determine many difficulties because of the fragmentation and lack of standardization of wireless systems.

Technical, organizational, commercial, military, scientific difficulties, due to potential struggles among companies and a presumed incompatibility of different systems, suggested international community should choose temporarily a "single system"<sup>7</sup>. The one million dollars question was: which one? Obviously the one that "at the present proves itself to be the best as regards range of communication, as regards the development of the international service, and as regards efficient organization. [...] On the choice of this system, I desire to declare that I have not an incontrovertible preference for a given system. I have followed, it is true, the magnificent experiments of Mr. Marconi across Europe and across the Atlantic. [...] But if another system offered advantages superior to those afforded by the Marconi system, I would be very happy to request the new inventor to put his work at the disposal of my country"<sup>8</sup>. Solari, with a rhetorical artifice, implicitly suggested the Marconi system ought to be considered the designated unique system by the international community because, at that time, it was the only one able to overcome the Atlantic and it had a strong and ramified organization worldwide.

A second Italian delegate, Fedele Cardarelli, chief of division in the Ministry of Post, claimed that, in order to guarantee technological efficiency, a special commission should evaluate the quality of companies' wireless equipment and, then, choose the best one<sup>9</sup>. It was another implicit way to favor Marconi's apparatus, at that time considered the most efficient one.

The third and fourth Italian delegates, Real admiral Carlo Grillo and Commander Quintino Bonomo, worked for the Ministry of Marine and they claimed that the technological difficulties of a mixed system could not be overcome. It was not a weak opinion because, as mentioned, they represented the Italian Navy that, at that time, was maybe the most skilled

institution in the world on wireless telegraphy because it has already made tens of experiments<sup>10</sup>. The fact that military ministries, and the Navy in particular, aimed to establish monopolies instead of sustaining free competition was a long-standing character of Italian approach to telecommunications. War and Marine Ministries preferred monopolies because they were more manageable in case of conflicts and, for the same reason, they supported Italian monopolies because more reliable. Like in the mid-1800, when the Ministry of Marine favored the establishment of a submarine cables' monopoly owned by Pirelli<sup>11</sup>, they supported Marconi at international level for the same strategy

U.K. proposed to adopt an intermediate solution, demanding that, if an obligation of communicate had to be imposed, all the companies that have already established a commercial system, such as the Marconi Company, should have a special compensation, "for example by a higher tax for every communication exchanged with a ship provided with an installation of a different system"<sup>12</sup>. Italian delegates were quite ambivalent about this proposal. On the one hand, Solari initially refused to take into account the indemnity as a solution and he kept on proposing the single system<sup>13</sup>. On the other hand, Grillo "considered indispensable to grant indemnification to the companies which at present have stations in operation"<sup>14</sup>. In any case, the preliminary conference on radiotelegraphy was a partial failure because Italy and U.K. were not able to sign the final agreement.

Three years later, always in Berlin, the first radiotelegraphic conference was arranged between October and November with the participation of many countries. The main topic was, once again, free communication between ships and shore stations and, at that time, U.K. immediately declared itself in favor of intercommunication whatever the applied system. It asked, in exchange, to give governments the possibility to establish a few stations that did not have to follow this obligation<sup>15</sup>. Consequently Italy in this conference was isolated in its policy of refusal to admit intercommunication and, for this reason, its approach changed consistently. Indeed the Italian delegate J. Colombo "recognizes the relevance for international relationships of the free radiotelegraphic intercommunication principle with different radio systems. Being the Italian Government obliged to observe faithfully the conditions signed with Mr. Marconi and its Company, the Italian delegation cannot find a way to propose modifications other than finding an agreement with the two parties. [...] it will also propose to Italian government to discuss with M. Marconi possible modifications, recognized necessary or timely in order to make the international agreement easier"<sup>16</sup>. As admitted by a French delegate, this represented a relevant step forward Berlin 1903.

In Berlin Conferences Italy acted as the international lawyer of Marconi Company. All the proposals made by Italy, even the ones apparently disinterested, aimed to protect the monopoly of Marconi Company, to preserve its privileges in international market, and to discourage free competition. Why

did Italy adopt this audacious and, at the same time, dangerous politics? Which were the reasons that suggested or imposed this behavior in international arena? Which were the connections between Italy and Marconi Company? Finally why did Marconi and Marconi Company succeed with Italy more than any other country?

### III. HOW MARCONI SHAPED ITALIAN WIRELESS POLICY

#### A. *For free, but only Marconi*

On February 1901 Guglielmo Marconi offered to Ministries of Marine and War his patents for free for military uses<sup>17</sup>. With the law April, 5<sup>th</sup>, 1903 n. 127 the Italian Parliament decided to establish an ultra-power station in Coltano (close to Livorno) in order to communicate with South America and especially Argentina, where many Italians immigrated between 19<sup>th</sup> and 20<sup>th</sup> century. In order to ratify the law, an agreement was established between Marconi and Italian government: in articles 10 and 14, the Italian government engaged himself in “not using for commercial aims and for 14 years but Marconi's apparatus”<sup>18</sup>. A few months before the first Berlin Conference, Italy decided to take part to an economically profitable, but strategically autocratic agreement: on the one hand it could use for free, but on the other it could employ only Marconi devices. This is a kind of *do ut des* strategy that emerged also in Parliamentary debates, when always in February 1903, the non-intercommunication clause seemed to “set up a serious barrier for our upcoming radio-telegraphic communications with other European countries”; anyway “considering the unmistakable expense of Guglielmo Marconi and his company, namely to sell all its present and future patents for free to the Italian government, it would not seem equitable to connect his instruments with those of his competitors”<sup>19</sup>.

This was one of the main strategies used by Marconi to tie Italy with himself and his company. On May, 5<sup>th</sup>-10<sup>th</sup>, 1904 Guglielmo Marconi signed with the Ministries of Post and Marine a new agreement confirming the two cornerstones of his strategy: Italian government could use its patents for free and even reproduce its tools (art. 1), but at the same time Italian wireless stations could accept to communicate only with other stations equipped with Marconi for 14 years starting from February, 13<sup>rd</sup>, 1903 (art 2)<sup>20</sup>. This agreement was maintained for 7 years and it was changed only on February, 5<sup>th</sup> and 9<sup>th</sup>, 1911: in order to let Italy sign the Radiotelegraphic conference in London, Marconi allowed Italian ships to intercommunicate with vessels equipped with *any* apparatus when they were in foreign waters, while Italian land stations could exchange radiotelegrams only with *French or German* ships equipped with other than Marconi's apparatus<sup>21</sup>.

Marconi decided to modify the agreement with Italian government after a long negotiation. Already Carlo Grillo in 1903 in Berlin, requested by the French delegate to negotiate

with Marconi and to change the agreement in favor of international wireless communications, promised to make any effort to reach this goal<sup>22</sup>. Actually Italian government tried to modify the agreement, pointing out that a change of mind would be desirable and advantageous even to Marconi himself because: 1. The majority of delegates in Berlin asked for it and so it was a broad longing; 2. Doing so Marconi would gain appreciation by other governments; 3. Admitting intercommunication Marconi Company could easily show that it would be technically impossible and so it would acquire a “spontaneous general consensus” in using “the Marconi system only”<sup>23</sup>. Guglielmo Marconi himself replied with a letter on January, 1904. He refused to change contracts with Italian government for at least 4 different reasons: 1. Letting different apparatus intercommunicate was technically impossible and, whenever it was, it would create legal and commercial difficulties; 2. It would infringe patent's rights because other systems were mere copies of Marconi; 3. Other relevant agreements (with British Lloyd's and British Navy) included the non-intercommunication clause and Marconi could not give preference to Italy only; 4. Not a single customer of the Marconi Company (British, Belgian and American Navies) asked for modifying the agreement, neither German ships equipped with Marconi apparatus: according to Marconi, this meant that the non-intercommunication clause was in favor of public interest<sup>24</sup>.

In 1905, unexpectedly, Guglielmo Marconi offered the Italian Minister of Posts and Telegraphs to cancel this agreement, also because of the “unfavorable opinion expressed by a section of the Italian Press”. Obviously, revoking the signed contracts meant also that “the Italian Government, as well as the Marconi Company and himself, would be relieved from any obligations whatever under the said agreements”<sup>25</sup>. The Post Ministry declined the offer mainly because it meant to give up the free use of Marconi patents too and so to quit the favorable position reached by Italy at that time. In a letter of 1906 the managing director of Marconi Company, Cuthbert Hall, pointed out that offering to rescind the Conventions without consulting the shareholders has been hazardous action, which could have put Marconi and Hall himself “in a very awkward position if the Government had closed with the offer”. Nevertheless, it was a premeditated risk because, as Hall claimed, “we knew that it was impracticable for it (the Italian government) to close with the offer and therefore we did not, I suppose, give so much consideration to the matter as we should have done if there had been any chance of acceptance”<sup>26</sup>. In other words, Marconi offered Italian government to rescind the 1904 arrangement, knowing that it wasn't able to accept this proposal. Denied in 1905, the Italian government could change these agreements only in 1911, when basically the non-intercommunication policy was abandoned by Marconi Company itself.

Agreements signed with Marconi delegate strongly affected the ways in which Italy could operate at international level. The country was not able to sign the Berlin Final protocol

neither in 1903 nor in 1906. During the preliminary conference, Italian delegation agreed to submit to its Government the propositions contained in the final protocol, but it declared it was not able to sign it because of “agreements made with Mr. Marconi”<sup>27</sup>. These agreements contained at least 2 elements that tied Italy’s hands in the international arena: 1. Marconi forced Italian government to keep secret wireless setting’s details (and the first article of the international convention required to share these data with all other countries); 2. Italy could not give permission to intercommunication without Marconi’s allowance because it was, one and only country in the international meeting, contractually engaged with him on this point. Even if negotiations for a new agreement were made between 1903 and 1906, in the second conference in Berlin, things did not change and the Italian delegate had to declare: “These contracts’ conditions are opposed to the fundamental articles we are discussing in this Convention. [...] we cannot execute them before our contracts expire or before the other part agrees on modifying the existing contracts. [...] This line of conduct may seem more justified considering that M. Marconi has made an exception in favor of his motherland, reserving the free of charge use of his invention”<sup>28</sup>. The *do ut des* logic again.

### B. Clashes of interest

Italy was linked with Marconi Company also because of a long standing character of Italian politics, emerged in the history of telecommunications even before<sup>29</sup>: the conflicts of interests. Influential men were, at the same time, close to Marconi and Marconi Company and part of Italian politics. Probably the most compelling case was that of Luigi Solari. In 1901 Ministry of Marine commissioned Solari to re-establish a friendly relationship with Guglielmo Marconi, after he had moved to Great Britain to found his company in the late 1890s. Solari succeeded, finding himself in a tricky and intermediate position, because he was at the same time a Navy representative and a Marconi’s friend and collaborator<sup>30</sup>. This ambivalent role of Solari was recognized also by the management of Marconi Company that aimed to “use” him to haggle with Italy over wireless. So precious was Solari that, in February 1906, when Marconi Company was discussing with Italian government on the upcoming Conference in Berlin, Hall suggested the Company should not inform Italy to have appointed Solari: “I do not see that we can say that we have actually signed an agreement with Solari, because if the Government by any chance took exception to the arrangement we should be rather in a quandary. I think some communication ought to be sent, however, as otherwise of course it is quite open to the Department to say that, in the absence of any formal notification from you and us, they cannot recognize him as authorized to act for us”<sup>31</sup>. Solari took money from Marconi Company since 1903 and he was officially appointed by the company in 1905<sup>32</sup>: it means that

he joined the Berlin Conference in 1903 officially as one of the Italian delegates working for the Ministry of Post and, informally, as one of the representatives of Marconi Company. His line of conduct during the Berlin Conference of 1903 (he refused any other solution but the adoption of a unique system, obviously Marconi) can be better interpreted now. So much Solari was involved in the Company that he became Marconi’s right hand man in Italy, managing the Marconi Company subsidiary in Italy, and later he was even his official bibliographer.

Another example of conflict of interest is the relationship between Hall, managing director of Marconi Company, and Colombo, Italian delegate at the Berlin Conference in 1906. They kept constantly in touch during the meeting and Hall tried to ensure Colombo that Italy would not remain isolated and he also “suggested” Italian government should have complained with British government about his “volte face”<sup>33</sup>.

The connection between Marconi Company and Italian delegates at international conferences shows at least 2 relevant aspects: on the one hand, a more general connection of the British Company with Italian government, and in particular, Italian Navy (relationships between Marconi and Post Ministry were more difficult); on the other hand, the fact that Marconi Company was able to suggest and, sometimes, to dictate to Italy the policy it should follow at international level.

### C. Marconi’s image

A third reason that can explain how Marconi Company affected the wireless international policy of Italy deals with Marconi himself. Even if, in order to patent his wireless telegraph and to take advantage of his patents, he moved to London Guglielmo Marconi was born in Bologna, he felt Italian for his entire life and, especially, he kept on being a very popular man in the country and in Italian imaginary too.

Articles in popular Italian newspapers and magazines often glorified his “magic” inventions as examples of the Italian genius<sup>34</sup>. He inspired poets and many of them, such as his friend Gabriele D’Annunzio, wrote odes about him and his wireless telegraphy<sup>35</sup>. He was awarded many honors by Italy such as Senator in 1914, president of the National Research Council (an Italian public organization set up to support scientific and technological research) in 1927 and president of the Royal Academy of Italy (an organization of Italian academics, intellectuals, and cultural figures) in 1930. Marconi was able to establish also influencing relationships with Italian high society, such as kings and queens, members of Parliament, top management in the Navy and in War Departments and bankers. Finally Marconi, more in general, embodied for long time the image of Italy in the world and, for this reason, he also got political role during the first half of the 19<sup>th</sup> century<sup>36</sup>.

Maybe the most relevant contribution of Marconi’s popularity in Italy to his British Company has to be identified

in the “legend of inventor” surrounding him<sup>37</sup>. The aura of a genius originally neglected by his country (*nemo propheta in patria*) helped him to gain support and free reign in managing early Italian wireless. For example, during the parliamentary debate on the establishment of the first high-power wireless station in Italy in 1903, many politicians expressed a complete trust on Marconi. Even when his choices seemed to be questionable such as the policy of non-intercommunication, members of Parliament “ask [...] not to impose any technical condition to Marconi”<sup>38</sup>, persuaded that he has “always found a way to overcome all difficulties, he will find any way to win even those who perhaps oppose this station”<sup>39</sup>. As every worthy of the name hero and genius, Marconi was contrasted by various enemies too. His enemies were German and French private companies that first copied his inventions and, later, aimed to join the business of wireless telegraphy. Italian delegates at international conferences pointed it out many times, claiming that the original inventor of wireless should have a special consideration by the international community. In Italy, many commentators defended Marconi as victim of an economic and politic attack by Germany and his companies: it was remembered, for instance, that the 1903 meeting considered “only radio-communications between ships and the coast, at limited range, (and) has completely left aside the question of large-range stations” simply because at that time Marconi was yet “without competitors” in transatlantic radiotelegraphy and “probably considering this topic was not convenient to the opponents of a single system”<sup>40</sup>.

Finally, as already mentioned, according to many observers Marconi was also extremely generous with his homeland because he gave Italian government the possibility to make use of his apparatus for free. This aspect of Marconi’s image, namely the respect and special consideration for his native country, was carefully built by Marconi himself and by his biographer Luigi Solari<sup>41</sup>.

How don’t allow this champion of Italian genius, this victim of international competition, this generous son of Italy to use his country as a kind of lawyer in charge to protect Marconi Company’s interests at international level?

#### IV. CONCLUSION. CENTRITALY

During the first two international conferences on wireless, Italy found itself in a peculiar position. On the one hand, Italian delegates were in an awkward position: they had to fight against the majority of other countries and to defend the non-intercommunication policy wanted by the Marconi Company in order to respect the agreement signed between Italian government and Marconi himself. On the other hand, maybe for the first time in telecommunication history, Italy was at the center of international politics and negotiation: Marconi diktats, in other words, shed light (maybe not a

positive one) on the country and made Italy an exemplar case study for wireless international policy.

Marconi’s diktats, at the same time, show how this country became crucial even for the British Marconi Company itself. Simply looking at the distribution of wireless stations all over the world, it’s clear how, in the first decade of the 1900s, Italy was one of the most relevant customers for Marconi Company<sup>42</sup>. But Italy became something more for the British Company at international level. It was the country in which the Marconi Company’s management could count on, even more than Great Britain, because in many ways the corporation had more connections in term of contracts, people and Marconi’s consideration. Italy was the country that helped more Marconi Company to defend itself in international arena and the last one to sign the Berlin conference protocol, when in 1911 Marconi decided to modify his agreement with Italian government. Finally, it was the country in which, after Berlin 1906 and so when Marconi Company understood that U.K. would no more defend its non-intercommunication policy, the corporation’s management believed to move its business as this letter of Hall to Marconi seems to allude: “I note that you are concentrating your attention almost exclusively upon Italian business, and the development of the Marconi system in Italy, particularly for Italian Government (Naval and Military) purposes. It is not unnatural that the principal extensions and development of the Marconi system should in future be primarily in relation to Italian Naval interests. These facts ought to receive wide publicity in the Press”<sup>43</sup>. At the end Marconi’s diktats to Italy could be re-read as part of a complex strategy and as part of the British Company’s interest in making this country the center of gravity of its business and, more in general, of its international image.

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- <sup>8</sup> Ivi, p. 22. English translation taken from [Documents of the] *Preliminary Conference on Wireless Telegraphy (Berlin, 1903). Translation of the procès-verbaux and protocol final by George R. Neilson*. London: George Tucker, 1904.
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- <sup>13</sup> Ivi, p. 26.
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- <sup>15</sup> *Documents de la Conférence radiotélégraphique internationale de Berlin, 1906*. Publiés par le Département des postes de l'Empire d'Allemagne. Berlin: Reichsdruckerei, 1906 (hereafter Berlin 1906), p. 50.
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- <sup>19</sup> Parliamentary debates, February, 20<sup>th</sup>, 1903, p. 5703 and p. 5706.
- <sup>20</sup> Ministry of Marine Archives (hereafter MMA), 1912-1913, cart. 283, fasc. 1. On this agreement and his influence on international wireless policy of Italy see also G. Paoloni, "Fili, microfoni e antenne: dal telegrafo alle telecomunicazioni", in A. Giuntini e G. Paoloni (a cura di), *Le Poste in Italia 2. Nell'età del decollo industriale 1889-1918*, Roma-Bari: Laterza, 2006, p. 194.
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- <sup>26</sup> MA, A.6.1/205, *Letter of Hall to Marconi*, November, 12nd, 1906, p. 9.
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- <sup>32</sup> MA, B.1.2/393, Folio 51 and 175.
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- <sup>36</sup> M. Martelli, *Marconi e l'immagine dell'Italia all'estero*, in G. Paoloni e F. Monteleone (a cura di), *Cento anni di radio: da Marconi al futuro delle telecomunicazioni*, Venice: Marsilio, 1995. About Guglielmo Marconi and Italy see, more in general, G. Paoloni e R. Simili, *Guglielmo Marconi e l'Italia: mostra storico-documentaria. Roma, 30 marzo-30 aprile 1996*, Rome: Accademia nazionale dei Lincei, 1996
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- <sup>38</sup> Parliamentary debates, February, 20<sup>th</sup>, 1903, p. 5704.
- <sup>39</sup> Ivi, p. 5707.
- <sup>40</sup> C. Villarey, *La conferenza radiotelegrafica di Berlino. Estratto dalla Rivista Marittima del fascicolo di Ottobre 1903*, Citta di Castello: tipografia dello stabilimento S. Lapi, 1903, p. 5.
- <sup>41</sup> See for example L. Solari, *Marconi nell'intimità e nel lavoro*, Milano: A. Mondadori, 1940 in which Marconi's respect, benevolence and submission to Italy is obsessively remembered.
- <sup>42</sup> See MA, B 4.3/581 and an interesting map in MA, B.1.3/ 401.
- <sup>43</sup> MA, A.6.1/205, *Letter of Hall to Marconi*, November, 22<sup>nd</sup>, 1906, p. 3.