"Bringing together the two large electric currents that divide Europe"
Switzerland's Role in Promoting the Creation of a Common European Telegraph Space (1849-1865)

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A few years after the introduction of the electric telegraph (1843–44), European countries understood that this new medium could be relevant either for national or for international communication. For this reason, most countries joined together in two main telegraphic unions: the Austro–German (1850) and the West European (1855).

Having understood that telegraphy would be better managed in a single institution, a series of European countries engaged in a unification process. Switzerland was the leading country in this process for many reasons. It was a neutral country with a very good reputation as an international mediator. It pursued the politics of "step by step", trying to influence the conventions signed in both conferences and trying to make them increasingly similar until they were substantially the same. Finally, the Swiss telegraph administration had strong personal and institutional relationships with the Austrian one, which was the most relevant European administration opposed to creating a common communication space.

Thanks to the fundamental role of Switzerland, in 1865 the two unions finally merged in the first supranational organization, the International Telegraph Union.

The first experiments related to electric telegraphy were conducted in the 1830s; the first electric telegraph networks were installed in 1843 in England by William Fothergill Cooke and Charles Wheatstone, in 1844 in the United States by Samuel Morse and then, between the late 1840s and early 1850s, in more and more European countries.[1]

Just a few years after the first experiments and the installation of the networks, many European countries realized that the new medium would be relevant for communicating not only at a national level but also at an international one. Indeed, the telegraph could be useful in political, economic and social dealings with bordering and non-bordering countries with which sound relations had already been established.[2] The use of the telegraph for inter-country communication also created political and legislative problems: at a national level, the service was regulated by the local governments of each country and in Europe, with the exception of Great Britain, these countries had decided in favour of public management; at an international level, rules

had to be established that would enable the various telegraph systems to interact.[3]

Between the end of the 1840s and mid 1860s the international management of the telegraph can be split into three distinct phases. An initial period in which countries signed bilateral agreements; a second period in which two unions were formed (the Austro-German telegraph union and the West European one); finally, a third period that led to the birth of the international telegraph union, the first supranational organization delegated with the task of managing communications at a European, and then worldwide, level. In all these phases Switzerland played an active and decisive role in the creation of a common European communication space.[4]

The bilateral agreements

The first international conventions on telegraph traffic were signed on Prussia's initiative as far back as 1848. The reasons for the Kingdom of Prussia's driving role were its geography, economic make-up and the political ambitions it had within the German Confederation. First of all, there was no territorial contiguity between the eastern and western regions of Prussia and, consequently, to connect the main cities of the country the telegraph networks had to cross through other nations.

Secondly, Prussia had a keen interest in forging close relationships with the other State units into which the German population – which in those years had begun to assert their national identity – were split.[5]

Finally, the Kingdom of Prussia encompassed some areas, above all Silesia, which were highly industrialized, in particular in textiles, iron and steel.[6] The economic development of these regions had a dual effect: from one side, it guaranteed the technological and managerial know-how needed for telegraphy; from the other, it strengthened the role of a new ruling class (the bourgeoisie) which had a vested interest in the development of telecommunications since they were vital for the proper functioning of a free market, the powerhouse of the nascent industrial capitalism.[7] All in all, for reasons of domestic telegraph traffic and to reach its political and economic goals, by the end of the 1840s Prussia had signed 15 international treaties with 15 German States.[8]

On 3 October 1849 the same geographic, political and economic reasons prompted Prussia to sign agreements with Austria regarding the "installation and use of electromagnetic telegraphs for the exchange of international dispatches" - this was the *first international telegraph convention* entered with the purpose of connecting separate nations and not of uniting territories within the same nation.[9] The convention was drawn up along the lines of the previous bilateral postal treaties which served as an important example for

the international telegraphy and regulated some of the issues which would re-emerge in many of the subsequent telegraph treaties: controlling the flow of telegrams, procedures for exchanging telegrams at national borders and, above all, the application of the tariffs.[10] This was the first of a series of bilateral telegraph agreements which Prussia and Austria signed with other two German states (Saxony and Bavaria) between 1849 and 1850 and which led to the creation of the Austro-German Telegraph Union in 1850.

In central-western Europe, bilateral telegraph agreements began to be signed a few years later: indeed, the first was signed by France and Belgium in April 1851.[11] Between 1851 and 1855, year in which the West European Telegraph Union was founded, five countries signed treaties that promoted international communication: France, Belgium, the Kingdom of Sardinia, Switzerland and Spain. Apart from Spain, these were central West European countries whose governments were greatly inspired by liberalism and they saw every new medium appearing to favour free trade (like the telegraph) as a vehicle of peace and prosperity[12].

In this scenario Switzerland hastened to sign a number of bilateral treaties and, perhaps due to its strategic geographic position, it signed them both with nations in the German-speaking union and with those in the French-speaking sphere: the Swiss Confederation entered into an agreement with Austria on 26 April 1852, with France on 23 December 1852, with the Kingdom of Sardinia on 25 June 1853, again with France and Baden on 8 August 1853, with Württemberg on 25 August 1854 and, lastly, with Spain on 24 November 1854.

The Austro-German Telegraph Union (AGTU)

The Austro-German Telegraph Union (hereinafter the AGTU) was established on 25 July 1850 in Dresden; the founding nations included Austria, Prussia, Bavaria and Saxony. In the following years other German-speaking countries joined the union (Württemberg, Hannover, Baden, Mecklenburg-Schwerin and the Kingdom of Lombardy-Venetia) as well as other independent States which had close relationships with these territories (the Netherlands, the Duchies of Modena and Parma, Tuscany, and the Papal State).

The first convention of the new union, signed in July 1850, would be used as a template for the subsequent multilateral treaties and it can be maintained that this union had the merit of laying the foundations for the future international organizations set up to regulate telecommunications. Four main factors would lie at the basis of most of the future European agreements and would be adopted, almost without amendments, by the International Telegraph Union born in Paris in 1865. Firstly, this treaty regarded only communications at an international level and each member country of the union was free to manage

its domestic telegraphy as it deemed fit (article 2). Secondly, some measures were established to standardize the international management of the service: the opening and closing times of telegraph offices (article 9), the length of the dispatches (a minimum of 20 words and a maximum of 100, article 12); the classification of telegrams into state, service and private dispatches (article 15); the setting of the cost of the dispatches based on the number of words and the distance to be covered (article 26).[13] Thirdly, since the telegraph was a new and constantly evolving medium, it was decided that the text of the treaty should be reviewed and revised during telegraph conferences which would be organized periodically (article 40). Finally, the Dresden conference opened up the AGTU to other German-speaking countries (article 41).[14]

The AGTU met in plenipotentiary conferences whose aims were to set and harmonize the tariffs, facilitate international traffic and promote the introduction of technology innovation in the telecommunications sector.[15] The venues of the conferences were Vienna in 1851, Berlin in 1853, Munich in 1855, Stuttgart in 1857, the Hague in 1861 and Hannover in 1863. From the late 1850s to the early 1860s, once again introducing a template which would then be adopted by the International Telegraph Union, the AGTU extended its range of action and opened up its agreements also to some private companies: the International and Electric Telegraph company, the Submarine telegraph company, the Mediterranean islands' telegraph lines company.[16] The AGTU survived until July 1872[17]; that is, until the German Empire (the Reich) was founded. However, its influence began to wane from 1865 on for two concurrent reasons: firstly, the birth of the International Telegraph Union, created also to bridge the divide between Western and Eastern Europe in terms of telegraphy; secondly the outbreak of the Austro-Prussian war in 1866 which led to the collapse of the German Confederation (Zollverein).

The West European Telegraph Union

The equivalent of the AGTU for the Latin area did not have an official name but was conventionally called the West European Telegraph Union (hereinafter the WETU) and was founded on 29 December 1855 in Paris by Belgium, France, the Kingdom of Sardinia and Switzerland. These were the countries that had signed those bilateral agreements between 1851 and 1854 enabling international telegraphic communication also in Central South Europe. As had happened in the AGTU, in the WETU other countries also signed the convention in subsequent years: Portugal, the Netherlands, the Grand Duchy of Tuscany, the Duchies of Modena and Parma, the Papal State, the Kingdom of two Sicilies and some private British companies and subsea cable companies.

The AGTU was born also and above all for political interests and aims: in other words, with the German speaking union a first concrete step was taken towards the political unification of the various German states.[18] Instead, the reasons behind the creation of the WETU seemed to be more economic and diplomatic: politically, the process was promoted by the liberal political classes which saw in international telegraphy a vehicle to promote the development of the free market; diplomatically Napoleon III, who in his final years in power had taken political decisions aimed at reinforcing France's international role, may have played a fairly important role.[19]

The WETU, as will be illustrated in the paragraphs below, adopted a convention which was very similar to that of the AGTU and, after the first conference of Paris 1855, it met in Turin in 1857 and in Berne in 1858. Since 1855 one of the main purposes of this union was to edge closer to the AGTU and to eventually merge the two unions into a single institution which would be called the International Telegraph Union. Switzerland's role in mediating between the two positions was decisive.

The first steps towards the convergence of the two unions

So far the history of the two European telegraph unions born in the 1850s has been chronicled in a linear and separate way, as if the member countries of each union had never signed mutual conventions. In practice, instead, the situation was completely different and during the 1850s there was a gradual process of convergence and overlapping of the two unions.[20]

To begin with, countries belonging to the two different associations signed some bilateral treaties: for example, Prussia and Belgium signed an agreement in May 1850, Austria and Switzerland (as already mentioned) in 1852, Austria and the Kingdom of Sardinia in 1853 and again in 1856.

Even more significant, however, were the *mixed* conventions between countries in the western and eastern blocks. The first mixed conference was held in Paris in October 1852 and saw the participation of Belgium, France and Prussia, the last of which took part in the name of the AGTU. A dominant role in this first attempt at convergence of the two European telegraph associations was played by Belgium which negotiated with Prussia also in the name of France and Great Britain: the convention, which in the end was not ratified by Great Britain, was as similar as possible to the one stipulated by the AGTU two years earlier in Dresden.[21] Other two mixed conferences were held in Berlin in June 1855 and in Brussels in 1858. Belgium, France and Prussia once again took part in these but, starting from this moment, Switzerland took on a fundamental role in the convergence of the two unions: the rest of this paper will discuss and analyze the role of the Swiss Confederation on the international stage in the 1850s and early 1860s.

The role of Switzerland in early telegraph unions

Switzerland, a country where the electric telegraph had played a fundamental strategic and political role since the advent of the technology, built the first telegraph networks in its territory in 1852 and kept a careful eye on the international telegraph.[22] In 1853 Charles Brunner, director of the Swiss telegraphs, pointed out to the Department of Postal Services and Public Works that the bilateral treaties being signed by the country with other nations were inadequate and difficult to apply, due to the non-uniformity of the various telegraph systems. For this reason the aim of the Swiss Confederation should be that of improving international telegraphy so that, for foreign affairs, the Swiss people could enjoy the "same advantages as those […] enjoyed within the Swiss territory".[23]

The Federal Council intervened directly one year later, in 1854, expressing its ambition to organize "an European conference" during which the provisional agreement signed by Belgium, France and Prussia in the Paris conference of 1852 would be supplanted. This proposal was taken up by France and the Kingdom of Sardinia but not by Austria "because this country, with German States and the Netherlands, had already joined the Austro-German Telegraph Union, and it *has already all the advantages acquired by common rules.*"[24] After some diplomatic manoeuvres, Switzerland's proposal to organise an European conference which united the western and eastern parts of the continent, in June 1855 led to the conference of Berlin in which Belgium, France and Prussia, representing the AGTU. However, the outcome of the conference was disappointing as the French delegate was reported as saying in a Federal Council memo:

> His Majesty the Emperor's government delegates spent great energy on having a series of measures adopted in Berlin which would more profoundly reform the system and bring it more into line with the principles of good administration and equal distribution of costs. Yet the proposals of the French Commissioner, with which the Belgian Representative on principle immediately agreed, *encountered insurmountable resistance in the strict mandate that the Prussian Commissioner had received from the Austro-German Union*, and by the as yet inadequate organization of the telegraph service in Germany. [25]

Paris 1855: birth of the WETU and resounding Swiss victory

The unsatisfactory results of the Berlin convention prompted the French government to open it up to other interested nations and to organize another telegraph conference in December 1855, during which France, Belgium, Spain, the Kingdom of Sardinia and Switzerland founded the WETU in Paris.

The Swiss government gave its delegate Brunner clear instructions on the objectives that Switzerland expected to reach in this conference and, more in general, within the French-speaking union. First, and foremost, the Confederation wanted to secure a general reduction in the cost of telegraph dispatches, something which could be attained by means of a review of the zone system and, in particular, an extension of these zones.[26] Switzerland's telegraph tariffs were much lower than those of the other countries and it thus became the advocate of a reduction. In this way, the tariffs of the rest of Europe would be aligned with the Swiss ones without the country suffering economic repercussions, and because a general reduction in the cost of using the telegraph would favour international communication, an aspect of international relations that the Confederation set great store by.[27] A second goal which the Confederation strived to achieve was the simplification of the telegraph service: the Swiss government was convinced that, on an international level, the adoption and use of electric telegraphy could be abetted by drastically reducing the bureaucratic obstacles and the incompatibility between the systems that had characterized the service until that point. A third and final point on which Brunner received detailed instructions was that the convention signed at the end of this meeting should be as similar as possible to that of the AGTU and that his work should be inspired by this aim. Right from the start Switzerland insisted that the new union (the WETU) born at the Paris conference should draw inspiration from the German-speaking one.[28]

The Paris conference of 1855 lasted three weeks and begot important results for international telegraphy. First of all, as already mentioned, it was in the wake of this conference that the WETU was born as "a sort of telegraph union between Belgium, Spain, France, Sardinia and Switzerland; telegraph union […] to which all the European states that want to become members will then be admitted."[29]

Secondly, the content of the new convention was laid out so as to be practically identical to the one signed in Berlin a few months earlier by France, Belgium and Prussia and it was even debated whether to keep the same numbering of the articles in the two conventions.[30] In practice, from the first day of debate France advocated going beyond the Berlin convention which, as noted, had not completely satisfied it. However, the resolve to take a step towards the countries belonging to the other union prevailed. This was the first time a strategy was applied which would prove successful in the following years under the decisive auspices of Switzerland: that of gradually making the two conventions superimposable, granting small concessions.

Another request made by Switzerland and accepted was that of extending the tariff zones: the size of the 6 zones into which the territories making up the WETU were divided was extended (for example, the first was increased from 80 to 100 km, the second from 200 to 250, the third from 360 to 450 etc.). As expressly acknowledged by the Federal Council, "the modifications, significant above all for large distances, are a concession granted by the large nations to the

smaller ones, or, in other words, it was a concession that France made to countries like Switzerland or Belgium."[31] Indeed, for these smaller countries the extension of the zones meant that it would be less expensive to send dispatches to cities in bordering countries: for example, Switzerland was keen to communicate cheaply with France and northern Italy and, with the extension of the zones, sending dispatches from Swiss cities to French and Italian ones (in particular, Genoa, Marseilles, Paris, Calais, Le Havre) would be more economical.[32]

A third element that Switzerland managed to influence was the reduction in the tariffs. It was Brunner who advocated and illustrated to the other delegates the advantages to be gained from reducing the telegraph tariffs and he managed to convince his colleagues.[33] The WETU's telegraph tariffs were significantly lower than those of the AGTU: in this way the Swiss Confederation secured an important result and a strategic asset for its government.

A final question debated at the Paris conference was the standardization of the equipment used by the states forming the new union. As the Federal Council had requested, it was decided to move towards a simplification of the telegraph technology: an example of this was the adoption of the Morse telegraph for international correspondence. France, which had only abandoned its own equipment in favour of Morse technology in 1854, had to adapt to the other standards and the Swiss government underscored this abandonment (and, indirectly, its victory): "The Morse system, used in Switzerland, will be applied to international correspondence between all the signatory states and, consequently, France renounces its system which required transcription of the dispatches at the exchange stations."[34]

The Federal Council was naturally delighted with the outcome of the Conference of Paris of 1855: indeed, Switzerland had achieved an out-and-out victory, demonstrating above all that it enjoyed international prestige and the capacity to steer both the debate and the decisions taken regarding telegraphy.[35] Another reason for satisfaction was that Switzerland had taken such an active part in the first step towards the creation of a European Telegraph Union: Brunner claimed this during the final day of debate - "I therefore hope that the agreement […] will one day take the name of European Convention," as did the Federal Council which pointed how the Paris Convention represented "a major step towards the standardization of telegraph relationships throughout Europe."[36]

Turin 1857: Switzerland, the invitation to Austria and the common European space

The Conference held in Turin in May 1857 bestowed on Switzerland the key role of intermediary between the two unions. In November 1856 the Kingdom of Sardinia, the country that would host the WETU conference the following year, asked Switzerland to invite Austria to attend.[37] In other words, the Swiss

Confederation was given the far from easy task of bridging the gap between the WETU and the AGTU, in this case represented by Austria. The Swiss Postal Services Department informed the Federal Council of this mandate, only to discover that the Council had already started the "procedures at the I.R. Department of Austrian telegraphs to convince it to sign the Convention of 29 December 1855."[38]

The negotiations continued over the following months with Swiss mediation and the Turin meeting was even put off until Austria answered the invitation. Switzerland praised this postponement in a telegram sent to France.[39] Despite this willingness to indulge Austria, the negotiations failed even although it seems that Prussia was in favour of Austria sending its representative to Turin.[40]

Switzerland appeared to have a very clear idea of why the negotiations failed: "the reasons why Austria refused Sardinia's invitation were essentially political and were influenced by the strained relationship existing between the two countries."[41] In the years prior to and following the Turin Conference the political and military tension between Austria and the Kingdom of Sardinia was high and was caused mainly by the Piedmont strategy aimed at taking Lombardy-Venetia away from the Austrian Empire: the reasons for this tension included the first Italian war of independence of 1848 which saw the two states on opposite sides; the Crimean War of 1855, when the Kingdom of Sardinia fought alongside France and the United Kingdom; the close ties between the Kingdom of Sardinia and France in opposition to Austria in 1858; finally, the second Italian war of independence in 1859 that saw France and the Kingdom of Sardinia fighting against Austria. The alliances, tensions and international strategies naturally influenced the development of telegraphy in Europe and, in particular, the creation of a supranational entity that would guide the development of telecommunications on a continental scale.

The idea of inviting Austria having evaporated, the Turin conference took place in May 1857 with the same countries that took part in the Paris conference of 1855 present. The main objective of the WETU was expressed clearly perhaps for the first time, that is, to create a *common European telegraph organization*, as announced at the beginning of the working sessions.[42] However, agreements would have to be reached if this common space was to be created:

> The members of the conference, with the growing awareness of how useful it would be for telegraphy to have an organization which gathered together all the nations in the Continent, *express the hope that efforts be made in this direction with the members of the Austro-German association* which will meet in Brussels again this year.[43]

In fact, immediately before the Turin conference began, the governments of France and Switzerland agreed on the fact that one of the main objectives of

this meeting would be to plan another conference in which the German states would also rightfully take part.[44]

The Swiss Federal Council, presenting the results of the Turin conference to parliament, insisted in particular on the idea of standardizing the use of telegraphy at a European level as an objective the WETU should pursue: "The results of this conference were not immediate but the goal of achieving full standardization in the use of European telegraphs was unanimously expressed."[45] The Federal Council was encouraged by the Swiss parliament to play a key role as intermediary between the two association and Switzerland offered its territory as the *physical location* of the negotiations: in fact, at the end of the Turin conference, the Swiss delegate Brunner declared "that he had received instructions to solicit the Conference to choose Berne as the venue for the next meeting."[46] The other WETU member states accepted Switzerland's candidature because it was in an ideal geographic position to reach a real *trait d'union* with the AGTU. This aspect was pointed out by Brunner who betrayed his optimism about the successful outcome of Swiss mediation at the future conference of Berne, predicting that this choice would produce excellent results "perhaps facilitating the merger of the Paris Convention with the Austro-German Union one which, according to its traditions, will be represented at Berne by one of the states that border Switzerland and in favour of the merger."[47]

Stuttgart 1857 and Brussels 1858: both unions take steps

The AGTU met again in 1877 in Stuttgart and drew up "a new convention which was essentially the same as the Paris convention of 29 December 1855."[48] The merit for this move by the German-speaking union towards the WETU was Switzerland's. Indeed, in the months running up to the Stuttgart conference it was the Swiss Federal Council that proposed a text to AGTU which was similar to that of Paris of 1855 and which would then represent the basis for the Brussels Convention of June 1858 and Berne of September 1858.[49]

In June 1858 a 'mixed' conference was held in Brussels with the participation of Belgium, France and Prussia, the latter in the name of the AGTU. France and Belgium, with the decisive backing of Switzerland, took a step towards the AGTU and signed an agreement "which contained the main conditions of the Stuttgart convention."[50] According to the Federal Council, starting from Brussels 1858, France fully espoused Switzerland's point of view and began to promote a European level telegraph union:

> France, seconding our point of view, sent us a draft convention based on the Paris Convention but which contained the same provisions as Stuttgart which we ourselves proposed and which were adopted in Brussels.[51]

Berne 1858: the goal is a convention that is identical to the Stuttgart one

In the months running up to the Berne conference of August 1858, the Swiss Federal Council made an outstanding diplomatic effort to invite some representatives of the AGTU and, in particular, the delegates of Austria, Württemberg and Baden with which Switzerland had good relationships.[52] However, once again Austria did not take part in the conference which saw, instead, the participation of Switzerland, Belgium, France, the Kingdom of Sardinia, Portugal, the Netherlands, Württemberg and Baden.[53]

The main aim of this conference, like that of Turin the year before, was to blend the two conventions as far as was possible. Switzerland, which continued to mediate, underscored that both sides would have to continue along the lines already set out in previous years; however, the premises were good and could lead to a definitive merger of the two conventions. The confidence of the delegates and of the Swiss government derived, above all, from the apparent willingness of the various States to accept "some modifications […] necessary for the general merger which is the unanimous aim of all."[54] Secondly, as the director of the Swiss Department of Postal Services and Public Works Wilhelm Matthias Naeff claimed when opening the Berne conference of 1858, the Swiss diplomacy in the previous months was greatly appreciated by the two parties and, in particular, by the AGTU.[55]

During the debate the aim of duplicating as far as possible the Berne convention in the one signed by the AGTU countries was clear also to the other states. Belgium suggested starting from the text approved in Brussels in 1858 rather than from that of Paris 1855 because the former had "the advantage of more completely reconciling the two groups of the western union and the Austro-German one." With the aim of achieving the full integration of the different positions, France defended the project it had prepared specifically for the Berne conference, but suggested that attention should be paid to the Brussels 1858 text also because it was drawn up along the same lines as the Stuttgart 1857 one.[56]

In a message to the Swiss parliament, the Federal Council expressed some satisfaction over the outcome of the Berne conference of 1858, highlighting the role played by the Confederation in achieving these aims:

> The most important of these general agreements was the tendency to converge in a European telegraph unity, *a move that the Swiss telegraph administration was one of the first to propose during the Paris telegraph conference*, which it has promoted since then, on which it has worked with all its might, which is finally beginning to come to life and of which *it can, justifiably, be proud.*[57]

Again, according to the Federal Council, the Berne conference had achieved the main aim for which it was organized and, in practice, the unification at a European level of the telegraph regulations was now a reality. The modifications

adopted at Berne had made this convention

> […] so similar to that of Stuttgart and Brussels, which *can be considered identical*, and a single rule can be applied to all telegraph correspondence of the countries represented by the three conventions, countries which will without doubt soon be joined by most of the other European countries.[58]

The treaties of Brussels and Berne of 1858 came into force simultaneously and represented a sort of "uniform regime" for the management of telegraphy in most of Europe.[59] In the following years, with the fundamental commitment of the Swiss Confederation, this substantial uniformity gave rise to an official international union.

Friedrichshafen 1858: Switzerland holds the balance of power

During the conference of Berne, Switzerland put pressure on Baden and Württemberg to invite Austria to a future conference which would be held in Friedrichshafen, a town on Lake Constance. This conference, which began on 21 October 1858, thus one and a half months or so after the ratification of the Berne convention of 1 September, was officially organized by Switzerland to review the conventions in being between the country and the AGTU but in practice it became another decisive step towards the merger of the two unions.

The Friedrichshafen conference saw the participation of Switzerland, Austria, Baden and Württemberg and, on the suggestion of Switzerland, the Berne convention which had just been ratified was taken as the example from which to start, even if naturally the future convention would be signed in the German language.[60] In Switzerland's opinion, a series of important results were reached in this conference. Firstly, the countries which represented the AGTU were in favour of accepting most of the principles of the Berne convention and, indeed, it was decided to implement the two conventions simultaneously in order to avoid administrative and management problems.[61] Secondly, Switzerland managed to promote the standardization and functionality of the telegraph systems both among the AGTU countries and, consequently, at a European level in general: "Absolute unity in the application of taxes to telegraph dispatches. […] Uniform and rational system for the classification of frontier points for the application of the taxes in four groups. […] Application of a single service regulation for telegraph correspondence of the contracting states which will involve all of Europe."[62] A third aim that Switzerland managed to achieve was a considerable reduction in the telegraph tariffs for communications with AGTU member states.

Instead, where the Confederation failed was in its attempt to extend the tariff zones, as it had already obtained from France within the WETU. Austria, in particular, had a vested interest in maintaining a small zone-based tariff system because its territory was extensive and, therefore, more zones meant greater income from international telegrams. The Federal Council did not manage to

convince the AGTU states to extend their tariff zones, but it didn't adapt to the Austro-German zone system because, in this way, it would have taken "a step backwards on the road to European telegraphic unity that we have been pursuing for many years."[63]

Besides renouncing the elimination of the tariff zones, the Swiss 'granted' Austria lower tariffs for telegrams sent from certain Swiss offices.[64] This move apparently represented an "additional benefit for telegraph correspondence and earnings for the Swiss public, in line with the liberal principles that have always guided the Federal Authorities in the management of telegraphy."[65] However, looking at the matter with a more critical eye, it can be seen that in this way Switzerland would be able to send telegrams to Austria applying the same tariffs as those that would have been applied in a zone-based tariff regime. The aim was to show Austria that, in the long term, the introduction of criteria aimed at lowering the tariffs and, therefore, eliminating the zones, would be useful also for the Austrian empire. To sum up, Switzerland only apparently yielded to Austria's requests while in practice it offered tools which, in the near future, would in any case allow it to impose its own goals.

In January 1859 the Commission of the Swiss National Council tasked with studying the telegraph conventions of Berne and Friedrichshafen drew up a report in which, perhaps more than any other document analyzed so far, shows the importance for the country of merging the two European telegraph unions. First of all, the commission admitted that the two conventions represented a significant step towards the unification of telegraphy in Europe but that other steps had to be taken, and that it was "only a provisional adjustment that will one day evolve into a single international treaty signed by all the European states."[66] Secondly, the main objective of the two conferences (to produce "two almost identical conventions") was reached thanks above all to the Swiss delegates who had "completed the delicate mission they had been assigned with great merit."[67] In short, with the ratification of the conventions of Berne and Friedrichshafen, Switzerland, bolstered by its neutral status which also in the telegraph sector seemed to represent a solid sign of impartiality, enjoyed the first significant results of the efforts it had made in the 1850s to merge the two European telegraph unions, significantly renamed "the two large electric currents that divide Europe":

> The Berne conference took a giant step towards this desirable goal. The task was not at all easy. *Indeed, it meant bringing together the two large electric currents that divide Europe.* On the one hand France and the western states; on the other, Austria and the member states of the Austro-German union. Each of these two great powers wanted their own system to prevail. *Switzerland, neutral country, was tasked with finding an agreement and, if possible, unification.*[68]

Following the ratification of the treaty between Switzerland and the AGTU (represented by Baden, Württemberg and Austria) there was no reason why

the Austro-German union should not unanimously ratify a convention with France and Belgium at Brussels in 1858, convention which in turn was based on the one signed by the AGTU at Stuttgart in 1857. In the name of the AGTU, Austria signed the Friedrichshafen convention of 1858 which was practically identical to the one signed by the key members of the WETU at Berne in 1858. In short, the AGTU accepted and adopted the most significant principles underlying the conventions signed by the French-speaking union and, for this reason, on 1 March 1859 it also signed the Berne convention of 1858.[69]

Bregenz 1863: the imminence of an European telegraph union

Five years after the Friedrichshafen conference, Switzerland signed a telegraph treaty with the AGTU, represented by Austria, Baden, Württemberg and Bavaria. This treaty did not contain any major differences or new conditions, except for another attempt by Switzerland to introduce a single tariff system for telegraph correspondence with the AGTU countries instead of the existing zone-based one. This attempt failed yet again but Switzerland did at least manage to obtain a reduction (from 10 to 4) in the number of telegraph zones into which the AGTU territories were divided. In practice this reduction did not greatly further the Swiss Confederation's cause because Switzerland only had relationships with the first and second zone whose costs remained more or less the same.[70]

Instead, the Federal Council saw the Bregenz conference as a step forward on the road towards the creation of an European telegraph union. Louis Curchod, appointed director of Swiss telegraphs after Charles Brunner took over the management of the Austrian network in 1857, sent the Swiss Postal Services Department a memorandum claiming that most of the AGTU member states had now begun to understand the importance of creating a continent-wide telegraph union and that the time had come to accelerate the process. In particular, the time had come to "replace the various existing international treaties with a *single European treaty as soon as possible.*"[71] A few weeks later the Federal Council used similar words in a message to parliament expressing its optimism about the convocation of a future European telegraph conference: "we pin our hopes on the fact that a European treaty which supersedes all the other international treaties will soon be signed in general conferences in which we will invest all our energy."[72]

In December 1863 Switzerland signed an agreement with France to reduce the tariffs of telegraph correspondence between the two countries and on this occasion the French administration communicated to the National Council that it would soon convene a European-wide telegraph conference in Paris for the purpose of replacing the various treaties with "an international treaty that

would bring together the highest number of European states as possible."[73] The Swiss government was naturally pleased with this news because it would fulfil a commitment and achieve an objective that the Confederation had set ten years earlier:

> We can only be satisfied about the possibility of the general conferences which, we do not doubt, *will complete the structure of which we laid the foundations in the various telegraph conventions* now submitted for the approval of the Higher Federal Assembly and which could also, as regards the question of offices-border, *contribute to bringing the French Administration closer to our ideas.*[74]

Thus ended the decade leading up to the birth of the International Telegraph Union in 1865 and which, according to the historian Patrice Durand Barthez, was characterized by a sort of "diplomatic muddle" due to the presence of innumerable bilateral agreements between the various countries, to the fact that the conventions stipulated by the two unions were very similar but still separate and, finally, to a growing and pressing need to standardize international regulations regarding telegraphy.[75] The International Telegraph Union can, therefore, also be seen as the best solution to all these problems of standardization, compatibility and lack of clarity in the treatment of international telegraphy or as a sort of "natural outlet" of all the conventions and all the treaties that had preceded it.[76] As a matter of fact, both from an administrative and technical point of view the new regulatory framework of the international telegraph union would be a simplification, or better still, rationalization, of all the treaties that preceded it.

Conclusions. The Swiss strategy to unite the two electric currents

The Swiss Confederation's role in bringing the countries that formed part of the AGTU and the WETU together in an international telegraph union was crucial and, in fact, this institution was born also and above all thanks to the subtle strategy Switzerland employed and which was characterized by three elements.

First of all the Swiss government, exploiting its status of neutral country and reputation as an international mediator, often insisted on the fact that a structure so complicated as the creation of an international union would be possible only through "mutual concessions."[77] On the other hand, in a historical moment when the European national states and, in part, also nationalisms were on the rise or at the apex of their history, the mere idea of an international union amounted to a sort of renouncement: indeed, to create a supranational structure each country had to renounce part of its national sovereignty, entrusting to other external organisms the regulation of the structures, as well as the management and flows of international telecommunications.

A second strategy Switzerland employed to bridge the divide between the two unions was a policy which we can call "step by step." That is, the Confederation insisted that the conventions signed in the various AGTU and WETU conferences become increasingly similar until they were substantially the same. This strategy, inevitably linked to that of the mutual concessions, took time to implement and, indeed, the process lasted more than 10 years. However, on the other hand, this seemed to be the only way to make two groups of countries, which were already heterogeneous within themselves and distant also from political, economic, technical and social points of view, converge on similar positions. Completely overturning the conventions on every occasion or choosing one of the two conventions and making the other party adopt it would have been diplomatic suicide. The small but significant modifications, the identification and appropriation of elements contained in *the other* convention which were useful, the slow and dissimilar process of realization by the countries of the need to create an international organism to oversee European telegraph traffic were objectives which were reached above all thanks to the mediating skills of the Swiss Confederation.

There is a third and final strategic element that Switzerland used to assert its central role in the establishment of a European telegraph union. It is an element which, in practice, does not fall under the responsibility or within the Swiss know-how of telecommunications and which, instead, pertains to politics. In those years of wars in Europe, Switzerland was one of the few countries which boasted an excellent relationship with the Austrian Empire. Indeed, after the concessions made to Hungary in the wake of the turmoil of 1848, Austria had lost much of its German character and had become a multiethnic state in a historical context where the feeling of national identity was gaining ground. The Empire consequently became an obstacle for the powers that aspired to the Italian and German political unifications first and then to the Slav ones.

An extemporary element very probably contributed to reinforcing the relationship between Austria and Switzerland: that is, the fact that Charles Brunner, director of the Swiss telegraphs and the person who had begun the Swiss Confederation's Europeanization policy, became director of the telegraphs of the Austrian Empire in 1857. His closeness to the Federal Council and his friendship with Louis Curchod, who succeeded him, was probably decisive in this process of convergence.[78]

The other European States gradually understood that creating a European telegraph union without the contribution of Austria would be impossible, due to the extent of the territories of the Empire and because this country represented a gateway to the East and, therefore, played a strategically important role. Switzerland represented the main intermediary between the countries of the AGTU and Austria and, as pointed out, this role was clear when the

Federal Council was asked by the Kingdom of Sardinia to negotiate Vienna's presence at the Turin conference of 1857. The privileged relationship between Switzerland and Austria, which would clearly demonstrate its importance in the months running up to the first conference of the international telegraph union in Paris in 1865, balanced an alliance that had been forged in the early 1850s: the balance between Belgium, France and Prussia which signed two "mixed conventions" in 1852 and 1855. The other point of contact between the WETU and AGTU was created by Switzerland with the convention of Friedrichshafen of 1858. By persuading Austria to take a position close to that of the Berne conference of the same year Switzerland achieved two goals: on the one hand, it laid the basis for the largest country in the AGTU to be included in this progressive unification process; on the other, incorporating Austria and then Russia meant opening up a door towards the east and therefore towards the Asian colonies. Moreover, by doing this, Switzerland would take centre stage in the international telegraph scene and, in a broader sense, also on the European geopolitical stage.

NOTES

1 Hubbard, G. (1965). Cooke and Wheatstone and the Invention of the Electric Telegraph. London: Routledge & Kegan; Bowers, B. (2001). *Sir Charles Wheatstone FRS 1802-1875*. London: IEE; Kieve, J. (1973). *The Electric Telegraph: a social and economic history*. London: David and Charles.

2 Burns, R. (2004). *Communications: an international history of the formative years*. London: IEE; Hurdeman, A. (2003). *The Worldwide History of Telecommunications*. London: IEE;

3 Beauchamp, K. (2001). *History of Telegraphy*. London: IEE.

4 Aa. Vv. *L'Union Télégraphique Internationale (1865-1915)*. (1915). Bern: Bureau International de l'Union Télégraphique.

5 Blackbourn, D. (1998). *The long nineteenth century: a history of Germany, 1780–1918*. New York: Oxford University Press.

6 Herzig, A. (2008). *Schlesien. Das Land und seine Geschichte in Bildern, Texten und Dokumenten*. Hamburg: Ellert & Richter Verlag.

7 Habermas, J. (1962). *The Structural Transformation of the Public Sphere*.

8 Codding, G. A. (1952). *The International Telecommunication Union. An Experiment in international cooperation*, Leiden: E. J. Brill, and Durand-Barhtez, P. (1979). *Union Internationale des Télécommunications*. Thèse pour le doctorat en droit,Université de Paris I-Pantheon-Sorbonne Sciences Economiques-Science Humaines-Sciences Juridiques.

9 AA. Vv. *L'Union Télégraphique Internationale (1865-1915)*, 1915, p. 3.

10 Laborie, L. (2006). *La France, l'Europe et l'ordre International des communications (1865-1959)*. Thèse pour le Doctorat en histoire contemporaine, Université Paris IV-Sorbonne. pp.129-144.

11 Meyer V. (1946). *L'Union Internationale des Télécommunications et son bureau*. Bern: typescript, p.2.

12 Belgium, after the revolution of 1830, and Switzerland, following the civil war of 1847, had become states with a liberal institutional set-up and were ruled politically by representatives of the middle class; see Schiffino, N. (2003). *Crises politiques et démocratie en Belgique*. Paris: L'Harmattan, and Ruffieux, R. (1983). La Suisse des radicaux, in G. Andrey et al. *Nouvelle Histoire de la Suisse et des Suisses*. Lausanne : Payot, vol. 3. With the rise to power of Napoleon III in 1848, after having returned to republicanism for a brief period of time, France had abolished the main institutions imposed by the Bourbon Restoration; see Milza, P. (2004). *Napoléon III*. Paris: Perrin. With the approval of the Albertine Statute in 1848, the House of Savoy was forced to accept many

petitions made by the middle class; see Mack Smith, D. (1997). *Modern Italy: A Political History*. New Haven: Yale University Press.

13   The obligation to use Morse telegraph equipment for the international service was introduced during the Vienna conference the following year (1851); see Carrè, P. A. (1989). Archeologie d'une Europe des télécommunications. *Revue Française des Télécommunications*, October. p.75.

14   Traité d'Etat conclu le 25 juillet 1850 entre l'Autriche, la Prusse, la Baviere et la Saxe portant création de l'Union télégraphique austro-allemande, *Journal officiel general de l'Empire d'Austriche*, 30 September 1850.

15   Codding 1952: pp.13-29.

16   C. Bright (1898). *Submarine telegraphs. Their history construction and working*, London: Crosby Lockwood and Son.

17   Meyer 1946: p.2

18   Fari, S. (2008). *Una penisola in comunicazione : il servizio telegrafico italiano dall'Unita alla Grande guerra*. Bari: Cacucci, p.431.

19   On the AGTU's aim of political unification and on the WETU's essentially diplomatic one; see Milza (2004)

20   Codding 1952, p.16.

21   Great Britain, unlike the other countries, had not chosen the public monopoly regime for the telegraph sector but had instead favoured private competition. In the end it did not sign the agreements due to the difficulty of imposing on private companies tariffs that had been set at an international level. See Laborie 2006: p.153 and van der Herten, B. et P. Verhoest. (1995). La contribution belge à la creation des réseaux internationaux de communication du XIXe siècle. In M. Merger, A. Carreras, A. Giuntini (dir.), *Les réseaux européens transnationaux XIXe-XXe siècle: quels enjeux?*. Nantes: Ouest éditions.

22   Calvo, S., Balbi, G., Fari, S., G. Richeri. (2011). "La voie suisse aux télécommunications. Pllitique, économie, technolgie et société (1850-1915)". *Revue Suisse d'histoire, 61(4)*; pp.435-454.

23   Feuille Fédérale (hereinafter FF), vol. 3, number 45, 8 October 1853, p. 489.

24   FF, vol. 1, number 4, 9 January 1856, p. 110, our italics.

25   Ivi: p.111, our italics.

26   The zone-based tariff system envisaged the application of a tax each time a telegram passed a zone border. In this way, extending the zones also meant reducing their total number and, hence, the cost of the telegrams.

27   A key factor in understanding the uniqueness of Switzerland's position on telegraph tariffs and its interest in regulating them internationally should be noted. The Confederation could keep its tariffs low because of its unique geographic position: being in the heart of Europe, Switzerland could profit greatly from the transit of international telegraph traffic. That is, from the small percentages it received when dispatches between two foreign countries were transmitted through the Swiss network to reach their destination. Indeed, as parliament records state (FF, 11 March 1877, p. 423), with domestic telegrams alone Switzerland would have made a loss and the country was in a position where it could adopt the lowest European telegraph tariffs only because of the compensation it received from international traffic. It is therefore not surprising that the Swiss government paid such great attention to the development of international telegraphy.

28   On the instructions the Federal Council to its delegate at the Conference of Paris 1855 see FF, vol. 1, number 4, 9 January 1856, pp. 111-112.

29   Session of the international conference of Paris, 5 December 1855, in Archives Fédérales (hereinafter AF), Fond E 52, Archiv-No. 440, Band no. 2. On this question see also *Legation de France en Suisse à le president de la Confederation Suisse docteur Furrer*, 18 October 1855, in AF, Fond E 52, Archiv-No. 440, Band no. 2.

30   Descalzi, A. (1995). Creacion y desarollo de la Union Internacional de telecomunicaciones. In Magro, B., Llorente, M., O. Carvajal. *Las comunicaciones entre Europa y América (1500-1993) : actas del I Congreso Internacional de Comunicaciones*. Palacio de Congresos de Madrid 30 de noviembre - 3 de diciembre, pp.287-298.

31 FF, vol. 1, number 4, 9 January 1856, p. 112.

32 Ivi, p. 113.

33 Session of the international conference of Paris, 10 December 1855, in AF, Fond E 52, Archiv-No. 440, Band no. 2.

34 FF, vol. 1, number 4, 9 January 1856, p. 112.

35 The Federal Council claimed that "Our delegate ensured that all the modifications to the project which are favourable to Switzerland were accepted."

36 Session of the international conference of Paris, 18 December 1855, in AF, Fond E 52, Archiv-No. 440, Band no. 2, and FF, vol. 1, number 4, 9 January 1856, p. 112.

37 Legation de S.M. Le Roi de Sardaigne en Suisse à Monsieur Fornerod president de la Confederation, Berne 30 Nov. 1856, in AF, Fond E 52, Archiv. No. 441.

38 Département des Postes et des Travaux publics de la Confédération Suisse au Conseil fédéral Suisse, Berne 8 December 1856, in AF, Fond E 52, Archiv. No. 441.

39 Télégramme du Département fédéral des Postes à le Directeur Général des Télégraphes Paris, Berne 29 Dec. 1856, in AF, Fond E 52, Archiv. No. 441.

40 Legation de S.M. Le Roi de Sardaigne en Suisse à Monsieur Fornerod president de la Confederation, Berne 30 March 1857, in AF, Fond E 52, Archiv. No. 441.

41 Département des Postes et des Travaux publics de la Confédération Suisse au Conseil fédéral Suisse, Berne 17 August 1857, in AF, Fond E 52, Archiv. No. 443, Band no. 2.

42 Horrenberger says that the idea of merging the two Unions emerged for the first time at Turin. See Horrenberger, J.-C. (1976). *L'Union Internationale des Télécommunications ou Les exigences techniques comme factor de la coopération internationale*. Mémoire pour l'obtention du diplôme des Hautes Etudes Européens section des sciences de l'information, Université de Strasbourg. In our opinion, however, this interpretation is not entirely correct. The idea of the merger had been raised earlier but the Turin conference was an important occasion on which the countries of the WETU realized that they wanted to create a common telegraph space at a European level; see Legation de S.M. Le Roi de Sardaigne en Suisse à Monsieur Fornerod president de la Confederation, Berne 6 June 1857, in AF, Fond E 52, Archiv. No. 441.

43 Session of the Turin conference of 1857, 21 May 1857, in AF, Fond E 52, Archiv. No. 441, our italics.

44 Le Directeur Général de l'administration des lignes télégraphiques françaises à Monsieur Brunner directeur central des télégraphes Suisses, Berne 6 May 1857, in AF, Fond E 52, Archiv. No. 441.

45 FF, vol. II, number 61, 30 December 1858, p. 687.

46 Session of Turin, 21 May 1857, in AF, Fond E 52, Archiv. No. 441.

47 Ibidem.

48 FF, vol. II, no. 61, 30 December 1858, p. 688. This conference is famous above all because it introduced the practice of drawing up two types of documents at the end of the meeting: the conventions, and the rules that contained the instructions for the service (Codding 1952: 15).

49 FF, vol. II, number 61, 30 December 1858, p. 688.

50 Ibidem

51 Ibidem.

52 Département des Postes et des Travaux publics de la Confédération Suisse au Conseil fédéral Suisse, Berne 17 August 1857, in AF, Fond E 52, Archiv. No. 443, Band no. 2 and Session of Berne 1858, 24 August 1858, in AF, Fond E 52, Archiv. No. 443, Band no. 1.

53 The Netherlands, Württemberg and Baden were members of the AGTU but took part in the Berne Conference of 1858 as individual states.

54 Département des Postes et des Travaux publics de la Confédération Suisse au Conseil fédéral Suisse, Berne 17 August 1857, in AF, Fond E 52, Archiv. No. 443, Band no. 2.

55 Session of Berne 1858, 24 August 1858, in AF, Fond E 52, Archiv. No. 443, Band no. 1.

56 Ibidem.

57 FF, vol. II, number 62, 30 December 1858, p. 703, our italics.

58 Ivi: pp.690-91, our italics.

59 Saveney E. (1872). La télégraphie internationale. Les anciens traités et la conférence de Paris. *Revue des deux mondes*, 15 September: p. 365.

60 FF, Vol. 2, no 61, 30 December 1958, p. 694. Switzerland also played a role as translator between the unions because, perhaps due to its multilingualism, it often promoted the translation of the conventions from French to German in order to overcome the language barriers between the countries.

61 Ivi: p. 700.

62 Ibidem.

63 Ivi: p. 695.

64 Ibidem.

65 Ibidem.

66 FF, Vol. 1, number 6, 5 February 1859, p. 110.

67 Ibidem.

68 Ibidem.

69   Durand Barthez 1979: p. 32.

70 Rapport de Louis Curchod à le Conseil Federal sur la Conference de Bregenz, Berne 7 November 1863, in AF, Fond E52, Archiv no. 444.

71 Ibidem, our italics.

72 FF, vol. 3, n. 55, 19 December 1863, Message of the Federal Council to the Swiss parliament concerning the supplementary telegraph treaties with the Austro-German Union of 13 November 1863).

73 Ivi: p. 934.

74 Ibidem, our italics.

75 Durand Barthez 1979: p. 32

76   Fari, S. (2008). p. 430.

77 This was the term used by the commission of the Federal Council which assessed the outcome of the Berne and Friedrichschafen conventions (FF, vol 1, n. 6, 5 February 1859, p. 110).

78 Grossi, V. (1984). Le role international de personnalités suisses du XIXe siècle dans le domaine des télégraphes. *Hispo*, octobre: pp. 43-50.