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Multinational companies and their host countries, a relationship between integration and reciprocal resistance. The case of Compañía Alemana Transatlántica de Electricidad in Argentina, Uruguay, and Chile, 1898-1920

European und US-multinational companies stood at the centre of research in business history for about two decades starting from the middle of the 1970s. Nowadays the topic as such is still important since it reflects a long-term approach covering central aspects of business development. However, given the current interest in the history of globalisation, investigations in this field have shifted at least in part from Europe and North America to other regions of the world. In the meantime research in the history of multinational enterprise has extended its perspectives and looks now increasingly into relevant aspects of local politics and social relations which had hitherto played only a minor role. With more and comparatively smaller firms going multinational actual research also puts these 'pocket-multinationals' into wider contexts paying more attention to entire markets and branches if compared to what had been done before.

There are nevertheless some fundamental characteristics which have played their role as soon as research began in this particular field: capital, labour, and technology were not only fundamental factors of production and distribution during the period when multinational business started on a larger scale around the middle of the 19th century - these elements still are of basic importance if we consider the situation 160 years later. In a paper published in 2010 Geoffrey Jones quite succinctly characterized the beginnings of this development when he mentioned

[] radical improvements in transport and communications and the withdrawal of the state from economies, including trade regulation. As the nineteenth century progressed, there were unprecedented flows of people, capital and trade, and unprecedented integration of markets. Business enterprises were key to globalization. Firms put in place a global banking and trading infrastructure. A global transportation and communications network was built by cable, and telegraph and shipping companies. Manufacturers transferred the production of goods ranging from sewing machines to automobiles and aspirins internationally.¹

Among this flow of capital and technology, in part monitored by engineers and administrators sent by European and North American companies, we also find 'high technology' goods supplied by electro-technical producers in the United States, Germany, Britain, France, Switzerland or Italy from the 1890s onwards. They were primarily sent to areas of European settlement which enjoyed then already comparatively high standards of living as for instance British territories like Australia, New Zealand, Canada and South Africa or Latin American countries. Electrification, if compared to Western and Central Europe and to the United States, arrived only a few years later than in those 'core countries' and, given

¹ Geoffrey Jones, Multinational strategies and developing countries in historical perspective (Harvard Business School, working paper 10-076, 2010, pp. 3-4.

the different structure of settlement in these 'new parts of the world', was relatively more centred on cities and their immediate environment.²

This paper will first try to give an overview on the development of electrification and electrified urban transport in the capital cities of Argentina, Chile, and Uruguay ó Buenos Aires, Santiago de Chile, Montevideo ó and in two other important provincial towns, Mendoza in Western Argentina and Valparaiso on the Pacific coastline of Chile. In all of these cities electricity and/or electrified urban transport have been to a large extent introduced and further developed by a German company, Deutsch-Ueberseeische Elektrizitäts-Gesellschaft (DÜEG) of Berlin, founded in 1898. Since all three countries where DÜEG became active between 1898 and the First World War were Spanish-speaking its name in the Southern cone of the Americas was Compañía Alemana Transatlántica de Electricidad, CATE in its abbreviated form.

Having been created in Germany with most of the founding capital coming from German investors and doing then business in three different countries in Southern Latin America DÜEG/CATE can be defined for good reasons as a special case of a multinational company. Its official seat was Berlin but with its activities exclusively based overseas would DÜEG/CATE then have qualified as a 'free-standing company' according to the definition established by Mira Wilkins?³ Her concept of such a type of enterprise meant that it 'was administratively as well as legally independent ó that is, its management strategy was not subordinated to, nor coordinated with, that of a British company operating at home in the same industry.'⁴ Quite apart from the fact that DÜEG/CATE was not a British firm ó but this would not have changed the fundamental point made by Mira Wilkins ó its ties with its principal German founders ó with their technology and technical assistance as well as with their financial support - were certainly much closer than they would have been in many of the British examples presented by Wilkins.

Activities which aimed to establish an electricity firm from Germany in Buenos Aires had already started in 1897. In May 22 of that year we find a note in the *Review of the River Plate*, the leading weekly of the British business community in Buenos Aires and Montevideo, which said: 'The Public Works Department of the Buenos Aires Municipality has reported favourably on the petition presented by the Berlin Electric Light Company for leave to establish a light and power station and to extent underground mains in the city. If permission is accorded to the company, we shall then have five light companies in the city.'⁵ Only three weeks later Compagnie Générale d'Electricité de la Ville de Buenos Aires had been founded in Paris. It was meant to take over 'the works and electric concessions of Mr. Rufino Varela, in the city of Buenos Aires.'⁶ This firm from Paris had three founders: two French companies and the German Union Elektrizitäts-Gesellschaft, which for its part had been created by two German firms and the American General Electric Company.⁷ By itself, this example illustrates already very well the multinational character of an important part of

² Cf. William J. Hausman/Peter Hertner/Mira Wilkins (eds.), *Global electrification. Multinational enterprise and international finance in the history of light and power, 1878-2007*, Cambridge 2008, pp. 75-124.

³ Mira Wilkins, *The free-standing company, 1870-1914. An important type of British foreign direct investment*, in: *The Economic History Review* (1988), pp. 259-282

⁴ *Ibid.*, p. 262-263.

⁵ *The Review of the River Plate* [RPR] 286 (May 22, 1897, p. 35). The 'Berlin Electric Light Company' mentioned here was really the Allgemeine 'Elektrizitäts-Gesellschaft', founded in 1883 ó one of the two leading German electro-technical producers.

⁶ RPR 289 (June 12, 1897), p. 15. - Rufino Varela had been a pioneer of electrification in Argentina and particularly in Buenos Aires as has been pointed out almost four decades later by Carlos Alfredo Tornquist (Discurso pronunciado por Carlos A. Tornquist con motivo de celebrar Rufino Varela sus bodas de plata con la Compañía Argentina de Electricidad: 15 de Junio 1935, Buenos Aires 1935).

⁷ Deutsches Technik-Museum Berlin, Firmenarchiv AEG-Telefunken: Allgemeine Elektrizitätsgesellschaft [DTMB, FA AEG-TEL], Memorandum , A 2533, fol. 1-9.

the electric and electro-mechanical industry around 1900. Immediately after its foundation the *Compagnie Générale d'Électricité de la Ville de Buenos Aires* concluded a contract for the supply of electricity with the *Compañía de Tramways de Belgrano* which had announced its intention to electrify its networks. In these early times of electrification when private individuals were just starting to use electricity in their households having acquired a permanent user of the importance of a tramway company must have been an asset.

At the end of November 1897 *Allgemeine Elektrizitäts-Gesellschaft* (AEG), Berlin, following the same tendency, applied for a 60 years concession from the Buenos Aires city administration concerning the construction and the running of an electric tramway which would link the Southern part of the city with the harbour.⁸ This was just a forerunner to what happened then a few weeks later: On January 4th, 1898, *Deutsch-Ueberseeische Elektrizitäts-Gesellschaft* (DÜEG) ó *Compañía Alemana Transatlántica de Electricidad* (CATE) ó was established at Berlin with a capital of 10 million marks. The principal founders were AEG and *Deutsche Bank* which subscribed each 16 percent of the nominal capital of the new company. They were followed by *Berliner Handelsgesellschaft* ó not a commercial company but a bank working very closely with AEG ó which subscribed 12.8 percent and by other four banks from Berlin and Frankfurt. Among the founders we find also three non-German financial institutions: the London firm *Wernher, Beit & Cie.* whose German founders had made their fortunes in South African gold and diamonds⁹; it subscribed 10 percent. The other two ones were *Schweizerische Kreditanstalt* (*Crédit Suisse*) from Zurich (6 2/3 percent) and *Bank für elektrische Unternehmungen* (*Banque pour Entreprises Electriques*), - a holding for investments in the electric sector founded by *Crédit Suisse* and AEG - , also from Zurich, with a subscription share of 3 1/3 percent. The supervisory board of CATE ó the *Aufsichtsrat* according to the German legal system ó consisted almost exclusively of bankers from the founding banks. Its head was Arthur Gwinner of *Deutsche Bank*, his deputy was Carl Fürstenberg of *Berliner Handelsgesellschaft*. We also find Emil Rathenau, famous head of the huge AEG as a member of the DÜEG/CATE supervisory board as well as Wilhelm Staudt, leader of one of the most important German trading houses in Buenos Aires. Summing up one could say that the links between DÜEG/CATE and its predominantly German owners were guaranteed on the technical side by AEG, from 1906 to a minor extent also by Siemens, on the financial side by the German and Swiss banks, and to a smaller degree also by the London house of *Wernher, Beit & Cie.*. On the spot, in Buenos Aires, another banking house, *Deutsch-Ueberseeische Bank*, a 100 percent daughter institution of *Deutsche Bank*, provided the current banking services to DÜEG/CATE without being involved directly either in its foundation or in its long-term financing.¹⁰

The principal seat of *Deutsch-Ueberseeische Elektrizitäts-Gesellschaft* was, as already mentioned, Berlin but a few months afterwards Buenos Aires as a second seat with an own executive board was created between March and May 1898. This initiative was certainly a practical measure due to the distance between the German and the Argentine capital, possibly it was also meant to be a signal to the city administration of Buenos Aires which had just given its consent to the construction and operation of an electric power plant in the city.¹¹ This plant and all other electro-technical installations were, according to a meeting of the general

⁸ RRP 313 (November 27, 1897), p. 33; *La Nación*, November 26, 1897.

⁹ Cf. Robert V. Kubicek, *Economic imperialism in theory and practice. The case of South African gold mining finance 1886-1914*, Durham 1979, p. 53 ff.

¹⁰ Cf. Peter Hertner, *German banks abroad before 1914*, in: Geoffrey Jones (ed.), *Banks as multinationals*, London 1990, pp. 99-119, particularly pp. 103-105

¹¹ Cf. for further details P. Hertner, *Globale Elektrifizierung zu Beginn des 20. Jahrhunderts: Das Beispiel der Deutsch-Ueberseeischen Elektrizitäts-Gesellschaft in Buenos Aires, 1898-1920*, in: Hartmut Berghoff/Jürgen Kocka/Dieter Ziegler (eds.), *Wirtschaft im Zeitalter der Extreme. Beiträge zur Unternehmensgeschichte Deutschlands und Österreichs. Im Gedenken an Gerald D. Feldman*, München 2010, pp. 47-80, particularly p.55-59.

assembly which came together on May 23, 1898, to be constructed by AEG during a period of ten years. Such a contract contained the essence of what was called then in German *Unternehmensgeschäft*, i.e. a collaboration between an electro-technical producer who built for instance a power plant and the power lines on one side and a company which then produced and distributed electricity or an electric tramway company.¹² Such a deal helped to avoid that the electro-technical producer immobilized an increasing part of its capital in a growing number of electric firms which could not yet be sold in the capital market. It also permitted to create a larger market for electro-technical goods.

Relations between DÜEG/CATE and the Buenos Aires city administration fluctuated right from the beginning: The administration had to allow the electrification of the tramway network which CATE had bought in the meantime and wanted that CATE ó but also the other tramway companies - should pay for electric lighting in the streets of its district. In the end this request was given up.¹³ It also nominated an engineer for its municipal office of public lighting which meant that DÜEG/CATE would be presumably controlled in a more efficient way in the future. At the same time DÜEG/CATE started to build its first power plant right in the middle of the city of Buenos Aires. It took two years until its completion in 1900.¹⁴ Thus a first stage had been reached.

Worldwide, AEG was one of the four biggest electro-technical firms during the last decade preceding the outbreak of World War I, the others being two U.S. firms, General Electric and Westinghouse, and another German one, the Siemens group, the oldest of these four full-line manufacturers who produced and offered all sorts of electro-technical goods from light bulbs to complete power plants. In 1913, ö[í] German industry, with its comparatively limited home market, dominated world exports of electro-technical material with a share of 46 percent, followed by the British and U.S. industries with shares of 22 and 16 percent respectively.ö¹⁵ In South America, Argentina was the most important market for these goods as had already been established, among others, in a paper published by the U.S. Department of Commerce in 1919.¹⁶ German electro-technical imports were in a leading position in Argentina, Chile and Uruguay until the beginning of the First World War. In Argentina the German share of these imports amounted ó with the exception of two years ó to figures moving between 50 and 57 percent between 1903 and 1914. In 1913 Britain's share arrived at 29 whereas the United States could muster only a share of 7 percent.¹⁷ As far as Argentina's neighbour country Chile was concerned the share of electro-technical imports from Germany remained constantly higher than 55 percent with a peak of 81 percent in 1908. British imports to Chile reached their highest point in 1909 with a share of 31 percent. The Americans followed with a range varying between 8 and 19 percent. Even in comparatively small Uruguay German electro-technical industry had the lead, Britain and the U.S. followed at a certain distance.¹⁸

¹² Cf. P. Hertner, *Global enterprise before the Second World War. The example of the electro-technical industry*, in: Tamás Szmrecsányi/Ricardo Maranhão (eds.), *História de empresas e desenvolvimento econômico*, São Paulo 1996, pp. 109-110.

¹³ Cf. [printed] report of CATE/DÜEG for the business year 1898, p. 14.; RRP, July 15, 1899, p. 15; RRP, July 22, p. 15.

¹⁴ E. Hayn, *Die Entwicklung der deutschen Elektrizitätswerke in Buenos Aires*, in: *Phoenix* 12 (1926), pp. 131-176, and particularly p. 132.

¹⁵ P. Hertner, *Financial strategies and adaptation to foreign markets: the German electro-technical industry and its multinational activities. 1890s to 1939*, in: Alice Teichova/Maurice Lévy-Leboyer/Helga Nussbaum (eds.), *Multinational enterprise in historical perspective*, Cambridge/Paris 1986, pp. 145-159, data on p. 145.

¹⁶ Philip S. Smith, *Electrical goods in Argentina, Uruguay, and Brazil*, in: Department of Commerce. Bureau of Foreign and Domestic Commerce. Special Agents Series 184, Washington D.C. 1919, p. 25.

¹⁷ Gerhart Jacob-Wendler, *Deutsche Elektroindustrie in Lateinamerika: Siemens und AEG (1890-1914)*, Stuttgart 1982, p. 69.

¹⁸ *Ibid.*, p. 69, 155, 199-200.

If we forget the electro-technical business for a moment and try to cast an eye over the entire situation of Argentine trade we will find out that about 40 percent of German trade ó exports and imports alike ó with Latin America went to Argentina just before the Great War. But this should not let us forget that Argentina's most important trade partner remained the United Kingdom even if the share of imports from that country had diminished somewhat between 1900 and 1913 from 34.1 to 31.1 percent. On the other hand exports from Argentina to Britain had grown spectacularly during those years from 15.5 to 24.9 percent since there had been an important increase for shipments of frozen meat and grain. Germany came second as an importer to Argentina with its share increasing during the same years from 14.7 to 16.9 percent. Exports from Argentina to Germany had slightly diminished from 13 to 12 percent whereas Argentine exports to the U.S.A., a strong competitor in agrarian markets, remained rather small with a share of only 4.7 percent in 1913.¹⁹

But why did the choice for founding such an important electric company fall on Buenos Aires? Apart from the growing importance of Argentina as a trade partner of Europe and North America and apart from the functions of Buenos Aires as the capital city of Argentina and one of the most important trading posts in the world this city had also really dynamic demographic growth to show: In 1895 it counted 664.000 inhabitants who, almost twenty years later, in 1914, had increased 2.4 times reaching a figure of 1.576.000 dwellers, one fifth of Argentina's population ó thus Buenos Aires had become the largest city in the Southern hemisphere.²⁰

Going back to the further development of DÜEG/CATE after its first two years at Buenos Aires we are faced with the fact that the plan to get a regular *concession* from the municipality could not be realized and that instead of this plan the company managed only to get a *permission* from the city administration.²¹ A note can be found in the archives of the big French bank Crédit Lyonnais which had been written by its financial services at the beginning of 1908 and where it is said that - at least - until the end of 1907 CATE was working *õ[í] sous le regime d'une autorisation accordée par la municipalité sans monopole et sans limite de durée*²² which of course underlines the provisional character of this ruling.

At the end of the 1890s, when DÜEG/CATE was busy with building its own power plant, there were three other electricity companies ó the already mentioned French one and two British ones ó in town ó no wonder therefore that all four decided at the beginning of 1900 to create a cartel õin order to stop ruining the price levelö.²³ The countermeasure arrived promptly: in July 1901 when the City Council decided to control each company and let the *Intendente*, the City Mayor, decide on the tariffs of the electricity company.²⁴ With such a strategy ruled out concentration could be another way, and thus, already in March 1901, the shareholders meeting of DÜEG/CATE decided to take over the *Compagnie Générale d'Electricité de la Ville de Buenos-Ayres*. New shares, worth 6 million marks, together with old DÜEG shares to the value of 2 million marks would be handed over to the shareholders of the *Compagnie Générale d'Electricité*.²⁵ As a consequence of this merger new people from Berlin, Brussels and Paris ó representing *Union Elektrizitäts-Gesellschaft* but also the two big German banks *Disconto-Gesellschaft* and *Dresdner Bank* ó were coopted into the DÜEG board at Berlin. And this was not yet the end of the concentration movement in the Buenos Aires electricity sector: In 1903 control of the two other remaining companies ó the River

¹⁹ Ragnhild Fiebig-von Hase, *Lateinamerika als Konfliktherd der deutsch-amerikanischen Beziehungen 1890-1903*, Göttingen 1986, pp. 142-143, 173.

²⁰ Zulma L. Recchini de Lattes, *La población de Buenos Aires. Componentes demográficos del crecimiento entre 1855 y 1960*, Buenos Aires 1971, p. 8, 30.

²¹ DTMB, FA AEG-TEL: AEG. A 1062, fol. 1-10.

²² Archives historiques du Crédit Agricole, Paris, Fonds Crédit Lyonnais, DEEF 25239.

²³ DTMB, FA AEG-TEL: AEG. A 1062, fol. 24.

²⁴ RRP, August 3rd, 1901.

²⁵ Annual report of DÜEG/CATE for the business year 1901, p. 3.

Plate Electricity Company and the electrical part of the Primitiva Gas and Electric Lighting Company of Buenos Aires Ltd. was taken over by DÜEG/CATE. In the case of the River Plate Electricity Company most of the payment was done through the cession of DÜEG/CATE 5% bonds whereas Primitiva Gas received a yearly rent payment of £ 30.000 for a duration of 41 years.²⁶ For the owners of the two sold companies this was probably a good solution given the suboptimal size of their power plants and networks. As typical free-standing companies they were, compared with DÜEG/CATE, not backed by a large electro-technical firm or important banks. The Review of the River Plate, favourable to foreign capital without regarding *a priori* its nationality, commented the result of this concentration process as follows: 'If the light and power is to be cheapened, if we are to have a good service, then no harm will come from the monopoly which will, however, have to fight the Gas Companies.'²⁷ This was a rather positive statement but at this very moment the word 'monopoly' had been pronounced; it would stay with DÜEG/CATE for the next twelve years and then with its successor company CHADE.

As the only Buenos Aires electricity company from 1903 onwards CATE had to keep up its capacities with the needs of a steadily growing urban population, it had to take into account the demand stemming from a process of industrialisation which started by becoming slowly more dynamic and it had to look out for some larger clients as for example the tramway companies. This last initiative was taken rather soon, already in 1904, when DÜEG/CATE made a contract with the largest of these tramways, the Anglo-Argentine Tramway Company, founded in London in 1876. Through this agreement CATE became the exclusive electricity supplier for the Anglo-Argentine tram network which had by now become totally electrified. The Anglo-Argentine had, starting in 1897, been increasingly influenced by a group which consisted of the Gesellschaft für Elektrische Unternehmungen (Gesfürel, Berlin), a financial holding of Union Elektrizitäts-Gesellschaft, the Société Financière de Transports et d'Entreprises Industrielles, abbreviated under the name of Sofina (Brussels), and by the Société Générale de Chemin de Fer Économiques (Brussels). 'By 1909 the Anglo-Argentine assumed a virtual monopoly over the system, and, as a matter of fact, at that moment it controlled 536 km, which was about 80 percent of the tramway network in Buenos Aires. On these rails about 85 percent of the total Buenos Aires number of tram passengers were transported.'²⁸ Two years before, in 1907, a 'parallel action' had been realized by which Gesfürel, Sofina, and Chemin de Fer Économiques founded a new holding, the Compagnie Générale de Tramways de Buenos-Ayres. They acted together with the big German banks who had already before participated at the foundation and at the further financing of DÜEG/CATE or the banks supplying probably more than half of the capital of the new Compagnie Générale de Tramways. Through this operation a majority of votes at the annual shareholder meetings of the Anglo-Argentine was to be guaranteed.²⁹ Sofina which acted as a financial holding for AEG in its international operations, above all during the last decade before World War I, seems to have made itself very useful as a sort of mediator between the interests of the 'original' British tramway shareholders and the German 'electro-technicians'.³⁰

²⁶ Annual report of DÜEG/CATE for the year 1903.

²⁷ RRP, July 4th, 1903, p. 11.

²⁸ Raúl García Heras, Transportes, negocios y política. La Compañía Anglo Argentina de Tranvías, 1876-1981, Buenos Aires 1994, pp. 14 ff. ; James R. Scobie, Buenos Aires. Plaza to suburb, 1870-1910, New York 1974, p. 177 (quote).

²⁹ For a detailed list of sources and literature concerning this 'manipulation' cf. P. Hertner, Globale Elektrifizierung zu Beginn des 20. Jahrhunderts: Das Beispiel der Deutsch-Ueberseeischen Elektrizitäts-Gesellschaft in Buenos Aires, cit., p. 67, note 96.

³⁰ Cf. Raul García Heras, The Anglo-Argentine Tramways Co. Ltd. and its impact on the urban economy of Buenos Aires, 1876-1930, in: Carlos Marichal (ed.), Foreign investment in Latin America: Impact on economic development, 1850-1930, Milano 1994, pp. 83-92, and particularly p. 89.

The obvious main task of DÜEG/CATE - after having become the exclusive supplier of electricity in the federal district of Buenos Aires - was to increase its capacity as a producer of energy. This was done through the adaptation and modernization of those plants which had been taken over from the smaller companies between 1900 and 1904: the most important step was to equip them with the latest technology, above all with turbogenerators, as happened in 1909 with the plant at Boca in the Southern part of Buenos Aires which before had belonged to the Anglo-Argentine tramways.³¹ At the same time plans were made for the construction of a big new power plant at Dock Sud directly at the water front. This would allow the direct extraction of cooling water from the Rio de la Plata as well as the direct delivery by boat of the necessary 200.000 tons of British coal per year, the equivalent of about 50 shiploads, thus roughly one per week. The first plans for these entirely new works were designated for the installation of four large turbogenerators with a capacity of altogether 30.000 KW, with a planned future enlargement to a capacity of about 150.000 KW.³² The first stage of this new power plant was ready for inauguration in May 1910. Until 1914 the double of the initial capacity was reached with a figure of 67.000 KW.³³ Within the Argentine framework the Buenos Aires power plants had reached a share of national capacity in the electricity field of 71.2 percent and thus dominated the national scene. A decade later, in 1921, Buenos Aires electric plants could still boast a share of 62.5 percent but now, as will be shown, a new competitor, Compañía Italo-Argentina de Electricidad, had entered the game in the capital of Argentina.³⁴

After having achieved - at least temporarily and starting from 1904 - a virtual monopoly position in the electrical sector of Buenos Aires DÜEG/CATE started, from 1905, a regional and national process of diversification beginning with the Argentine neighbour country Chile. For that purpose a substantial part of the Chilian Electric Tramway and Light Company (CELTC) - almost all preferential shares of altogether £ 600.000 and 80 percent of its £ 500.000 ordinary shares - were exchanged for new shares of DÜEG/CATE. Chilian Electric Tramway and Light had been founded in 1898 by AEG, Deutsche Bank, Nationalbank für Deutschland as well as by the South African mining company Wernher, Beit & Co. which had participated, also in 1898 as already observed above, at the foundation of DÜEG/CATE. In 1905, when it fell under the control of DÜEG/CATE, Chilian Electric ran an electric tramway network of 97 kilometres length and a steam power plant in Santiago de Chile. A hydroelectric power station was added from 1908/09. DÜEG/CATE financed the takeover of CELTC in 1905 by increasing its share capital from 22 to 36 million marks.³⁵

Valparaíso was Chile's principal harbour on the Pacific coast. In 1900 it had 162.447 inhabitants which made it about half as large as the capital city Santiago. Its first horse-driven tramway dated from 1863. In September 1903 a company called Elektrische Straßenbahn Valparaiso Aktiengesellschaft/Tranvías Eléctricas de Valparaiso with a capital of 5 million marks, of which 2 million marks had been paid in, was created in Berlin.³⁶ Its principal founders were Siemens, AEG, Deutsche Bank, Disconto-Gesellschaft, and Berliner

³¹ Cf. La Compañía Alemana Transatlántica de Electricidad en ocasión del 1° centenario de la independencia de la República Argentina, Buenos Aires 1910, p. 42.

³² Ibid., p. 47 ff.

³³ E. Hayn, Die Entwicklung der deutschen Elektrizitätswerke in Buenos Aires, cit., p. 142.

³⁴ German Niebuhr, Las centrales eléctricas de la República Argentina, Buenos Aires 1922, p. 4; cf. also E. Hayn, Die Entwicklung der deutschen Elektrizitätswerke in Buenos Aires, cit., p. 144-145.

³⁵ Cf. G. Jacob-Wendler, Deutsche Elektroindustrie in Lateinamerika, cit., pp. 75-76. - For a more detailed outline of the development of public transport in Santiago de Chile cf. Peter Hertner, Foreign direct investment in Chile and local public utilities. Electric tramways and the first electrical power plants in Santiago de Chile and Valparaiso between 1898 and 1920, in: Asociación Chilena de Historia Económica (ed), Chile y América en su historia económica, Valparaiso 2013, pp. 89-100, and more particularly pp. 91-95.

³⁶ Victor Domingo Silva, Monografía histórica de Valparaíso, desde su descubrimiento hasta nuestros días, 1536-1910, Valparaíso 1910, p. 37; Allen Morrison, The tramways of Chile, 1858-1978, New York 1992, p. 31.

Handelsgesellschaft. Tranvías Eléctricas was much smaller than Chilian Electric ó its lines measured only 27 kilometres. For a steadier electricity supply it constructed a hydroelectric plant at an artificial lake, 20 kilometres south of Valparaíso. This positive tendency was brutally interrupted by ðthe great Valparaíso earthquakeö which destroyed, on August 16, 1906, entire zones of this city. More than 3.000 people were killed on that occasion, the tramway company suffered important material losses.³⁷ Apart from these problems the Valparaíso tramway played an important role as an example of technical and financial collaboration of the two large German electro-technical groups, AEG and Siemens. Both firms, which in many cases showed quite a dogged behaviour when confronted with each other, demonstrated in this specific event that exceptionally they could work together quite harmoniously. Concretely speaking this meant that from now on for all Valparaíso orders the Siemens group got its share of electro-technical orders even if in this specific case its share remained smaller than originally expected and in any case below AEG's part.³⁸ This collaboration was then also extended to the entire DÜEG/CATE where from now on Siemens-Schuckert gained three seats in the supervisory board and participated occasionally when new orders had to be placed.³⁹

In the same year 1906 DÜEG/CATE bought two horse-driven tramways in the Uruguayan capital of Montevideo for a total sum of 11.7 million marks. Within a few years the Montevideo network with a length of altogether 65 kilometres was electrified and a new company, called La Transatlántica, was founded which comprised the two acquisitions. Together with a slightly larger British company, La Transatlántica dominated public urban transport in Montevideo.⁴⁰

If the management of DÜEG/CATE had thought that with a virtual monopoly having been achieved in Buenos Aires by 1904/05 its principal problems might have been solved, then it was certainly mistaken. As in many other cases, not only in Latin America but also in Europe, conflicts between such a company and the city administration increased over time instead of becoming less. This had a lot to do with expectations: Consumers of energy became used to the advantages of this new technology, used it increasingly and expected prices to be falling within a few years, not within a few decades. The energy supplier on the other side was still living under the impact of large investments done only a few years before. He did therefore not believe that he would be able to agree to substantial reductions granted during the first years after having entered this business. The third player in this game was the municipal administration which lived everywhere with the aim of winning the next local elections with a promise of lower energy prices. As a matter of fact Buenos Aires supplied quite a lot of illustrative material for such a case study: Already in 1904 the city tried to push DÜEG/CATE to grant a substantial price reduction for electric energy. The municipal council already at that point discussed the possibilities for an eventual municipalisation of the electric service or at least for the creation of competing municipal electric works. For the moment nothing came out of this but a new *Intendente* ó that was the head of the Buenos Aires city administration ó saw better chances for the conclusion of a formal contract of concession. Thus such a formal concession was authorized at the end of 1907. DÜEG/CATE declared to be satisfied with lower prices per KWh and to accept a reduction of the term of validity to fifty years whereas the city administration insisted to be able to admit also other electricity producers to the municipal territory. This could mean that in the future the present monopoly

³⁷ Cf. Samuel Martland, *Reconstructing the city, constructing the State: Government in Valparaíso after the earthquake of 1906*, in: *Hispanic American Historical Review*, 87 (2007), pp. 221-254, particularly p. 236.

³⁸ For examples of such 'cooperations' between these two large firms in Germany and beyond see P. Hertner, *Financial strategies*, passim.

³⁹ Cf. G. Jacob-Wendler, *Deutsche Elektroindustrie*, p. 77; see also the annual report of DÜEG for the year 1906, p. 2.

⁴⁰ Cf. G. Jacob-Wendler, *Deutsche Elektroindustrie*, p. 76 f., 200 ff.

would be no longer dominating the scene.⁴¹ The municipal tax on all sales of electric current by DÜEG/CATE was fixed at 6 percent, one percent more than the previous rate; no other duty was allowed to be levied.⁴² The city authorities also guaranteed that any other competitors who might enter the market at a later moment would have to accept the same conditions.⁴³ We find a remarkable statement on this compromise in the Review of the River Plate of December 6, 1907 where it says: „[í] the authorities are to be congratulated in having at last placed this question on a proper footing and the shareholders must feel satisfied in now having a proper concession. In fifty years time the whole of the property of this Company will revert to the Corporation and the City will then find itself the owner of one of the best electric light and power systems in the world.“ There is, however, sufficient indirect evidence to believe that the granting of the concession for DÜEG/CATE had been linked to the payment of bribes to members of the local government.⁴⁴

As a matter of fact, competitors did not wait for a long time: At the end of 1911 a new firm, Compañía Italo-Argentina de Electricidad CIAE) with a share capital of 5 Mill. Pesos, was founded in Buenos Aires and admitted by the Argentine government. The founders were members of a group of Italo-Argentine entrepreneurs, in part also important Italian firms like the cable producer Pirelli which one year earlier had founded a branch in Argentina and the well-known engineering firm Tosi. We also find the most important Swiss electro-technical producer, Brown, Boveri & Cie., represented by its financial holding Motor A.G., as well as two large Swiss banks. This new competitor CIAE looked, at least on paper, highly qualified and was, strictly speaking, „more“ multinational than DÜEG/CATE itself. Its principal founders from Italy and Switzerland were certainly looking for new markets abroad, and, last but not least, among its promoters and shareholders we find also Argentine personalities and firms.⁴⁵ At the beginning of 1912 CIAE had declared that it wanted to be active only outside of the city district of Buenos Aires but then it changed its mind when it got a positive vote from the Buenos Aires Concejo Deliberante, the city council, on October 1st, 1912. Protest by DÜEG/CATE against this decision was to no avail.⁴⁶ As the German company five years earlier, CIAE seems to have paid bribes to members of the city council and to technical experts in order to get its concession smoothly and in the way it had desired.⁴⁷ The general motive of the Buenos Aires authorities has however been well summarized by a German government technician, attached to the German legation to Argentina: „From the Argentine side one might have preferred generally speaking competition coming from another nation in this field, particularly if one keeps in mind the railway sector.“⁴⁸ It took in any case some time until the new competitor became perceptible in the Buenos Aires market: That moment had arrived four years later, at the end of 1916, when the first large steam plant of CIAE started to produce electricity. In 1918, the Italo-Argentina produced 50.827.658 kilowatt hours, that was

⁴¹ See *La Prensa* vom 13., 18., 23. und 24. 10. sowie vom 4. 12. 1907; *La Nación* vom 3. und 4. 12. 1907.

⁴² E. Hayn, *Die Entwicklung der deutschen Elektrizitätswerke in Buenos Aires*, cit., pp. 137-138..

⁴³ The texts of the concessions for DÜEG/CATE dating from 1907 and the later ones for the Compañía Italo-Argentina can be found, among others, in the National Archives, London (FO 118/336). Cf. also a corresponding article in *Elektrotechnische Zeitschrift* of February 20, 1908, p. 1381.

⁴⁴ Evidence can be found in the diary of Paul Wallich, son of one of the founders of Deutsche Bank, who in 1909/10 made a trip to South America where in Buenos Aires he met a manager of Deutsch-Ueberseeische Bank/Banco Aleman Transatlántico who showed him some „proofs“ of such initiatives (Cf. Paul Wallich, *Banco Alemán Transatlántico. Eine Reise durch Südamerika*, Mainz 1986, p. 61.

⁴⁵ Cf. Bruno L. Bezza, *Il capitale italiano nell'industria elettrica argentina (1910-1920)*, in: idem (ed.), *Energia e sviluppo. L'industria elettrica italiana e la Società Edison*, Torino 1986, pp. 257-286; Maria Ines Barbero, *Grupos empresarios, intercambio comercial e inversiones italianas en Argentina. El caso de Pirelli (1910-1920)*, in: *Estudios Migratorios Latinoamericanos* 5/15-16 (1990), pp. 311-341.

⁴⁶ Cf. M. I. Barbero, *Grupos empresarios*, cit., p. 331; cf. also *La Prensa* of August 21, 1912.

⁴⁷ Cf. M. I. Barbero, *Grupos empresarios*, cit., p. 331, note 74.

⁴⁸ Bundesarchiv Berlin, R 901/1039, fol. 17 (report of August 15, 1912).

about a quarter of the electricity delivered by the various plants of DÜEG/CATE.⁴⁹ One might say that until the middle of 1920, when DÜEG/CATE was transformed into CHADE, its new competitor CIAE remained more of a potential threat than a really powerful competitor.

When World War I broke out as an almost unexpected event DÜEG/CATE found itself nevertheless in a relatively comfortable position. The companies and projects outside of Buenos Aires in which the firm then owned participations and which it controlled did mostly obtain somewhat lower profits than the original enterprise in the Argentine capital but they contributed at least with minimal results. Apart from that they had all, in the framework of the well-known *Unternehmensgeschäft*, delivered important gains to the electro-technical producers ó above all to AEG and Siemens who had become also shareholders to DÜEG/CATE. A look at the company's balance sheets shows us that there was a first period of rapid growth between 1906 and about 1910 when share capital of DÜEG doubled in 1906. This had to do with the already mentioned expansion in Chile and Uruguay in 1905/06 as well as with the growth of production in Buenos Aires, particularly with the construction of the big power plant at Dock Sud. A consequence of this latter investment was also the issue of 5 percent bonds for a total sum of 55 million marks. In 1913 DÜEG belonged to the small group of leading German joint-stock companies. If we leave the big German banks aside because of their particular balance sheet structure, then DÜEG stood at the sixth place, only behind Krupp and the Gelsenkirchner-Bergwerks-AG, two groups of heavy industry, behind HAPAG, the largest German shipping concern, and the two electro-technical giants Siemens-Schuckert and AEG.⁵⁰ With the payment of 11 percent dividends each in 1912 and 1913 DÜEG belonged clearly to the leading group of German firms.

Such a dynamic rate of growth determined on the other hand a steady and extensive demand for new capital arising from the company's needs for new investment and from the necessity to distribute yearly profits sufficient to attract new and to satisfy old shareholders. Not surprisingly on these problems discussions followed in the yearly shareholders' meetings of DÜEG, so for instance in the extraordinary session of January 30, 1911. On that occasion a shareholder had criticized that raising the company's capital year after year by comparatively modest increases did make less sense than waging an increase only occasionally but then in an important dimension. In his answer the head of DÜEG's supervisory board, von Gwinner ó who happened also to occupy the same position at Deutsche Bank at that moment - , pointed out that the company had to cover ñnot only one but four large and several smaller businesses.ö That should explain its continuously growing need for capital. Besides, shareholders of DÜEG received now almost each year, according to von Gwinner, the possibility to subscribe for valuable new shares of this company.⁵¹

The First World War, in which Argentina as well as Chile and Uruguay remained neutral, brought nevertheless a lot of problems to DÜEG/CATE and its daughter companies in Santiago de Chile, in Valparaíso, in Mendoza, and in Montevideo. The British sea blockade prevented at least all direct links with Germany already a few days after the start of war. Spare parts for the power plants and for the networks could thus no longer cross the ocean, the transport of staff on neutral ships became increasingly difficult. More problematic still became the supply of coal from Britain to Buenos Aires and Montevideo if it was earmarked for DÜEG/CATE or for the CATE subsidiaries running part of the Montevideo tram network.

⁴⁹ Cf. *Evolución y desarrollo de la Compañía Italo-Argentina de Electricidad en los primeros veinte años de su actividad*, Buenos Aires 1931, p. 2, 17.

⁵⁰ Diane Dammers/Hendrik Fischer, *Die Performance der deutschen Wirtschaft ó die Entwicklung der Großunternehmen im 20. Jahrhundert im europäischen Vergleich*, in: *Jahrbuch für Wirtschaftsgeschichte*, 2006, pp. 145-158, particularly p. 154, table 2.

⁵¹ Cf. *Börsenzeitung* of January 30, 1911: §Die Expansion der Deutsch-Ueberseeischen Elektrizitäts-Gesellschaftö.

It took nevertheless more than a year until the British control measures against German trade really started to work efficiently.⁵² An enormous problem for the German investors as well as for the South American consumers was the steep rise in coal prices during the war years, and this fact could be set off only in quite an imperfect way by employing other sources of energy.⁵³

So far British sources have provided us only with an imperfect picture of these problems. The impression however prevails that at least until the spring of 1917- the British government did not really dare to cut off such an important enemy firm from coal supply. As a matter of fact, by supplying electricity above all to Buenos Aires DÜEG/CATE delivered also substantial services to a neutral country like Argentina which for Britain was of great importance not only because of the large British capital invested on its territory but also because of its impressive possibilities to supply food for the British population. Thus a document of the British Foreign Office, dating from April 5, 1917, described the dilemma quite clearly:

“The Company has not been included in the statutory list in order not to interfere with their importation of coal, and because of the dependence of the Anglo-Argentine Tramways Company on them for current.- Owing to the increasing scarcity of tonnage, and the natural objection of utilizing ships for supplying coal to an enemy enterprise, the question might be considered whether the Company’s fuel requirements could be met by the use of Argentine wood.”⁵⁴

For the British authorities this was certainly a dilemma because, given such a situation, the Anglo-Argentine Tramways Company could point out that the Argentine state would eventually have withdrawn the tramway concession had they interrupted their services. For that very reason it depended therefore on a regular electricity supply offered by DÜEG/CATE which for their part could not fulfil their contract without a steady delivery of British coal.⁵⁵ The situation was not much different in the case of the DÜEG/CATE tramways in Montevideo, and the British authorities did in the end decide in the same way as they had already done in the case of Buenos Aires.⁵⁶ The context is well reflected in a telegram dispatched by the British Legation to Uruguay and sent to the Foreign Office on February 20, 1918, where it is underlined first of all that the coal supplies of the British tramway company at Montevideo are at present extremely low. It then continues as follows:

“If the tramway ceased the life of the city would be paralysed. In fact it would be a real disaster not only for the city but for us. The popular odium which we would incur might seriously compromise our political situation especially as the German tramway company seems able to continue its service in spite of great difficulties.”⁵⁷

One can hardly overlook in both places, in the Argentine as well as in the Uruguayan capital, the specifically “political” character of the local electric tramways since they had by now become indispensable means of urban mass transit. The English concept of “public utilities” reassumes quite well this double quality.

Finally we should shortly mention the acquisition done by DÜEG/CATE in 1910 of 85 percent of the capital of Empresa de Luz y Fuerza at Mendoza in front of the Andes

⁵² Cf. Phillip Dehne, From “business as usual” to a more global war: The British decision to attack Germans in South America during the First World War, in: *Journal of British Studies* 44 (2005), pp. 516-535.

⁵³ See the data on the various types of energy supply during the war years in Bill Albert, *South America and the First World War. The impact of the war on Brazil, Argentina, Peru and Chile*, Cambridge 1988, p. 75.

⁵⁴ National Archives, Kew, FO 382/1663.

⁵⁵ *Ibid.*, file 210929 (November 11, 1917).

⁵⁶ National Archives, Kew, FO 505/355, FO 505/356.

⁵⁷ *Ibid.*, FO 505/357.

mountains and rather close to the Chilean border. The idea was to electrify the local tramway and to build a hydropower central not far from town.⁵⁸

The lack of coal or, if it was available, its high prices - remained to be a formidable problem for DÜEG/CATE during and immediately after the Great War. Up to a certain extent coal could be replaced by oil coming from the wells of Comodoro Rivadavia in Patagonia or by quebracho wood from Chaco province in the extreme North of the country.⁵⁹ Energy costs soared in any case for electricity production in Buenos Aires, if calculated in German (gold-)marks, from 0,04 marks on average in 1914 to 0,14 marks in 1917, i.e. they were multiplied by 3.5. During the same time-span total costs for fuel increased from 7.9 million marks to 27 million.⁶⁰ As a consequence of this development the yearly profit of DÜEG/CATE sank between 1914 until 1917 from 23.3 million marks to an amount of 12.1 million whereas in 1918 even a loss of 530.000 marks had to be registered. Dividends sank from 11 percent in 1912 and 1913 to 10 percent in 1915 and 7 for the following year. There were no dividend payments in 1917 and 1918 except for preferential shares which amounted to 6 percent during the entire war years.⁶¹

What has been said here about DÜEG/CATE subsidiaries in Buenos Aires and Montevideo was to a great extent comparable to the companies in Santiago de Chile and in Valparaíso. The only important difference must be seen in the fact that CELTC which owned and ran the tramways as well as part of the electric works in Santiago was legally speaking a British company right from its creation in 1898 even if its founders, as already shown above, were mostly German firms. When the First World War broke out in August 1914 the British authorities in London seized CELTC which was registered in London as being a British company owned by the enemy, i.e. DÜEG/CATE.⁶² A few months later the German managers and engineers in Santiago were replaced by British subjects. Of course, nothing comparable happened at the Valparaíso Tramway Company, since it was registered in Germany and in Chile, the latter observing strict neutrality.

All of these foreign direct investments in the electricity sector, most of them created and all of them controlled by DÜEG/CATE at least until 1914, should not be imagined as having been in the first line remotely controlled by its German shareholders and its mostly German managers. Not that those were not very important for the development of these industries but at the same time the mother company and its subsidiaries had to get along in a foreign, culturally different environment. They had hundreds or even thousands of employees who came very often from quite another background, many of them immigrants or descendants of immigrants from Southern European countries or the majority from Italy and Spain or and not at all acquainted with the political, social and cultural background of workers from Wilhelmine Germany which presumably was much better known to the German management.

This short essay cannot pretend to cover such an intricate problem in depth. Simplifying to the utmost one might at least mention that during the last two decades of the

⁵⁸ Cf. G. Jacob-Wendler, *Deutsche Elektroindustrie*, cit., p. 82.; Yearly report of Deutsch-Ueberseeische Elektrizitäts-Gesellschaft for 1910, p. 8.

⁵⁹ According to Hayn some oil was already used in 1915 in the power plant Dock Sud (cf. Hayn, *Die Entwicklung*, cit., p. 161); cf. also *Elektrotechnische Zeitung*, January 27, 1916, p. 56.

⁶⁰ Yearly report of DÜEG for the year 1917, p. 4.

⁶¹ Cf. the data in: *Effekten-Kursblatt* N° 292 of *Crédit Suisse* (Schweizerische Kreditanstalt) of April 30, 1920.

⁶² In his annual report for the year 1911 the British envoy to Chile mentioned the transfer of property of CELTC to DÜEG/CATE which had happened already five years earlier by commenting: "It is said that Germans frequently absorb British concerns, retaining the English name, which has a greater commercial value. An instance of this is the Chilean [sic] Electric Tramways and Light Company, where the English manager has just been replaced by three German joint managers." (National Archives, Kew, FO 371/1309: Chile. Annual report. 1911, p. 6).

19th century and above all in Buenos Aires, i.e. in the city which experienced the strongest impact of immigration, two fundamentally different currents existed in the working class movement:⁶³ There was on the one hand the socialist/socialdemocratic workers' part which consisted essentially of immigrants from Central and Northern Europe, Germany in the first instance. The opposing side was formed by immigrants from Southern Europe, principally from Spain and Italy. They belonged mostly to anarchistic/syndicalistic currents, imported from their mother countries. The socialist workers movement did not have much of a success in the elections of the 1890s. That was the reason why the anarchists tried to come to a better results within the trade unions. As Samuel Baily has put it: "Despite the formation of the socialist-controlled Unión General de Trabajo (UGT) in 1903, the anarchists were the strongest single faction in the labor movement until 1910, when the government suppressed their activities."⁶⁴

Around 1900, in Buenos Aires one found slightly more immigrant workers without the Argentine citizenship than workers who were also citizens. The immigrants became the aim of sometimes ruthless repression by the Argentine government: A law was passed in 1902 which authorized the government to deport all foreigners who might endanger public order or national security. Eight years later, in 1910, another law, called "law for social defence", forbade among other things the immigration of anarchists as well as meetings and publications of the same political tendency.⁶⁵ All in all, the first decade of the 20th century ó when DÜEG/CATE established itself in Buenos Aires ó saw "an extraordinary explosion of labour activity" in the city.⁶⁶ During these ten years the government declared siege four times in the country.⁶⁷

There were, of course, also strikes in the reign of urban infrastructure: gas, water, electricity, public transit. Frequently a strike in one of these branches influenced the output in another. One example would be a short strike of the DÜEG/CATE workers in November 1904. Since already at that moment they supplied most of the Buenos Aires tramway companies with electric current, because of the lack of electricity a large part of the tramways could not run for a few hours.⁶⁸ Labour relations in the electricity sector seem to have been tense from now and then. So DÜEG/CATE made for instance few concessions to its working staff as was explained by the "Review of the River Plate" in its issue of January 11, 1907:

"Some of the employees of the German Electric Light Co[mpany], at their Paseo Colon power house, went out on strike with a view of obtaining shorter hours and more pay. The Company soon replaced the men, who have now written to the press complaining that they have been treated unjustly by the Company."⁶⁹

Strikes at the Anglo-Argentine Tramways and in the tramway sector in general were certainly more frequent in the pre-World War I period than those which happened in the electricity production branch. So was for instance the general strike of November 22 in Buenos Aires, the first of its kind in Argentina and in entire Latin America, preceded by a tramway strike at the Anglo Argentine which took place already two days before the general strike. In this

⁶³ Cf. Samuel L. Baily, *Labor, nationalism, and politics in Argentina*, New Brunswick, NJ 1967, p.9; José Panettieri, *Los trabajadores*, Buenos Aires 1967, pp. 113-134; Julio Godio, *Historia del movimiento obrero argentino, 1870-2000*, vol. 1, Buenos Aires 2000, pp. 67-117.

⁶⁴ S. L. Baily, *Labor, nationalism, and politics*, p. 20.

⁶⁵ *Ibid.*, pp. 25-26.

⁶⁶ Michael M. Hall/Hobart A. Spalding, *Urban labour movements*, in: Leslie Bethell (ed.), *Latin America. Economy and society, 1870-1930*, Cambridge 1989, pp. 183-223, quote on p. 204.

⁶⁷ *Ibidem.*

⁶⁸ RRP, November 26, 1904, p. 1103.

⁶⁹ *Ibid.*, p. 85.

context we cannot look at each one of the following tramway strikes⁷⁰ but the general picture is clear enough: Apart from difficult working conditions and probably rather low wages there was a reason which explains maybe best the comparatively high frequency of tramway and railway strikes, i.e. the transportation sector was the part of the Argentine economy where the degree of organization of employees reached the highest level. At a later stage, in 1922, consolidation of these workers in the Unión Ferroviaria created the biggest trade union at the national level.⁷¹

As we have already seen above there were major problems even for a neutral country like Argentina once the First World War had begun. Under these totally changed conditions labour relations, even in the South of Latin America, came under pressure from the global economic system. As the war years passed by a growing number of industrial actions could be counted in many branches. The principal reason for the fast increase of labour unrest, particularly in 1917, must probably be traced in the rapid rise of the cost of living. This should be clear if one looks at the real wage situation for industrial workers in Argentina: between 1914 and 1917: they fell by about 30 percent.⁷² At the beginning of September 1917 the stokers in the largest DÜEG/CATE power plant at Dock Sud in Buenos Aires went to strike.⁷³ Their aims were higher wages, reduced working hours and improved working conditions at the ovens. The company promised to honour some, but not all of these wishes. At the same time however the *Intendente*, the Mayor of Buenos Aires who had been nominated by the government, sent 400 soldiers from the Argentine navy who were supposed to replace the striking workers. Soldiers and policemen were also sent in order to protect the strike-breakers, met at the disposal by the State, as well as the installations of DÜEG/CATE. The electricity company declared to be ready for concessions which, however, the strikers said to be insufficient. The current strike had also negative consequences for public transport, as we can read in the "Review of the River Plate" of September 7, 1917:⁷⁴

"The Anglo-Argentine Tramway Company announced that owing to the strike at the German Power Station, they would be obliged to reduce the circulation of their coaches very considerably between the hours of 5 and 9 p.m., when the city lighting was most intense."

This strike seems to have ended a few days later whereas the railways about 70 percent of their capital was in the hands of British owners and were suffering from occasional strikes all over the country. By the end of September/beginning of October 1917 there was a new strike starting as if the old one had ever ended at DÜEG/CATE. This time again as a few weeks before the current operations could be maintained through the use of strikebreakers and soldiers of the Argentine navy. Simultaneously there was also a strike at CATE's competitor, Compañía Italo-Argentina de Electricidad. Various tramway companies, most of them operating under the financial roof of the Anglo-Argentine, suffered from partial strikes during the same weeks.⁷⁵ Particularly drastic for the Argentine economy became without any doubt

⁷⁰ See a detailed description in Cristian G. Werckenthien, *El tranvia en Buenos Aires*, Buenos Aires 2007, pp. 162-163.

⁷¹ S. L. Baily, *Labor, nationalism, and politics*, p. 48.

⁷² Cf. table 1 *ibid.*, p. 31; cf. also the figures in J. Panettieri, *Los trabajadores*, cit., pp. 169-183.

⁷³ Cf. for this and for the following: RRP of September 7, 1917, p. 573, 575.

⁷⁴ *Ibid.*, p. 575.

⁷⁵ Cf. RRP, October 5, 1917.- It seems however that a complete cancellation of the tramway services in the city has been avoided if we follow the yearly report of the Anglo-Argentine Tramways Company for the year 1917: "the grave public inconvenience which would have been caused by an interruption of our Tramway services has been avoided." (The Anglo-Argentine Tramways Company, Limited: Report of the directors to the shareholders and the revenue account and balance sheet for the year ended 31st December, 1917 [London 1918], p. 4).

the general strike of the railway employees which started on September 22, 1917 and lasted no less than three weeks.⁷⁶

In 1917 strikers were 136.000 in Buenos Aires. Their number grew to 136.000 in 1918. In 1919 even 309.000 strikers have been counted. In 1917 about 70 percent of the striking had been occupied in the transport business, i.e. railways, tramways, navigation comprising jobs in the harbour.⁷⁷ David Rock goes even so far to say that the strikes

[] mainly affected the sectors of the economy controlled by foreign capital, especially in areas which were dependent upon irregular and expensive supplies of imported raw materials and fuel.⁷⁸

This included not only the railways of which a clear majority was controlled by British capital, it was valid also for the electric power plants and public urban transport in Buenos Aires, where German investors had the last word to say or where, as in the case of the Anglo-Argentine Tramways, they had at least some influence.

In 1918, the last year of the war, the situation was becoming increasingly difficult even in neutral Argentina. Real wages of industrial workers had in the meantime retreated to only 62 percent of their pre-war level.⁷⁹ July 1918 saw strikes lasting at least two weeks at DÜEG/CATE. Involved were those workers who had to carry coal and other fuels in the Buenos Aires harbour for the large electric plant at Dock Sud. The Primitiva Gas Company, controlled by British capital, suffered from the same problem.⁸⁰ A new strike at DÜEG/CATE in the power plant of Dock Sud, which had broken out at the beginning of October 1918, lasted for an entire month. Its practical consequences remained limited since DÜEG/CATE was successful in maintaining its activities there more or less with the aid of strike-breakers.⁸¹ Under these circumstances even the tramways did hardly suffer from an insufficient supply of electricity.

Things changed however during the second week of January 1919 when heavy clashes occurred between masses of strikers and the police with several persons killed. In Buenos Aires during this so-called "tragic week" or "semana trágica" or tramway personnel was also on strike but not in such a systematic way as the trade unionists among the participants would have wanted.⁸²

One might therefore say that there was a growing resistance of the Buenos Aires working class to the worsening conditions of the standard of living, but also to the strategies and tactics of the firms which did not refrain from using strikebreakers and government protection. DÜEG/CATE was not an exception to this development. Seen from further away, most of these problems had been caused by the war in Europe which heavily influenced the costs of shipping and thus Argentine foreign trade and the costs of living of the large majority of Argentines.

The situation in Chile was not fundamentally different. In Santiago the last decade before the outbreak of the First World War saw an increasing number of strikes. Public transport in Santiago, and particularly CELTC, which had opened there its first electrified line in 1900, were concerned. It seems that the influence of anarchism among the tramway employees was still considerably stronger than in Buenos Aires. 1902 and the following year

⁷⁶ Cf. David Rock, *Politics in Argentina, 1890-1930. The rise and fall of radicalism*, Cambridge 1975, pp. 144-146.

⁷⁷ Figures *ibid.*, p. 126.

⁷⁸ Citation *ibidem*.

⁷⁹ Cf. S. L. Baily, *Labor, nationalism, and politics*, cit., p. 31, table 1.

⁸⁰ RRP, July 5, 1918, pp. 41-43; July 12, 1918, p. 81; July 19, 1918, p. 147.

⁸¹ RRP, October 4, 1918, p. 849; October 11, 1918, p. 915; October 18, 1918, p. 981; November 1st, 1918, p. 1105.

⁸² RRP, January 10, 1919, p. 81; cf. also D. Rock, *Politics in Argentina*, pp. 162-168; R. Garcia Heras, *Transportes, negocios y politica*, cit., pp. 41-44.- For the concrete development of this week cf. Julio Godio, *La semana trágica de enero de 1919*, 2nd ed. Buenos Aires 1973, particularly pp. 31-35.

were characterized by virulent strikes in the Santiago tramway sector, as Peter DeShazo has described it vividly: ‘Future strikes of electric tram workers followed the same pattern of violence, heated emotions, and rapid arousal of public opinion.’⁸³ The real problem of the tramway companies ‘in South America but also in many other parts of the world’ was that they figured as easy targets for popular unrest and dissatisfaction even if the original reasons for attacks on tramways may have laid in a completely different direction. A good example is being offered by the course of events in October 1905 in Santiago public transport:

‘In October, 1905, a serious riot took place in Santiago, owing to the Imposition by the Chilian Government of a tax on cattle from Argentina, which did considerable damage to our rolling-stock and equipment; a large number of cars were totally wrecked, or seriously injured; and traffic was almost completely suspended for two days, and remained disorganised for some time, doing serious injury to the Company [í] our manager is making most strenuous efforts to obtain adequate compensation from the Government of the Chilian Republic.’⁸⁴

The reasons for such an upheaval are most probably to be sought in the rather difficult living conditions of large parts of the Chilean population during the first decade of the 20th century, a decade which was characterized by strong monetary and consequently business fluctuations due to the unsteady development of prices for the Chilean main export goods, nitrates and copper.⁸⁵ In 1905 for instance, when this revolt took place, the inflation rate had reached no less than 10 percent, the immediate reason being a three-fold growth in the issue of paper money in Chile between 1903 and 1907.⁸⁶

Five years later, in July 1910, there was a twelve day-strike at CELTC,⁸⁷ another one followed in March 1913 which was described by a British diplomat as follows:

‘A total strike took place in March of the employees of the Chilian Electric Tramway and Light Company, an English registered company but to-day almost entirely financed and controlled by Germans. Tramway communication was almost completely suspended for about a week and considerable inconvenience was caused. [í] The few trams which were able to run by outside men, carried a carabineer armed with a rifle and ball cartridge as a protection against the assaults of the strikers which had occurred in the less frequented parts of the city.’⁸⁸

The general political, social and economic climate changed in Chile from the beginnings of August 1914 as it changed at the same moment in Argentina and in Uruguay. Under the conditions of a World War rates of exchange could not remain undisturbed and this was particularly delicate in the Chilean case since the concession treaties allowed for tariff corrections: If the exchange rate between the Chilean peso and the British pound had been altered the company could apply to the Santiago Municipality and ask if it agreed to a new tramway tariff. This was done by CELTC at the end of October 1914. When the municipality refused CELTC went to court. Since this would take too much time arbitration was tried. Despairing that no solution made be found CELTC suspends its services for two weeks

⁸³ Peter De Shazo, *Urban workers and labor unions in Chile, 1902-1927*, Madison, Wisconsin, 1983, p. 104.

⁸⁴ Chilian Electric Tramway and Light Company, Limited: Report of directors to be presented at the eighth ordinary general meeting of shareholders, to be held [í] in the City of London, on Wednesday, the 25th day of July, 2006, p. 2. ó Cf. also P. De Shazo, *Urban workers and labor unions in Chile*, cit., pp. 124-125.

⁸⁵ Cf. René Millar Carvacho, *Políticas y teorías monetarias en Chile, 1810-1925*, Santiago de Chile 1994, pp. 294-316; Marcello Carmagnani, *Sviluppo industriale e sottosviluppo economico. Il caso chileno (1860-1920)*, Torino 1971, pp. 146-153.

⁸⁶ Cf. Simon Collier/William F. Sater, *A history of Chile, 1808-2002*, 2nd ed. Cambridge 2004, pp. 168-169.

⁸⁷ Chilian Electric Tramway and Light Company, Limited: Report of directors [for the business year 1910], London 1911, p. 2.

⁸⁸ National Archives, Kew, FO 371/1588, N° 24374 (March 28, 1913).

starting on January 15, 1915.⁸⁹ Finally, at the end of October 1915, a compromise has been found. It lasts until April 1918 when a four days strike erupts.⁹⁰ 1919 is again a very difficult year with various strikes but we cannot enter in those details.

What these examples show is that the necessarily antagonistic relationship between tramway companies and municipal authorities which believe to represent the users' side are especially in difficult times of monetary instability and of other problems connected with war and globalisation that this relationship is unstable. It is also more fragile if foreign capital from the other side of the planet is involved. Communication problems and conflicts arising from the investor coming from abroad have certainly played an additional role. The case of the Valparaíso tramways and their relationship with their customers and the local authorities, which we cannot develop here, would be another quite interesting illustration to this topic.

Coming to a very short conclusion of this essay: It will be necessary to mention the end of German control over DÜEG/CATE in the middle of the year 1920 without going into the details which have been explained somewhere else.⁹¹ The history of DÜEG/CATE shows us an impressive example of direct investment which unites the three essential factors capital, technology, and labour covering three countries overseas with, up to a certain extent, a common cultural background but with considerable political, social and economic differences among themselves. The model of DÜEG/CATE seemed to be solid and enduring, and that is why the successor company CHADE was quickly founded in 1920 and quite successful until the middle of the 1930s. That it then ran successively into trouble was a consequence of the worldwide depression of the 1930s but also a result of an increased role of the state not only in Latin America but also, as we all know, in Europe and in the United States. This changed everything.

⁸⁹ Deutsche Zeitung für Chile, October 28, 1914; December 24, 1914; January 17, 1915.

⁹⁰ Ibid., October 28, 1915; April 20, 21, and 25, 1918.

⁹¹ For these details cf. P. Hertner, *Globale Elektrifizierung*, cit., particularly pp. 76-79.