Telecomunication Revolution in Brazil and it's Impact in Self-Imagen Perceptions

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Abstract: Brazil is wit ness ing a pro found rev o lu tion in its telecom in fra struc ture. In fact, this is the last stage of a more than 100 years cycle where private and state sectors, as well nationatist and cosmopolitan investors faced each other around the controll of this huge network of lines. The Bra zil ian mar ket dis pute achieved a new phase where glob al iza tion made it to turn into a more open system, regardless the interest of the left and many Brazilian strategists.

Key words: Brazil, telecom infrastructure, private and state sectors, the Brazilian market, globalization.

Resumen: *Brasil es testigo de una gran revolución en su infraestructura de telecomunicaciones. De facto, es este el último estagio de un ciclo de más de 100 años donde los sectores privados y estatales bien como nacionalistas e investidores cosmopolitas se han enfrentado para obtener el con trol de esta inmensa red. La disputa por el mercado brasileño ha alcanzado una nueva fase donde la globalización ha creado un sistema abierto, despecho del interés de la izquierda y de los estrategas brasileños.*

Palabras clave: *Brasil, infraestructura de telecomunicaciones, sectores privados y estatales, mercado brasileño, la globalización.*

A full cycle of tense and ambiguous relantionship in which instants of se duc tion and re pulse were al ter nated is now com ing to an end in the telecommunication Brazilian history. A cycle that began its journey with the blessed entrance of international private capitals, in late XIX century, followed by a period of intense hostility toward foreign corporations, mainly in the 60s. This mark, the one of ambiguity, balancing between distrust and desire, stamped the relantionship of the country with the international financial world, mainly in this area of telecom technologiesdefined since its early days as strategic and sensitive.

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The zigzag in these feelings traveled, in fact, through a number of ideological faiths and environments, stressing from time to time both the hope in getting such capitals and the oposition to them.

This hate-and-love Brazilian telecommunication146 years history[2] paradox was followed by a number of other dilemas, among them (1) pub lic or pri vate prop erty of the air waves; (2) state and cen tral ized cor-poration system (a vision that had never abandoned the national scenary and had prevailed in the 1970's) vis-a-vis a dispersed, private and re gional sys tem of 1200 phone com pa nies that had ex isted un til the sixties (Ministério das Comunicações, 12/1996), and (3) commercial and civil in ter ests against the stra te gic use of such air waves as means of occupation, colonization and control of the national territory[3].

The central theme of such initiatives as well as of others in related fields as mass transportation was to cement[4] the country allowing it to face its com mu ni ca tion chal lenge of help ing the cen tral gov ern ment to be in touch with its longinquos counties. That's the reason why tele-communication enterprises would serve as actors of growing impor-

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2 The first eletric telegraph line was opened in May 11th 1852, eight years after its birth in the United States. This line was a creation of Baron of Capanema and it reveals how much the Brazilian elites were then aware of the new technologies being developed in the world. The details of such epic journey can be found in Sena, Ernesto (1983), *Rascunhos e Perfis*, vol. 49, Brasil: Universidade de Brasília, Coleção Temas Brasileiros, 311-326 pp).

3 The expansion of telegraphy into the interior trough military expeditions had a number of secondary results which are the study and comprehension of the Brazilian geography, the contact with the indians and 'quilombos' (refugee camps of blacks that fought against slavery) , and the production of the first maps about Brazil. Among these expeditions we can recall the link established between Guarapuava and Foz do Igauçú, then a militar fortress (it began in 1901 and it was finished in 1906); the expedition between Cruz Alta and the frontier of Uruguai in the same year and a number of expeditions headed by Rondon, mainly the link established between Cuiabá to Corumbá. This Brazilian military is regarded as a modern pioneer and national hero due to his effort to link Brazilian frontiers to its coast, to make the first contact with isolated indians tribes and opening the first tracks to such areas. Rondon's mission began in 1900 when the Authority felt the need to be linked to the Brazilian frontier with Bolívia and Paraguay. After six years of work he had built 17 telegraphic stations, linking more 1.746 kilometers of wire.

4 The term was used by James Carey in his Communication as Culture (Routhledge, New York, 1989) while explaining the role communication had had in the territorial unification of the United States.

tance in this environment in which mail and river/sea means of transportation were used for a long period of time as the only links between the coast and the countryside[5].

After so many ups and downs this is the location where we finally had arrived in the 90s, in the very well known place where the country had been in the past. There, in the starting point, telegraphy, later the submarine cables and the emergent telephony remained, in great measure, in private hands until the sixties. A long journey where the Administration began operating as concessionary, later as regulator and, finally, as a executor implementing policies in order to expand its 'communication roads'.

A starting point now multimedia, serving the continental nation which is still claiming for more communication and more ability to dial.

It is needed to point out the geopolitical role communication technologies had always displayed in the history of this country. As explained in our study "Telecommunication and the regional power of the tropics"[6], the conquest of the Brazilian continental space was all along its history understood as being a strategic matter. Such a demand was aroused by its' inhabitants needs - Portugueses, indians,*mazombos* (Brazilians born from Portuguese citizens living in Brazil in the colonial period), blacks and mulatos, Europeans imigrants and other minority groups - in becoming a nation. As a result, from colonial time until today such a journey into its'own spirit was expressed in a number of ways. They can be summarized in four main eras.

The first can be named as being the Era of Territorial Unity where the country had concentrated its main forces in dealing with the occupation of empty areas, in marking the frontiers with Brazilian signs of sovereignity and in overcoming the strugles over territorial possession with neighbor countries (as had happened in the past with Spain in south Brazil).

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5 The official mail service began to be operational in 1797.

6 In Lopes, Maria Immacolata Vassalo de Lopes (org.) (1997), *Temas Contemporâneos em Comunicação,* SP: Intercom/Edicon, 65-8 pp.

The *Era of Cultural Unit* is the second. It has focused its attention on the theme of homogenezation of the Brazilian population, dispersed in its vast territory and, as result, maintaining a number of very well stablished local identities.

The third is the *Era of Economic Unit* of the country, an era that became solid in the 1955-1959 Juscelino Jubitchek administration period. His main slogan was to make Brazil to advance 50 years in five. As a result, never before had Brazil witnessed such industrial and infrastructural development. Market economy, absortion of foreign investments, industrialization of the country and the expansion of credit led to a jump into modernity, helping to improve the telecom infrastructure since then and mainly in the 70's, an epoch where Brazilians developed a feeling of self-steem never seen in earlier times.

What is now in the agenda is no more the goals of integrating Brazil as a continent or as people[7], but to question and know the reasons why Brazil is still underdeveloped, why its dream of becoming a regional power remains a dream. Therefore, beside those strategic objectives of previous eras, Brazil has now a new one, and a urgent one: integrate itself faster and in an efficient way with the world, in real time. Such mission introduces a new category, the most contemporary one, the *Era of the Global Integration.*

In this new era the telecom state controled approach of the twenties, again repeated in the forties, and vigourosly applied in the sixties, reaches its end[8]. The contemporary glance of the Authority adjusts itself to this fact and welcomes the new spirit, in spite of the doubts of certain sectors in society and the Superior School of War (ESG) strategists, a new spirit[9] that comemorates democracy, free enterprise, inter-

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7 Despite the fact that the fear of losing the control of Amazonia remains a strategic topic of policy decisions.

8 It can be seen in many other fields of economy as well. Until June, 1996, a total of 44 enterprises control of Brazilian state enterprises and state share were transfered to private hands, mainly in the steel, chemical, and eletric production areas among other. Besides that, two lines of the national railroad system were transfered as well.

9 70 countries signed a General Global Agreement in the International Commerce Organization in which all of them agreed to open their markets to foreign competition and cancel all their state monopolies.

national commerce[10], and the strategic role performed nowdays by computer science and telecommunication technologies[11].

In this new era the Brazilian Authority is making an effort to put an end to both of its most common frustrations, i.e., complaints against the lack of communication infrastructure and its dream of becoming a kind of a promissed Eldorado. An Eldorado utopia which is, in many ways, being again recognized by the international community which included Brazil among the Emergents[12].

Such eras lived side by side and in fact never folded in the Brazilian arena. They all allowed us to see the hopes and the anxieties that had been developed since the early days of the Brazilian formation, as well as the strategic approach developed by ESG after World War II regarding such issues as National Power and the activation of those elements that presumably constitute the national identity of the country and its population. It also allows us to understand the real game played by all actors (Brazilian nationalists, national entrepeneurs, foreign investors and the Authorities) regarding the constitution and control of telecommunication technologies networks in this huge continental market.

The new star

The Country of the Future is being rediscovered. It is begining to be seen as a new/old *mana* of the gods, an image that has been cultivated in the mythology of Brazil as a Regional-Power.

For this reason it is worth the effort foreign investors are making in order to get its portion of this new-old *paradise*, very well known by these actors of the international finances since the last century. The promise is grandiose: the largest deal in the world - the sale, in 1998, of the whole national telecommunication system, now runned by the

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[10] In the Brazilian case, the restriction to foreign capitals will be ending in July 19th 1999, even in Those cases where a majority of 51% of Brazilian capitals exist.

[11] According to Gartner Group study, in the beginning of the new century the information industry will be dealing with US$ 3 trillion in products. *Revista Exame*, Nov. 24th 1993.

[12] Among the countries usually refered as emergents we can recall the cases of Argentina, India, Turkey, Malasia, Indonesia, The Philipines, Mexico, Israel, Russia, Thailand, and Taiwan.

state, worthing more than US$ 100 billion (*Jornal do Brasil*, 19th June 1997, 18 pp.)

The most evident sign that the fight for this market has begun is the R$ 2,64 billion (It was paid an overprice of 341%) price paid by the BCP consortium (formed by the American telecom Bell South company, the Brazilian Safra investment bank; O Estado de São Paulo publishing group; Splice, an international producer of telecom equipments and RBS group, the most important multimedia corporation from south Brazil) for the concession of wireless phone operations in São Paulo, one of the largest markets of this kind in the world[13]. Even in Acre, Rondônia and the center-west part of the country, markets which are not as much atractive as São Paulo, the consortium Americel (formed by the Canadians groups Telesystem and Bell Canada) agreed to pay 25,3% overprice in order to get the needed offical license to operate this new phone technology now been introduced in Brazilian tows and villages.

Moreover, it has been concluded the privatization of Embratel and 27 state phone companies which constitue the Telebrás system[14] (considered by Business Week as the leader company among today's biggest emergent enterprises in the world) (*Jornal do Brasil*, 2th July 1997, 14 pp.), reversing the state-owned companies[15] trend introduced with fervor by the military regime in the sixties (1964-1985). These deals got a net result of billions of dollars to federal funds (*Zero Hora*, 14th July 1997, 22 pp.). The public bidding of 10 B band wireless phone areas for private investors got billions more as well as the sell outs of public concessions licenses allowing private companies to compete in regional markets with the state phone companies now in private hands.

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[13] São Paulo has 3,5 million consumers waiting on line for phones. Rio de Janeiro has 4 million more.

[14] The announced privatization had helped them to improve their perfomance by getting better operational results. This would effect postively in their final price in the market. From June to April their results had US$ 600 million net profits.

[15] This privatization trend is including many other economic sectors. In the electric one is expected a total price of US$ 28,7 billion to state companies that distribute energy as Cesp, Eletropaulo, Coelba, etc. Among the electric power producers such as Furnas, Eletrosul, Eletronorte and Chesf is expected more US$ 21,8 billion. *Folha de São Paulo*, 11th July 1997, 2-1 pp.

In this race for the conquest of the Brazilian market not only financial and telecom groups are taking part but also manufacturers from abroad which are literally landing in great numbers in the country[16]. They were attracted by Government annoucements of 2,800 new licenses for broadcasting, conventional and cable TV networks operations[17] as well as the annoucements of R$ 90 billions investments in this sector in the 1995-2003[18] period. It includes systems of conventional and wireless telephony, data communication in narrow band, service network integrated digital net , distribution of Pay-TV, access nets (cable of fiber optics, for example), public service of messages[19], 1000 concessions for paging, 500 for trunking, 500 for radiotaxi, 4 for satellites. Besides all that, the Authority has announced the privatization in the near future of the state-owned Mail and Telegraph Company.

This game of numbers[20] documents a new jump and change, similar to the event occurred in Brazil after the nationalization of CTB (Canadian Phone Company of Brazil) and CTN (North-American Phone Company) in the 60's.

The new and revolutionary structure of the 1990's has produced, as had hapenned in the past, its own birth certificate: the new General Law of Telecommunication (in opposition to the Brazilian Code of Tele-

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[16] A foreign group can compete to supply equipment for conventional telephony in Brazil only in those cases where it owns a factory in the national territory. Such a move can reduce the final price of the product in 40% due to fiscal incentives and taxes. *Folha de São Paulo*, July 15th 1997, 2/6 pp.

[17] In 1992, Brazil already had 2988 conventional broadcasting stations. It is expected to double this number due to new technologies innovations. Such new concessions processes had been involved in the past in many controversial episodes of promiscous deals between the Government and politicians who became the most favoured in this game of getting access to new licenses. See *Folha de São Paulo*, September 9th 1975, 1-7 pp. September 8th 1995, 1-8 pp. June 12th 1997, 1-17 pp.

[18] According to last edition of PASTE (Programa de Recuperação e Ampliação do Sistema de Telecomunicação e do Sistema Postal). This program was inaugurated in november 1995, becoming PASTE as the central piece of the new strategy.

[19] It was announced a 12 million voice recorders in 2003. *Zero Hora*, February 15th 1996.

[20] The country had 13,4 million phones in 1994 as well as 800 thousand cellular phones and 360 thousand public ones. Its net is linked 19.100 locations. Ministry of Communication. February 21th 1998.

communication that had nationalized all the system in 1962) is a new landmark of this history, and it was inspired in many ways in the new American Telecommunication Act of 1996[21].

This new Brazilian law defines the role of the state as being a regulator. Its new Anatel agency is able to release licenses to private operators which remain under its supervision. As a result, it's a way back to a model that, in many aspects, had existed in the Imperial and Republican Brazil.

Electric telegraghy

This new strategy to privatize Telebrás and to enhance competitiveness in the Brazilian market, mainly in its major cities, has its equivalent in other times. That is exactly what had happened in 1868: for the first time private companies were allowed to compete the telegraphic lines owned by the State, the best communication technology available in those days[22]. The Authority was giving permition to entrepeneurs to build such new lines between promissing new markets hoping "to get perfect service" despite the huge oposition by nationalists , like Baron of Capanema,[23] celebrated by the Brazilian memory as the protector of Brazilian telegraphy, a technology available all along the Brazilian coast in 1886, with ramifications to the interior[24].

Telegraphy was expanded then as a tool of bureaucratic state control. The first links were very emblematic of this trend. Quinta da Boa Vista, the Justice Department, Police Headquarters, the Army, and the House of Correction, among a number of other public services of the capital, were all interconected. It would progress even more due to the

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[21] This new American law changed the former 20% limit to foreign investments in this sector. Now such limit depends to reciprocity of foreing countries. The former law was approved in the 30's and intended to control the nazi-facist intervention in the American economy.

[22] This net was opened to the public in 1858.

[23] Guilherme Schuch de Capanema is regarded as the creator of the Brazilian telegraphy in 1852. He remained in charge of the state company until november 15th 1889, when the Republic system was inaugurated in Brazil.

[24] It amounted 10.610 km. of lines and 171 stations. This total had increased to 61.081 km and 1581 stations in 1938. *O Observador*, March 1940, 76 pp.

military need of catching smugglers in the coast[25] and linking the fortresses to the central buildings of the Administration[26]. The war of Brazil against Paraguay would stimulate even more the request for help from the State to private investors to build new lines. It was the case of the telegraphic line built between Rio Grande-Pelotas-Porto Alegre in south Brazil, a showcase that would enhance private companies in their struggle to conquer portions of this new and promissing market[27].

Besides this request, there were a number of means of official pression against private enterprises. For example, in 1870, official regulations demanded from concessionaires of the railways to build alongside its own telegraph line one for "general communication" conversation, in fact a private sponsored public service, a dream and hope never fully obeyed.

Actually, a betrayed dream: those private lines were never openned to the public. Quite the oposite, they began to compete with public services offered by the *Repartição de Telégrafos,* the state company. The noise and lack of order in this competition between private and state telegraphic companies was enormous, with variable rates and incom-

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[25] In 1848, Euzébio de Queiroz, the Ministry of Justice, was worried with the commerce of slaves in the coast. As a result he decides to introduce a new communication technology to the coast . He asks Capanema to help him to get the needed equipment.

[26] The contemporary equivalent is the new Surveillance System of Amazônia. It has a military taste and aims to observe the space and terrestrial movements in this northern Brazilian territory. In many ocasions such moves toward surveillance of the national territory by using telecom technologies and transports were made in the Brazilian history. This was the case when railroads were introduced, despite the fact that a lot of tension aroused between such strategic goals of the state and commercial ones of private companies. See História do Exército Brasileiro, Perfil Militar de Um Povo, Estrado Maior do Exército.

[27] The war had made clear to all the importance of communication. As a result, such lines expanded in a very fast pace right after the combats had folded. It headed fast to the south and slowly to the north due to natural obstacles such as the forest. In the case of São Luiz/Belém route the natural obstacle had more than 1000 km besides the indians ferocity. In 1871, these lines arrived in Curitiba and Paranaguá; another line is built between Rio de Janeiro and Porto Alegre; in 1872, the Jaguarão-Rio Grande line is completed; in 1873, São Paulo is linked to Santos by another secondary line. New telegraphy stations are finished in Campos in 1869 and in Vitória in 1874. In 1873 other three had been inaugurated in Pilar, Maceió and Recife.

patible services being offered. Finnaly, the state forced "mutual traffic" and equal rates.

Submarine cables

In this late XIX centurytechnological paradigm change, the apetite for profits became even greater due to new continental and intercontinental communication submarine cables international markets possibilities. For example, the first attempt to link Brazil to S. Thomas in the Caribean was made in 1874 by the Brazilian corvete Vital de Oliveira. In this same year, the English Telegraph Construction and Maintenance built a cable linking Brazil to Portugal, in substitution of the original concessionaire, Charles T. Bright. This new market attracted in 1873[28] the Western and Brazilian Telegraph Company, which became a major actor in this field of telecommunication by linking north and south of Brazil.

The competition for better tariffs began soon after a number of fusions among companies and transferences from a number of concessionaires rights to the new Western. The state-owned Telégrafos soon felt the Western power and its tariff and international advertising strategies which stressed the low-standard services of the Brazilian national and state corporation. This was in fact one chapter of the fight performed by nationalists and international investors aimed to conquer a greater share in the local Brazilian telecommunication market of those days. As a result the Western Company virtually monopolized the international telegraphic traffic to Brazil from and to abroad as well as the national one. This power bacame even greater after the fusion performed by the Western and Brazilian Submarine (which had received the concession given originaly to Baron of Mauá that had failed in his intent of launching a cable between Brazil and Portugal[29]). As a result of this fusion the new The Western and Telegraph Company

[28] The emperor of Brazil sent this message to the inauguration of the Western station: "The submarine cable has arrived to the capital of Brazil. Electricity is begining to link the most important towns of this empire, in the same way patriotism has united all Brazilians in their effort to support our nation. The emperor salutes, therefore, Bahia, Pernambuco in this special moment and as the first and sincere patriot and friend".

[29] The cable was finally launched by Western in 1874.

Limited was born in 1899. Its new power was so great that it was able to avoid by pressing the Authority the release of a new cable between Brazil and the United States tried by the Dom Pedro II American Telegraph and Cable Company[30].

In south Brazil The Western signed commercial agreements with River Plate Cable which allowed it to use the Argentinean cables linking Buenos Aires to Rio de Janeiro. Another one was signed with the London Platino Brazilian Company allowing communication to Montevideo. The traffic in the coast of Brazil was the best portion of the busi ness. Such fact ex plains why a boy cott against "via South" telegrams was made by The West ern in its fight against its South Amer i can Cable Company competitor, a concession given by the new Brazilian government which desired to find ways to expand new "vias" of communication with foreign nations[31].

The Brazilian market had attracted international attention of telegraphic national administrators during its international conference being held in Berlin in 1885. The tariffs to Brazil were excessive and the international demand was to reduce it from 10 francs each word to 25 cents, the international fare pattern of those days. The Brazilian representative, Baron of Capanema, would not let escape the opportunity: it would ne go ti ate such re duc tion if all states would agree to or der their telegraphic stations to specify which 'via' was desired. It was a reaction against the usual practice of those days: to drive such messages only and exclusively to The Western 'vias'.

As we can see in these examples, besides state agencies of multiple functions (Imperial Brazil's *Repartição Geral de Telégrafos*; *Contel*, in the sixties, and now *Anatel*, a kind of Brazilian FCC) we can always find international corporations, very promissing and very interested in this tropical market.

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[30] New cables were built in 1892 in this route by the French Société Générale des Téléphones e Société Française des Telégraphes Sous-Marins.

[31] This situation was changed after Brazil gathered the S. Petersburgo Convention of 1877 and launched new cables in the Republican period.

Among them, in the 1896's, we can add Richard J. Reidy,[32] an English citizen, who had established the Amazon Telegraph Company whose main achievement was the Belém / Manaus link of 1896.

In 1909, Brazil was talking to the northern hemisphere through French cables, to Europe through The Western, 'via South' and through the Spanish Talisman. In the south the cables belonged to the Argentinean National Telegrapho, the Oriental Telegrapho, National Telegrapho of Uruguay and Western. The Cie. des Cables Sud-Américans (Sudam)[33] would connect the country to Africa linking Recife to Dakar. Rome became linked to Rio in 1922 through Cia. Italiana dei Cavi Telegrafici Sottomarini (Italcabe) submarine cables. It also linked Rio to Montevideo. The same Italian company received authorization to operate another cable between Rio, São Paulo and Santos in 1935.

Another international actor of these early days is All American Cables[34] which faced a huge struggle against the power of The Western[35]. After winning the dispute in the courts it was allowed to link Argentina to Rio and Santos.

The Power of Western

In spite of this small defeat in the dispute for the Brazilian market, the presence of Western would not disapear in the near and far future. Quite the oposite, as we see in 1920 when this foreign corporation was authorized to build cables between Recife and Belém, Belém and Bar-

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[32] Reidy represented the Western. He receives a 30 year concession. The government agrees to pay a 17.125 annual stipend during the first years of its operation. The duplication of the cable between Manaus and Belém occurs due to a longer period concession to begin to operate given by the Autorithy in July, 1909.

[33] Sudam had received in 1914 a concession transfered from the South American Cables. This company had received the same concession from India Percha and Telegraph Works Co in 1892 after its faillure in linking Africa do the coast of Pernambuco, touching Fernando de Noronha.

[34] It was known in the past as the Central & South American Telegraph.

[35] The Western license period had ended up as well as his privilege over that respective area. Under this legal norm he could explore under a monopoly the traffic for a period of time. This aimed to attract foreign investment and it was widely used in the railroad system.

bados, São Luiz and Recife as well as to duplicate in a six years period the cable beween Belém-Barbados. In the following year, it was allowed to link São Paulo to Santos, where it became connected to submarine cables.

This kind of negotiations and deals continued all along this period when the Authority exchanged private investments for public concessions of services that Government agencies were unable to provide. This was the case, for example, of the deal signed in 1936 with the state Mail company in which Western agreed to distribute by itself telegrams to customers. As a compensation, the company agreed to build telegraphic lines between Porto Alegre and Rio Grande, reserving to its own use one of the lines.

Therefore, it is worth stressing this dimension of the phenomenon of the batlle for the conquest of the Brazilian telecommunication market: there was tension not only between private and public investment interests, but also between national and foreign investors, a kind of *avant primiére* of today's dispute around the regional markets in Brazil.

The dispute between The Western and All American in 1922 had aditional chapters which illustrate the oligopolies and fusions deals that have been occurring among coporations every time new and multibillion oportunities for telecom businesses occur in the country. For example, Western Union Telegraph, operating in the United States, and Western telegraph Co., operating in Brazil, both established with British capital, signed a deal in order to share the South American market and compete together against All American. Their goal was to remove All American from the market of cable communication in the Atlantic coast of South American within a 12 months period. They agreed to launch as many as needed cables to knock down this competitor in this area, mainly in routes between Barbados, Miami and Brazil, and another one to Panama. A real war that All American faced vigorously then.

This battle was denounced to the Union Telegraph and the commotion caused by it forced the US government to send a war ship to avoid the release of a new cable between Miami and Barbados. This was a spectacular chapter in the disputes performed by international corporations of that time. The dispute between All American and The Western was closed down only in 1935 after a 'gentleman agreement' signed by the parties claiming their disposition to respect the free enterprise prin-

ci ples. As a re sult, and af ter that, the West ern was able to link Brazil to Barbados and Miami. All American finally failed to establish any connection by cable between Cuba and Rio.

The reaction of the nationalists against the increasing power of foreigners and private investors was felt again in 1927 when it was made an at tempt to change by law all con tracts signed by Bra zil ian tele-graphic enterprises with the Authorities. Both the Law 5252 and its item "e" became controversial. The item "e" was giving compensations to allow new private and foreign investors "to explore, enlarging the scope of their services" in a free market environment the new cable technology.

The na tion al ist ar gu ment was then very well felt in Con gress dur ing the dis cus sion of this piece of leg is la tion. The Bra zil ian rep re sen ta tives all feared the likelihood of the private and foreign advance toward the interior. These routes were then monopolized by the state-owned *Telégrafo Nacional*. Such a nationalist view asked and finally got the supression of this item "e".

As a side effect it is possibly to point out a sec ond and si lent win ner, the Western company, which saw eventual competitors being turned away. As a result, it remained, in fact, a solely companion to the Telégrafo which still remained a very weak enterprise being forced, in many ocasions, to make use of the "road loan" services of Western[36].

In the World War I period[37] such dispute between Western and Telégrafos became even stronger and the situation of Brazil did not change[38]. Western became even stronger after the Revolution of the

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[36] It was a way of using the line of the competitor when its own lines were busy or with dificulties.

[37] Submarine cables began to be considered a very expensive mean of communication when compared to new technologies then emerging. The Western Company had then the rare privilege of using its own stations located in the Brazilian coast freeing itself of the new imposed taxes that other companies were forced to pay to Telégrafo Nacional which became the main infovia of telegrams coming from abroad.

[38] The Western had joined a new international conglomerate to explore the new medium. Among these international groups we find the Marconi Wireless Telegraph Co.; the French Cie. Générale de Télégraphie Sans Fils; the German Gesselchaft für Dantlose Telegraphie (Telefunken); Transradio International; the American RCA and the Western,

30s', when the Authority nationalized all Brazilian private competitors[39].

It be came clear to all in the 30's that Telégrafo Nacional was un able to renew its structure, its equipments and enlarge its scope of operations. In 1936, for example, the Brazilian press denounced the fact that equipments imported from abroad to new instalations in Porto Alegre, Recife, Fortaleza and Belém re mained closed in boxes (*O Observador*, March 1940, 70 pp.). This crise caused by lack of efficiency forced the Authority to tolerate, in 1939 (Lawn:1291), the possibility of private entrepeneurs to com pete with the state com pany in routes to the in te rior of the country. Such claim for better services became even stronger in the 40s. It was a re ac tion against an ar ti fi cial state mo nop oly which was in fact helping one and just one foreign enterprise, the Western.

Telephony

Such courtships between the State and foreign investors would extend it self to the new emer gent tech nol ogy, the te le phony. As had hap pened in the past with telegraphy, these new first phone lines of 1879 were used to help the mangement of state af fairs. The ap proaches to the new medium and the new market were again very tense: it contained both the fervor of nationalists who supported the idea of state owned enterprises and that in favor of private interests.

From these early days, public concessions to private operators of phone ser vices were get ting bad re marks from the pub lic due mainly its inability to wire in an efficient way the new emergent towns of Brazil. The were accused of damaging fire warning systems and private

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under a new name, Cables and Wireless Ltd. This international aliance began to explore the new service in the Brazilian coast in 1919 under the new name of Cia Radiotelegráfica Brasileira (Radiobrás). It tried and failed to avoid the competition of others than the Telégrafo in this new field of radiotelegraphy.

[39] Then a number of Brazilian enterprises were operating, among them the American Agency that had stations disseminated all over the Brazilian territory. It was focused in both journalistic and private services; the Brazilian Agency, which dealt only with journalistic ones; S.A Radio Cruzeiro, which was serving the media of south Brazil; Cia. Telephonica Riograndense served private consumers in south Brazil and Cia. Radiotelegraphica Paulista whose main target was the interior of São Paulo state. The state control over all these enterprises came in 1932 closing down all private companies.

properties. Finally, Telégrafos state company received the power to release public concession to private operators. Regulations for such private services were released in April, 21st, 1883. According to the new regulations, states became free to operate both telegraphic and telephone lines between those locations where federal lines were not available. In a similar way, municipalities were free to intervene due to the administrative autonomy granted to them by the new Constituition.

Therefore, the whole telecomm system was becoming increasingly complex. It is worth remembering the fact that the first phone line was established between O *Grande Mágico* (The Great Magician), a private store, and the Firemen barracks[40]. In the following year, the first intercity line began to be operated between railway headquarters in Campinas and the English rail station in São Paulo[41]. The telephone network began to be built in 1879. In the first place, mainly commercial locations began to be connected to the net whose size began to increase in a discret way[42] during the first years. Private and foreign concessionaires began to operate a growing number of phone enterprises in the country[43].

In this new Republic period the Telégrafos was allowed to offer phone services mainly in those areas where there were no private concessionaires. The nets were expanded from centers with no telegraphic communication, or linking telegraphic stations to close locations. Public offices, civil associations, commercial establishments, factories

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[40] The initiative was due to Capanema and his Telégrafos company.

[41] Telephone had arrived in this town in 1884 due to efforts made by Empreza Telephonica Campineira headed by Ferdinand Rodde & Cia. In the capital the competition was very acid between Alvares Pereira & Cia and the American Companhia Telégraphos Urbanos which annouced its first ever published Phone Directory of São Paulo naming 22 subscribers (banks, hospitals, public buidings). In the next day, a second list was published by Alvarez listing its own subscribers.

[42] A total of 1002 new phones were released in 1883, increasing to 2400 in 1885. This number jumped to 10.782 in 1889, but remaining around an average of 5600 new phones/year been released in the 1903-1906 period.

[43] One of these concessions was released by D.Pedro II to the American Paul Mackie who promissed to build "a general system of telephone communication in Rio de Janeiro". In the following year, a second American, Morris Kohn –who had built the electric transportation in Rio de Janeiro as Leon Rodde partner, receives its own concession to form the Telegraphia Eléctrica Urbana de Serviços Domésticos of Niterói.

as well as rail roads communicated directly to close telegraphic stations by phone. Such a fact explains the secondary role performed by phone services in its early days in comparison to telegraphic ones, helping to intensify the flow of messages, the ray of public conversation as well as helping to consolidate the establishment and function of the state bureaucracy[44]. Telegraphy had helped to link areas that had remained in relative hermetism[45] while phone service became a local service, helping the operations of trade and industry[46].

In 1880, the CTB (Companhia Telefônica do Brasil) was born, expanding its services to a number of towns and states,[47] and becoming since then until the 70s a major actor in the Brazilian telecomm scenary. The Brazilian territory had in those days a telegraphic net of more 10 mil km of extension serving 173 locations. This subsidiary of the Canadian Brazilian Traction, which was nationalized in 1956 while operating 80% of the Brazilian phones and its intercity connections, was followed in importance by CTN, an ITT subsidary, which became, as referred, a major actor in Rio Grande do Sul and Paraná states.

In sum, the continental nation had moved forward in its efforts of wiring the Brazilian hinterland marking its possession of the territory with the sounds and messages of its people. Telephony advanced slowly, remaining for a long period a parochial mean of communica-

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[44] In 1890, public administration in Rio was using a 69 phones system connected to a central Telégrafos building. The army had another system of 37 phones. In 1907, the public service was using a net of 607 phones which made a total of 350.041 calls. It covered an area of 212 km. Pivate consumers were then using a 2800 phones system. Rio Grande do Sul had become the state with the second largest system of Brazil with its 2536 phones. São Paulo and Pernambuco were the third with 613 each. See Repartição Geral dos Telégrafos, 104 pp.

[45] The isolation of many areas of the country was so big (as it was the case of Cuiabá) that communication was possible by using lines that crossed the frontier to Montevidéo, Buenos Aires, Paraguay and Corumbá in Brazil. These obstacles explain why the annoucemnent of the Republic became known in Cuiabá 24 days after it had occurred. In the case of Manaus, its communication was possible due to Amazon Telegraph Company cables located in the river banks.

[46] In this period of time, it began to be offered public phone services to subscribers.

[47] It was the case of towns like Salvador, Maceió, Porto Alegre, Pelotas, Rio Grande, Petropólis and states like Paraná, Ceará and Maranhão.

tion and reacting inadequately to the new demands of progress and development.

Crises

On May 25th, 1939, it would be promulgated the ordinance 1291 that regulated the exploration of radiocommunication in the country. The purposes of this piece of legislation were a very old ones: to enlarge the number of enterprises involved in this market and, in some way, to affect the hegemony of British Light company, one of the the most important phone company in operation in the country, and the Western, the most important competitor of the Brazilian Telégrafos. The tales of those times tell us a story very well known to contemporary Brazilians: in order to justify its private oriented policies the Authority explained the strategy as the best one able to offer speed, security and quality services. In the 30's, such dispute between state and national interests against private and foreign aproaches remained complex around all telecom technologies, i.e., national telegraphy services, national submarine telegraphy, international submarine telegraphy, international radio-telegraphy, national radio-telegraphy, international and national radio-phone services. Private requests for new lines in all these new technologies were countless along the first decade of the new century, and in many instances strong it was the oposition of state intervention supporters. For example, in 1905 the monopoly of the State is reaffirmed in the radiotelegraphy service along the rivers in north Brazil.

In 1903 and 1905 requests of José Libanio Lamenha Lins de Souza for a 50 year concession for the construction of telegraphic stations as well as phone systems in the interior and in the coast of Brazil were refused. The same answer was given to Henrique Christiano Röhe who planned to link Manaus to Acre by radiotelegraphy. In 1905, the Amazon Telegraph Company's request for a "wireless telegraphy" link was in the same way refused by the Autorithy.

Then, as today, demand for services increased year after year (*Repartição Geral dos Telégrafos*, 53 pp.). Commerce and trade needs forced the expansion of the wiring. Moreover, the imported technology became increasingly sofisticated allowing to improve the telegraphic average of 3 words/minute to 40 thousand/hour in 1907 (*Ibid*:56).

Despite this progress and improvement, the gap between these crescent needs and the available communication infrastructure remained high.

That is exactly what happened in the 40's and 50's. In 1943, it became clear to all that World War II would impose a limit to the pace of this development. The news from those days tell us about "a new phone installation delay in Rio de Janeiro due to lack (*O Observador*, 1956, ano XXI, núm. 247, 60 pp) of supply of equipment" [48] then being directed to the military needs. Such material became a restricted one and rationed. In the following years, consumer's frustration[49] increased due to lack of imports caused by the new exchange rates[50]. In 1956, it was estimated in 500 thousand the phone lines deficit (*Ibid*, supra 33, 64 pp.). The Brazilian phone density was then very low in comparison with other countries, that is, 1,30 phone for each 100 thousand inhabitants in Brasil against 2,65 in Portugal, 5,71 in Argentina, 6,88 in France and 32,21 in the United States. As a result, the debate about the nationalization of these telecom services increased (*O Observador*, ano XXI, núm. 247, 67 pp.). People and authorities were realizing about the new and central role communication technologies were beginning to perform in the economic sphere. Such economic development theme became a major one in all discurses of all Brazilian administrations of this era since then. Among the major barriers for such telecom development it was found that lack of profit was the one responsible for the lack of interest displayed by these private companies in making new investments[51].

Their complaints against low earnings[52] in providing such services were periodical[53]. Besides that, the new self-finance phone system implemented in Brazil then was, in fact, similar to a very suscessful one

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[48] In the fifities, in each 100 cruzeiros invested in phone service, one third (33%) was spent in imports. *Observador*, 1956, ano XXI, núm. 247, 64 pp.

[49] In Rio a total of 128 thousand was waiting for phone services in 1956. It was needed in the five following years more 245 thousand new phones. *Ibid*, 64 pp.

[50] Due to this crise it became impossible to lay down the lines for 100 thousand new lines in Rio.

[51] From 1935 till 1956 the cost of living increased from 100 to 825, while the tariff had increased only from 100 to 240. It represented 17% of the minimum wage in 1935. In 1956, it was only 2,5%.

experienced in Denmark, Finland, Mexico and Venezuela in the 50's. Under this system, any new subscriber of phone services should pay the installment of the line and equipment. This idea, which is now being abandomned, became then very well accepted in states like Minas Gerais, São Paulo and Paraná.

As seen until now, in this game of hate and love between all these actors, we can witness a number of processes, moments and events that stressed the victory and energy of both tendencies in alternated periods of time. This fight between state/national and private/foreign sponsors could be seen in many other strategic economic and technological sectors as well. This is the reason why, for example, subsidies were given to Lloyd Brasileiro and Condor in the sea and air transportation industries in the 30's, a period in which the state economy suporters were winning the public opinion battle. One of the evidences of such trend was the battle been fought then against the fragmentation of the Brazilian railroad system[54].

This partial victory was based in the political discourse that stressed the idea, then very well accepted, that the means of financing the new develoment operations of the late XIX century.

> … *large private investments, either from rich families or from money coming from the new burgeois class, that were then establishing the new corporations to explore sea and reailroad transportation and supply of energy*[55]

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[52] The story writeen by José Jobim in *Observador*, October 1949, núm. 165, 82-92 pp. and November,76-109 pp. in 1949 about the state of affairs of the country in the post WWII period reminds us, in many ways, the very often complaints of Brazilians about the lack of roads, electricity, and other basic equipments. With a similar taste a new story was written by Veja in its edition of April 20th 1994, about the fact that Brazil was losing its hability to dial the phone.

[53] According to official documents it is possible to verify how much the Authority had become aware in the 70's of this subject. For example, Haroldo Corrêa de Matos was saying in 1978 (A Telecomunicação no Processo Desenvolvimentista) that nations in development like Brazil should invest more than 0,5% of its internal product if they "wish to develop such system in harmony with all other sectors of its own infrastructure." It is worth recalling that Brazil had invested 1,05% in 1975 and 1,44% in 1976. (*Ibid*, 3 pp.)

[54] This subject was emotionally debated in the Engineers Club, mainly after the loan given by the Government to railroads enterprises like Leopoldina and Great Western, both of them in terrible financial conditions. Nowdays this system is being sold to private hands again.

Could not exist anymore. The intervention of the state was needed *"replacing private investments in all forms of activities where public needs were felt"*[56].

In the same way Brazil felt its frustration regarding telecom services. The country also claimed for more and better roads, and means of communication, a concept which included the electric train, the airplane for passengers, the telegraphy, ships and boats for intercontinental lines, buses, heavy trucks and the automatic telephone[57]. These claims are still being listened in modern times, aiming to help the people to cope with the challenge of overcoming space and time barriers[58].

In the 40's, the metaphor was biological oriented – the means of communication performed for the nation the same role performed by arteries for the human body. They *"unified thoughts and feelings, allowing the exchange of ideas, allowing unified actions and reactions, in those moments where it is needed to unify the whole people around a common realization*"[59].

Then it was being increasingly accepted the concept that development problems should be faced by neutral public facilitators[60] whose

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55 *O Observador*, February 1937, 67 pp.

56 *Ibid*. In its edition of September, 1939 (n. 44, year IV) it was being stressed the lack of railroads. This feeling explains the new desire of unification and nationalization thay also was emerging in this field. (130 pp.) In 1940, this kind of stories dennouncing the lack of 'communication vias' (refering at that time mainly to roads and railroads) were still being published. In 1936, it was told by O Observador that only 1681 meters of roads were being built in 28 diferent locations.

57 São Paulo receives its first automatic station in 1928. The equipment was supplied by the Automatic Eletric Company of Chicago and it was then considered the biggest PABX system of South America commuting 800 phone lines. In the following year, Rio de Janeiro received a bigger one to 7.500 lines. It laid off a number of telephonists, a very popular figure in those days where consumers depended on them to connect their phone calls.

58 *O Observador*, in its edition núm. 53- 1940, makes a general balance of communication infrastructure available to the country. According to it Brazil had in 1937 a total of 173.324 phones serving 134.663 subscribers.

59 *O Observador*, June1946, núm. 53, 30 pp. This discourse reflects, in fact, the new emergent ideology of the Vargas regime and was absorbed by the ESG doctrine.

60 This concept aims to be ideologically neutral since a lot has been said both in favor/and against the intervention of State in economic affairs.

main task was to co or di nate all sources of pro duc tion and sup ply, technical and financial assistances. In 1949, it was stressed that these achievements could be got only through the improvement of the communication systems (i.e., telecom and transportation according to the terminology of those days). Such claims became even stronger, mainly after the victory of the state-supporters[61] point of view. Plans began to be prepared in order to apply policies for railroads development, sea and inland transportation,[62] the modernization of ports and telegraphy expansion.

This was the spirit of those days where peo ple and pol icy mak ers believed in the state bureaucracy social role and efficiency. Such faith was lost during the long journey till the 90's where liberal concepts slowly began to prevail, knock dowing those who still believed in the hability of the state to supply the needs of the people and those who remained critical to the idea of division of the world not in nations but in markets[63].

Finally, which were those moments, processes and events that allowed the change of these views and policies?

Process and moments

The pro cesses were re ferred ear lier all along this Bra zil ian telecom history can be summarized as follow: a) foreign capitals are atracted by promissing new telecom technology markets; b) a virtual war among

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[61] All private and foreign railroads companies operating in Brazil were nationalized (with the exception of Companhias Paulistanas, Mogiana and Sorocobana) becoming state-enterprises since then until today.

[62] From 1930 to 1956, Government was able to build only 1000 km of federal highways. As said before, Brazília had aroused the discussion about transportation and communication to that region of Brazil. Land links to the new capital were very difficult. In the raining season it became almost impossible, turning air transportation made by the Brazilian Air Force the only mean of communication to the new capital. *O Observador*, September 1956, núm. 247,92 pp.; núm. 249, 88 pp.

[63] This is the case of Jorge Boaventura, counseler of ESG, who complaints of globalization, standing against the five superpowers of the Security Counsel of the United Nations. He suspects of the cultural domain of those rich nations over all other nations. Similar position has Sérgio Xavier, comander-in-chief of ESG, acording to his utterances to Folha de São Paulo (March, 15th 1994). He did not favour the idea of selling Petrobrás and Embratel to private and foreing hands.

public and private services supporters begins around the control of the market, becoming the fair tariff of the service a major issue; c) geopolitics consideration to communication innovations remained a central subject (it included themes as the continental control of the Brazilian territory, the strengthening of the national culture and the link between the Brazil's interior and its coast); d) it can be seen that everytime a new technology was introduced it was experienced a period of learning (this is the case of cabledifusion nowdays; it was the case in the first days of telephony when people used it as a supporting device of telegraphy); e) and finally, regulators operate in slow motion while technology develops in high speed.

Among the decisive moments of this history we can recall (1) the national, state-and-developmental oriented telecom revolution initiated in Brazil in the 40's that (2) became a winning page of this tale in the 60's and 70's, periods of time that were followed by (3) a new crise, this one of the 90's, which has been overcome by the present new private oriented policy and foreign investments openning.

In modern times, the attention given to telecom issues slowly increased since the last days of Juscelino Kubitschek administration. Even considering the fact that JK policy key word was prosperity, being developoment the means of reassuring Brazilian sovereignity over its territory,[64] the telecommunication challenge was still a very suprisingly secondary one in his Plan of Goals. The same had happened with his predecessor, the Dutra Administration, who had not included any telecom budget in his Salte Plan.

In the JK period, telecom became an issue after it has been decided to change the capital from Rio de Janeiro to Brasília, and only after the lack of communication system available in the region was perceived. Besides that, a second factor was the CTB public service concession re-

[64] This theme was a major one in the political controversy of those days. Among the theories being introduced in the country it was that of MIT's professor, W.W. Rostow, who was teorizing about development. His 5 steps toward development was very often recalled. They were: a) traditional societies; b) the conditions for development take-off ; c) take-off; d) maturity and e) mass comsuption. Aron, Raymond. A Teoria do Desenvolvimento e os problemas ideológicos do nosso tempo. *Cadernos Brasileiros*, ano V, núm. 3.

newal offered in 1953, despite its promisse and faillure in expanding the telecom network of the municipality in Rio. This concession and CTB faillure helped to turn the sub ject of telecom de vel op ment in a national discussed one. As a result, the High Command of the Armed Forces of Brazil ordered and received a detailed study about the telecom national structure in 1957 as a complement to its study about the communication system to be allocated to the new capital[65]. A new cap i tal which would re ceive a new telex op er a tional sys tem, a new high quality phone sys tem and a new mi cro wave equip ment with 120 channels of voice communication between Rio and Brasília.

All these steps helped the Government to turn its attention to the need of telecom development making Congress to approve in 1959 new pieces of legislation which gave free-tax imports of telecom equipment to new automatic services to be used in public services. In the next year, new incentives were given to the establishment of new fac to ries of phone com mut ing equip ment, at racting for eign com pa nies such as Ericson (Sweden), Siemens (Germany), Standard Eletric (an ITT subsidiary) and Automatic Telephones of England.

In the Janio Quadros government period much more attention was given to this theme. In the first 60 days of his government, he had received one of the best produced studies ever made about this issue. Among its final sugestions it was stressed the idea of centralizing all phone operations under one and same control, an idea which became very popular since on until the 90's. Politically, it became an an swer to Carlos Lacerda, the new governor of the new Guanabara state, which has decided to intervene in the local CTB, then being acused of diverting its earn ings from the ex pan sion of the telecom sys tem in the region.

As a result, on one hand Lacerda became the first to try to face in a new way the an cient dilema of telecom de cay by de mand ing more efficiency while chal leng ing pri vate and for eign in ves tors with state intervention. On the other, his move became a political defy to federal

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[65] According to former Ministry of Communication, E. Quandt de Oliveira, in his study *Renascem as Telecomunicações* (1992), PR: Editel, São José dos Pinhais, 39 pp.

government that began to fear Lacerda's advance over the entire CTB national structure.

The new ideas being considered in the studies offered to the High Command were finally all expressed in the new Telecom Brazilian Code, voted in the Brazilian Congress in 1962. In between that early study about the new capital's means of communication and the new Code it is produced a number of other ones made by the Telecom National Coun sel, es tab lished by Janio Quadros, who gath ered in this new think-thank group a number of experts from the army. It remained operational until the arrival of João Goulart as the new chief of the nation.

These were the evidences that the time and its spirit was really changing in a double sense. The first, telephony had become an explosive political subject; the second, its inefficiency could not be disregarded by federal authorities who began to adopt in a very explicit way a nationalistic discourse.

New steps were then applied in order to facilitate the federal and state control of the whole private telecom aparatus. Among these steps it is worth recalling

- that in the short period of Tancredo Naves parlamentarist government there was a chapter in its Plan of Policies regarding telecom system in which it is sugested the interconection of all regional networks by microwaves systems;
- that the Na tional Se cu rity Coun cil speaks out about the telecom crise sugesting the federal government control, coordination and even its operation of the system in order to achieve the goal of the expansion of its infrastructure all over the national territory. As a result it is sugested the nationalization of CTB, CTN and Radional;
- it is forseen a negative international repercussion of such measures and sugestions were made to buy instead of nationalizing all foreign telecom companies;
- Tancredo decides to put all foreign companies under federal jurisdiction;
- in the state of Rio Grande do Sul, as we will see in the next pages, Leonel Brizola, its governor, decides to dispossess CTN of its proprieties;

- at the federal level, BNDES, its major developmental bank, accepts the idea of nationalization,and asks for the introduction in the country of the self-financing sys tem as a mean of de vel op ing pub lic companies (experiences were being made in Vitória, Espírito Santo, where CTB had established a new local company, the Companhia Telefônica do Espírito Santo. This enterprise was asking 20 years long term loans from the pub lic in or der to ex pand the whole telecom system. The CTB had created in Minas Gerais a second company, the Companhia Telefônica de Minas Gerais (CTMG), which was selling shares to the public. In 1953, it had 12 thousand share holders. In this sense, after the state-oriented experiences made in Guanabara, Minas Gerais became a second field experiment to new phone system trials, but in the oposite direction;
- in Guanabara, Lacerda established the Cetel company (Companhia Estadual de Telecomunicações da Guanabara) in order to provide telecom services to all those regions without telephony or where it still was manual;[66]
- in 1964, phone density remained very low, i.e., 1,23/100 thousand (Oliveira, *op. cit*., 56 pp.).

Events

It is worth stressing the emblematic role which both the CTB and CTN nationalizations have in Brazil's contemporary history. Both actions are the best examples of the tense and umbiguous relantionship the country has established with telecom foreign investors since the late century.

The first and most dramatic event of this kind was the nationalization of CTR (Companhia Telefônica Riograndense), a propriety of ITT's subsidiary in Brazil, the CTN (Companhia Telefônica Nacional), made by governor Leonel Brizola which replaced CTR by the new CRT (Companhia Riograndense de Telecomunicação),[67]

[66] CTB automatic system reached the dowtown area and close neighborhoods. The rest, around 80% of the state, was covered by a few lines. Cetel was able to lay dow 15.495 new phones lines. Despite this effort, only 5% of the whole state was served by this new company. That is to say that 75% of the state almost had no phone service available.

founded with public money in 30th, december, 1960. Coincidentally, CRT became the first telecom company to be returned in modern time to pri vate and for eign hands[68]. CTR was completely bought by CRT in 1962.

Such a move was made after a long period of well known complaints: the foreign proprietors had not shown any disposition for new investments avoiding to expand company's services giving the public the impression that it was operating in Brazil for the sole purpose of earning profits and exploring consumers.

In 1961, Brizola's move became an international controversy making the Amer i can dip lo mats to in ter vene on be half of their na tional com pany. They re acted fu ri ously against Brizola and its CTR bid of fer. John Kennedy could react personally in the same tune to João Goulart during his visit to Washington in those days.

Finally, the Banco do Brasil would grant a US$ 7,3 million loan to ITT, that is to say, a little above the equivalent price of the company, according to the original evaluation made by the experts. Half of this sum was reinvested in the Brazilian General Eletric. It was negotiated that the other half of the loan could be paid after ITT had received its sums from Rio Grande do Sul government.

A lot of energy in discussions about the just price over CTR nationalization was then wasted, as well as about the inflation rates being ap plied to both the loan to be paid to Banco do Brasil by the Americans and the sums to be received by them from Brizola government. On the one hand, ITT demanded high rates of inflation to be considered in the es tab lish ment of the com pany fi nal price, then cal cu lated in US$ 5.649

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[67] The dispute went around the price due by the state for the dispossession of those proprieties. In a similar way, RS governor had dispossessed Bond & Share from its proprieties as a eletric power supplier to the state. As we'll see in the next few pages, both actions opened a huge source of atriction between the Brazilian government of João Goulart and John Kennedy in the United States. In 1964, Washington finally decides to send war ships to Brazil's coast to support the coup d'etait against Goulart government to whom they began to hostilize since these first events.

[68] Telefonica de Espanha and RBS group from Rio Grande do Sul bought together 49% of the company. In 1998, what is left in state's hand is going to be sold in a new public auction.

thousand by the Brazilian judges, and on the other, demanded no inflation rate to be added to its debt to Banco do Brasil.

The controversy turned to be live ammunition in this fight between foreing investors and Brazilian Autohorities after the decision made by governor Ney Braga of Paraná to create Telepar and follow the steps made by Brizola in Rio Grande do Sul. Telepar began to offer the same kind of services as ITT[69] which finally agreed to sell all its propreties in proprieties in this southern state in 1965. As had happened in the past, the disagreement about its final value remained unresolved. Even after CTN public concession service deadline of January 1th, 1965, ended demanding the American company to close down its telecom operation in Paraná it still strugled to remain operational competing with Telepar. The American diplomats were also called to intervene in this fight, making the Brazilian national oposition against them even stronger. This American intervention in the disputes was seen as 'the big stick' in action (Oliveira, *Op. cit.*, supra, 313 pp.).

Only after federal intervention in the all three disputes (the interventions of Paraná and Rio Grande do Sul and the loan of fered by Banco do Brasil) the claims were finally all settled in Nassau, Bahamas, where a final agreement was signed in June 16th, 1967, putting an end to the presence of foreign capitals in the telecom industry of these two southern states.

A similar process of nationalization would also reach CTB operations in Brazil. This company became acused of sending abroad US$ 5 million (*Ibid*, Oliveira, 244 pp.) (in spite of alleged imballances) annualy as payment of interests to its loan made in 1948 from its headquarters. Brazilians were outrageous with such move and lack of investments in the expansion of the services in the country. As said before, CTB structure became a federal controlled one in 1962 after the dispute against Lacerda. The controversy between federal and Guanabara autorities was finally closed down after the creation of Embratel in 1966.

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[69] ITT began to operate in Paraná in 1936.

Intercity operations were precarious and made by the Companhia Rádio Nacional (Radional), an ITT subsidiary. A few radio circuits in short wave were openned to operations between Porto Alegre, Rio de Janeiro and Boa Vista. Western telegrams still remained as the best way to send and receive messages. Submarine cables still remained as the usual international mean of communication (it could be made 'via Radional', 'via Western', 'via Italcabe' and 'via Sudam').

It can be said that very little had changed in fact and the new-old crise remained with its double face – that of lack of infrastructure and that of lack of services[70]. It is worth recalling that the control of CTN in Rio Grande do Sul be gan in 1927, a pe riod in which the new tech nol ogy was being rapidly expanded in this state[71]. Rio Grande do Sul had become the second largest net in Brazil with 10.368 phones[72]. These public concessions to foreign companies had become a controversial is sue, mainly in those pe ri ods in which they re quested new tarriffs, a request made of virtual dynamite since each one of them was openly discussed in the municipalty, or among state autorities, who had the final word on the subject and feared the public reaction to their approval[73].

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[70] This fact teaches a lesson to all foreign investors of Brazil: lines has aroused a lot of oposition of consumers against their intervention in the national market all along this history.

[71] This evolution stopped in the 30's due to the international crise. The Brazilian telecom industry was still giving its first steps and imports were very much limited due to the war. Besides this factor, the subscribtion prices doubled in this period of time.

[72] It represented 26,06% of all phones available in Brazil then. The capital, Rio de Janeiro, had the biggest network with 13,020 phones (*Ibid*, Barboza, 14 pp.).

[73] As a example it is possible to recall what hapenned in São Paulo in January of 1938. CTB had asked new tariffs for its services to the mayor. Private consumers then paid 30$000 monthly and commercial ones 60$000. It was asked an increase of 10$000 to private consumption and 5$000 to commercial one. Under this proposal private consumer could make a total of 15 free calls. Commercial consumers could make 75 free calls paying $200 for each new one to the limit of 200 and $150 all other beyond that limit. It means that any private consumer could make 3 free calls daily while professionals could make a total of 5 for free. This request openned highly emotional discussions and the contract signed in 1926 began to be reviewed. The major complaint of the company was, as usual until very recently, that their earnings were very low and almost no existing. Imports became very hard to get and expensive and the supply of the service had become a very complex one. Without new profit margin there would be no means for better

As said before, until the last days of JK Administration, telecom still remained in the sidelines of national investement interests and surprisingly unatractive to Brazilian emergent entrepeneurs[74]. This fact can be clearly seen when the CTB concession ended up in April 26th, 1956 and no competitor challenged CTB interest to renew its license[75].

Since then a lot has changed and Brazilian nationalists began to hostilize foreign capitalists turning the state as the sole and best actor to take the role of, in the first place, regulators, and at the right moment, as the proprietor of 1200 telecom enterprises that were operating in the country.

Before this could happen the country faced a hibrid period of transition. Even with oposition, CTB fought to remain alive in the Brazilian market[76]. In Minas Gerais, it was tried new experiences. As said before, CTNG, a CTB propriety, is sold to the state government. Finally, after the coup d'était of 1964, the final goal of the Authoriy was to concentrate all telecom system in its own hands making use of the old doctrine of ESG. As a result, CTB unity is preserved and it is bought[77] to form the new Embratel[78] in 1966.

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development. On the other hand, as always had happened in such ocasions, the city reacted by refering to the contract which allowed increases only every five years. This is the kind of tension that became usual in the Brazilian scene until the 60's.

[74] They became suprisingly aware of the possibilities of this new market in the CTB affaire, right before its nationalization. It was sugested then by Brazilian entrepeneurs to establish a new holding – Telefones do Brasil – in order to buy the foreign share in this company. These negotiations were headed by Themistocles Marcondes Ferreira and finally were oposed by João Goulart Administration which was interested to retain CTB under state control for political and security reasons. *Ibid* supra, Oliveira, 244 pp.

[75] Its earning had fallen sharply in the 1940-1960 period, from 19% of the minimum wage in 1942 to only 3% in 1961. This fact may explain the lack of interest of the Brazilians in this economical sector (Barboza, 20 pp.).

[76] It promissed to expand the net in 300 thousand more phones making use of consumers financing and a new tax paid by the old ones. New contracts were signed giving the subscribers the burden of buying the new equipment.

[77] According to Oliveira, CTB had in those days 170 concessions all over the country operating as a result 800 thousand phones while 600 thousand were still waiting on line for new ones.

[78] The Canadian company received then a total of US$ 96.315.787,00 (*Op. cit*. 262 pp.)

Since then and until today federal government had become the lonely responsible for removing the country from this stage of losing the hability to communicate.

The role of the state

It is necessary to add a word regarding the perception of a greater number of thinkers and authors from different fields of knowledge and schools of thought and ideologies concerning the Brazilian 'territorial deserts'. In fact, it is pos si ble to say that a na tional 'syn drome of emp ti-ness' emerged in the early days of Brazil's history. These territories could be challenged by potential foreign invaders, according to this fobic in ter pre ta tion of the 1920's, 1930's, 1940's and so on. This country was not a unity because it was so imense, with powerfull local political forces fighting each other. This could lead the country to desagregation. Evidences of such movements could be found in many pe ri ods and states such as the sep a rat ist rev o lu tions of Farroupilha and Balaiada, amongst other.

Another big question was developed around the national character issue, i.e., the development of psychological common ground characteristics that could provide the emer gent Bra zil ian cit i zen with links to a national identity. This way, Christianity (mainly Catholicsm), the Portuguese language, and the Lusitan Latinity served as amalgam to the new nation. In this context, the ideology of racial miscegenation and racial democracy overcame in Brazil the idea of multiculturalism that had be come in North Amer ica a ma jor el e ment of its so ci ety way of think ing. As a re sult, the waves of im mi gra tion that sent to Brazil more than 4 million people from all over the world, were well controlled by the Au thor ity who, mainly in the 1930's, put into ef fect se cret rules that erected barriers against a num ber of na tional and re li gious groups considered then very hostile in absorving the hegemonic culture of Brazil. (They were, mainly, the Jap a nese, Arabs - those com ing from Irak, and Jews from Europe, refugees from Nazi Germany and East Europe).

The well cultivated Brazilian dream was to build a latin nation, racially mixed, increasingly able to comemorate a yellow-and-green imaginary world. It can be said that in this modern Brazil the country had met its own manifest destiny: to be a regional power whose future was to be among the great su per pow ers of he world. It had enough mineral re sources, ter ri to ries, pop u la tion in ex pan sion, a na tional and powerful market avid to consume goods of all kinds, as well a strategic

geographical position turning it to be a natural guardian of the Atlantic Ocean.

It became ESG's hegemonic vision. In order to overcome the barriers to such a position most of ESG strategic studies made by the military and civil scholars showed that the forces able to promote a big jump into the developed world were statism, nationalism, psicosocial mobilization, planning and control. The expected result of these measures and policies established by the Authority were, therefore, to make felt the sovereignity of the Brazilians over the national territory. The frontiers should be conquered and controled. The Brazilian heroes are, as result, heroes of space. Rio Branco,Rondon, Santos Dumont, Tiradentes, Landel de Moura, Osório and the "Bandeirantes" fought for frontiers, conquering the forests and their indians, as well as expanding its communication network into the countryside; conquering the space and the magnetic waves, liberating the country from foreign empires, and bringing the white civilization into the unknown regions of the Amazon, to the deserts of the northeastern regions of the country and to the 'pampas' in south Brazil, turning the expulsion of the French, the Dutch , the Paraguaians and the Spaniards historical landmarks.

The telecommunication revolution of Brazil of the 1970's must be understood, in our view, in the context of these studies and doctrines that strategists and intelectuals were making about the country. The decisions made in this strategic telecom sector, as well as in many others, came from this scenary of thinking, desires and preocupations which had originated a national doctrine that had been erected since the first days of ESG, a school founded in August, 20th, 1949.

ESG (The Superior School of War)

The intelectual production of ESG can not be forgotten in the evaluation of Brazil that emerges in 1964, neither in the understanding of the telecom policies then implemmented. Its doctrine impregnates the state bureaucracy. The new 1964 coup d'état regime was full aware of the role communication was then playing in the world. Their staffs were very well trainned to see the specific challenge posed by telecom (as well as nuclear energy, mycroelectronic, space technology and sea exploration, among many new emergents areas).

As early as 1958, for example, among the main Brazilian strategy authors was General A. de Lyra Tavares. From that time on, he never stopped stressing the same points: Brazilian should be alert to a number of perils that challenged the sovereignity of the country over its territory; the need to consolidate a national mentality able to react against such perils; and the role of the government as organizer of the people and its territory. In dealing with such issues he used to make biological mathaphors.

The Government was the mind of the country; the political system was its nervous system; its psycossocial system was the sensorial part of the national organism; the economic system represented its breathing system; and the military was its muscles.

He examines the world around and finds "invisible" action ready to fragilizise the body of the nation. In the international arena he reacts against the possibility of Brazil becoming a satelite country. He wants to strenght its capacity, allowing Brazil to face the progressive and calculated domination of its most "vital" parts and "narcotization" of the national reaction (Tavares, 1958:14-15).

He points out the new emergent phenomenon of globalization calling the attention that we were not able to make use of the security sense that physical distance used to give to nations.

The emergence of new international blocs was the clearest evidence that states were open to the idea of surrendering a portion of their sovereignty in order to build new strenghts together, a position he personally found distasteful.

The cold war dispute became a central topic of his thoughts and enhanced him to think about the economical, political and psychological fields as the most adequate step to "advance and spread the idea of community spirit" (Tavares, 1958:26). What disturbes him the most was the need to form a national conscience. He doesn't suggest any isolationist ideas, but alerts the ways by which people are used to absorving cultural products from aboard, products whose content were, in fact, open propaganda. The best way to deal with this it was to make the Brazilian people to go through a cultural treatment of their deep emotional motives. Such preventive innoculation could spare the Brazilian citizens into being commanded and managed from outside. The press is seen, in this context of the formation of nationality, as a educational channel whose aim was to consolidate a nationalistic

public opinion. In this sense, they should be forbidden to play against such goals. Such inspiration was aroused in the total war principles and strategies developed in the Great Wars periods that the internal front became as decisive as the soldier in the battle front.

General Tavares would conclude that the state, as the main responsible for the physical and emotional integration of the nation, should expand in the same way the network of transport. Only through such a mean it would be possible "to neutralize the negative effects of dispersion of the population" (Tavares, 1958:203). His next effort in developing a personal view in this subject was made in 1959, when he releases his strategic conception about Telecom and National Security. He makes an effort to write the history of the Brazilian telegraphy, telephony, radio and other technological means of communication in order to show all these gaps that still existed in the development of this field in the country.

He concludes that the National System of Telecomunication was as fragmented as the country itself. The state in those days had no means for controlling and exploring such a system. Its responsability was weak, and its coordination a very hard and less than operational one. As a result, it was not useful a tool for mobilization of the nation, a concept that had emerged in the needs of the Total War period, and a key concept in the strategic view that was being consolidating in the scenary of cold war to which these military were very much aware and sensible.

The conclusion he reaches, considering this extreme regionalism in the telecom network of the country, was the need for strong concentration whose main effect was to allow a much more efficient control of the nation. State monopoly was then considered and became, inf fact, the means applied in the 1970's telecom policies. But, what for such centralization and control by the state?

The goal was to increase the cohesion of the nation, the presence of its thoughts, linking its interior to the centre, allowing "fast intervention" from this centre in the countryside any time it is needed. Bringing life to the frontiers, said the author, through communication and transport. The main political and military role of telecommunication is, as result, to allow the real presence of the state in such regions. He recommends, in this text of 1958, the state to prepare efficient staffs of technicians, enhancing the industry, improving the quality of all its services and opening a planning and executive departments also staffed by the

military. Such National Telecom System, which would be established in the following years under the military regime, is seen in 1958 as a very basic element of national organization, and as a tool for surveillence of its frontiers, allowing, as a result, the 'organism' to avoid enemy propaganda that could come from aboard.

As seen, such an approach to telecom issues was cleary militarly oriented: the state should control the command, communications being its nervous system. Its goal was to aglutinate the social communities of the country, as he himself had said, "geographically disseminated", aiming to obtain a synthesis. The goal, the amalgam, was to obtain "social and spiritual links". This achivement was defined in National Security terms (according to the cold war terminology. In the years ahead, under the influence of the new developments theories, ESG doctrine changed from Security and Development to the oposite slogan, i.e., Development and Security, as had happened in the Ernesto Geisel administration). General Tavares repeated the territorial integration argument in 1979 when he pointed out again the need for spiritual integration of the nation through its cultural and linguistics matrixes as well as through regional equilibrium and social cohesion.

Developmental theories

Considering the goals of this study, i.e., to comprehend the telecom revolution of Brazil by taking in account the strategic views developed in this country since its early days, it is worth recalling the fact that development at a fast pace, as mentioned before, began to be its major challenge, according to the new military views that had emerged in the country in the 60's, 70's and 80's.

Such a new approach can be seen in ESG writings of the period. Statements stressing the need "to strengthen the national potencial" can be found, for example, in articles written by General Augusto Fragoso, head of ESG in the 1967-1971 period. Planning became, as a result of this new view, a very often practice of the Authority after 1964. ESG had become a major factor since its first day in helping to formulate a body of knowledge regarding what became labelled as "national security planning and mangement" doctrine. Its main goal was to help the country to become a Big Power. In order to deliver such task high rates of development became an urgent requirement.

This geopolitical rationale becomes accepted and disseminated in the official discourses and announcements of those days: Brazilians should make efforts to achieve Permanent Goals, and national power was a result of resources gathered in such diverse areas as political, psycossocial, economic and military. The state became a central actor in the National Strategy. In fact, three main objectives were considered national and permanent: integration, sovereignty and development. An adittional relevant factor was the concept of national security then adopted by the military regime.

Both communism and underdevelopment became their major enemies. Telecommunication innovation was possible in this new environment where it was seen as a major tool for integration of the country, allowing its control, helping a central power to overcome the regional state oligarchies. In order to achieve it Brazil needed more means of communication (and roads, airports and ports - transports, in sum, which could help to provide circulation and unity, allowing the people to share neigborhoods and commom culture backgrounds).

In the 70's and 80's, the Authority was less frightened by foreign enemies. These fears were located, in fact, insight Brazilian borders and should be fought, among many ways, by state monopoly of the telecom structure. This telecom structure had remained dispersed and chaotic, with no national and common links, with no compatible equipments. As in the past, many among the new emergents technologies remained unknown to a great number of the citizens.

This telecom theme and its relation to Brazil's development remained in the political agenda of the nation in the 70's. In 1972, it had invested 2,26% of its National Product in telecom infrastructure; it increased to 2,50% in the next year. In 1974, this amount got the 2,63% mark and the 3,28% one in the next year. In 1964, Brazil had 1,57 phones for every 100 inhabitants. It had increased to a bit more of 4 million in 1976, that is to say, 3,60 for every 100.

The world in a whole was discovering more and more the importance of these new technologies. In 1977, telecom had generated a net income of US$ 75 billion, or 1,8% of world net product. The industry of telecom in Brazil had earned, in 1976, 2% of the national product, i.e., US$ 2 billion. Despite these numbers, the gap remained high between services being offered and demand. In 1974, Brazil had supplied only 45% of all its telecom needs.

As a result of this hybrid track of doctrine and policy making, from 1964 on, Brazil began to develop its planning approach. The first military Administration of General Castelo Branco published its Decenial Plan for Social and Economic Development for the 1967/76 period. The Administration headed by General Costa e Silva, the second one, launched a new one, the Strategic Program for Development (known as PED, from Programa Estratégico de Desenvolvimento), for the 1968/1970 period. It established the country should have a five year development plan. The first National Plan of Development (PND, in Portuguese) (1972/1974) was approved in March 31st, 1971. The third general to head the Brazilian government, Emilio Garrastazu Medici, made public his ideas about "the Brazilian mode of development" in this document. This statement became a new slogan. The official rethoric began to use it to describe the economical "boom" the Brazilian economy was then displaying. He also followed the ideas coming from the Development and Security doctrine. The next Administration of Gen. Ernesto Geisel remained linked to the same concepts revealing his strong connections with ESG strategists and theories. While promissing (and putting in practice) strong repression against 'subversive ideas' (i.e. marxists and leftists), he advocated his strong belief that development should come in first place over Security. His government began to implement the PND II approved for the 1975-1979 period.

The Plans

According to the national Plan the Brazilian Internal Product should increase, in the 1970-1974 period, 41%; its population 12%; per capita income 26% (US$ 598,00); its industrial production 46%; investments 58%, and consuming 36%. These numbers were then labelled as being a 'Brazilian miracle'. Until 1973's oil crise began working against such mood, the country was moving into ESG established tracks and goals of turning Brazil a Big Nation.

The First PND reflects this state of spirit aiming to expand Brazil's internal markets, its industry and its hability to compete internationally. It aimed to integrate its territory through regional developments projects. As we can see in the 70's, the main theme was other than cultural unity as had happened in the 20's and 30's; neither was the spirit of conquest that had driven pioneers into the interior in the begining of the century. Now it was focused in economic development,

but also in transport, colonization and telecommunication as means of territorial domain. It was demanded Brazilian presence in the Amazon - a move that explains the construction of the Transamazonic road, agrarian reform projects in the region, new transport corridors in the northeastern part of the country and an estimated 10% increase in the 1970-74 period for both transport and telecom sectors.

Among the projects of those days it is possible to find plans to expand 5 thousand km of new submarine cables, 11.839 meters of new microwaves lines, 10.460 new telex stations, 20 thousand new intercities phone interconections and 90 thousand km of mail lines. Despite these investments they still remained behind education, health, agriculture and a number of others.

Its scope was larger in the II PND which aimed the increasce the national product in 61%, turning Brazil then into the 8th largest economy of the world. It was expected an increase in the Brazilian population to 120 million people; its per capita income to US$ 1044,00 until 1979, 61% per capita investment increase and 55% in consuming. The exports should totalize US$ 20 billion.

The subject of national unity and settlement of the "Brazilian univers" is treated in depth in its fifth chapter. A population strategy is defined, and another for the unity of the north, northeast and center-west regions of the country. It was created the II Brazilian Plan for Science and Technology which included a complex plan of objectives in a number of sectors, among them, transports and communications. These two "offer the best results from the economical and social point of view".

It says that the country needs to expand the public services of telecommunication, "reinforcing the hability of production and managment of the Brazilian industry". This new program had defined as specific goals 1) the creation of a new Brazilian Telecom Center of Research, 2) comparative studies of telecom devices, 3) rural telephony, 4) communication by laser, 5) national tecnology development projects for digital communication, 6) development of electronic commuting services, 7) processors for eletronic commuting, 8) research center for telecom projects, 9) land station for space communication, 10) research in mail services, 11) production of manuals for phone nets projects, 12) development of phone stations rating and supervising system, 13) development of infrastructure for scientific and technological

production of eletronic components, 14)development of production of eletronic components know-how, 15) offer of subsidies for producers of equipment, 16) development of experiments in circuit production, 17) development of silicom technological use, 18) development of technology for fiber optics use in telecommunication, 19) radar telecommunication, etc.

In 1983, these projects went ahead with new ideas introduced in the III Brazilian Science and Technology Plan which included areas such as eletronic commuting, digitial transmition, optical communication, communication by satelite, networks telecommunication systems, data transmition, office automation, videotext, tele-education, and automation of services and the industry.

In all these projects a number of research and technology development centers belonging to universities, army, public enterprises, Ministry of Communication and a few private companies became involved.

Achievements

As said earlier, Embratel was very well successful in establishing a new national telecommunication link by microwave stations, releasing new services between São Paulo, Paraná, Santa Catarina and Rio Grande do Sul, and a second one between Rio-São Paulo-Belo Horizonte and Brazilia, then the most congested communication route in Brazil. It was launched a third one (linking Belo Horizonte to Governador Valadares, Aracajú, Maceió, Recife, João pessoa, Natal and Fortaleza). A number of others helped the intercity communication between Rio and Vitória, Fortaleza and São Luiz, Brazilia and Belém, Belém and São Luiz, Belém and Manuas, Manaus and Boa Vista, Campo Grande and Rio Branco, Porto Velho and Manaus, and in the Amazon Bacin through tropodifusion.

At the same time, Telebrás concentrated in its hands all Brazilian telecom companies, and expanded this telecom network due to new funds collected by the FNT (Fundo Nacional de Telecomunicação) tax. The freedom the states and municipalities had had to release new authorizations for telecom companies came to an end.

In the five first years, Telebrás was able to expand this services from 1,69 to 4,4 millions consumers. In 1980, Brazil had 7.500 thousands phones. Long distance calls by a national unified phone system gave

the nation an efficient and unknown mean of telecommunication. In the end of the 80's, Telebrás became responsible for 95% of all phone calls in Brazil.

Data transmition by the national Transdata system, helped to link in the early 80's a total of 30 major towns around the clock. Innovations helped satelite communication to Brazilian ships in high sea. New links beween Itaborai station (Rio de Janeiro state) and Intesalt were established as well as new intercontinental submarine cables between Recife and Gran Canária were launched in 1973, Recife and Saint Thomas island in 1980 and a third one between Senegal in Africa and Recife began to be built in 1982.

In order to increase the Brazilian autonomy in this now regarded strategic economic sector, subisides were given to Brazilian telecom industries. In 1985, it was launched the first Brazilian satelite, the Brasilsat I.

In the next year, it was born Brasilsat II. The Brazilianterritory was covered and interconnected. Embratel becomes the manager of the Brazilian satelite telecom system and its terrestrial stations located in Morungava, São Paulo were built in 1987.

A huge effort is made in order to overcome the technological gap that still existed between Brazil and other developed countries. As a result of this process of innovation, STM-400 technology begins to allow the exchange between of messages between computers, telex and fac-similes machines.

In this period of time Brazil applies those policies established in the Telecom Brazilian Code.

The spirit of this time had a very clear nationalist taste[79] and a geopolitical comprehension of telecom role in society. These facts explain the moves made toward nationalization and state control of all telecom corporations operating in the country in this period of time.

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[79] There was also frustration due to lack of efficient phone services. For example, Porto Alegre had, in 1961, 14.800 phones serving a population of 641.170. At that same time, Minneapolis, in the USA, with 650 thousand people, had 200 thousand phone lines. (CRT- 33 anos de telecomunicações, 21 pp.).

The new Code was trying, in fact, to overcome the country's ambiguity toward private and foreign investements in this area since the Portuguese Empire period. As mentioned, at that time, it was decided then in favor of the state control of these operations, but the opposit had occurred in fact. Foreign investors were able to concentrate in their hands the best markets. The state controlled Telégrafos company remained delivering telecom services to the far distant locations in the interior.

In the first years of phone services this ambiguity remained well alive. In 1881, a new Emperor order was published - *Aviso aos presidentes das Províncias* - in which it was clarified the fact that the new phone service should be considered in the same way as telegraphy, that is to say, it should remain under state control. Despite it, the Authority released new licenses in the following year authorising private investors to operate the new technology. This fragmentation went ahead when, in 1891, with the new Republican regime, states and municipalities receveid authonomy to provide its own services. The net became, as a result, less than operational. This situation did not change after the Revolution of the 30's since the new government respected all former licenses given to private investors. Nothing in this regard changed in the Vargas regime remaining a complex and disconected system until 1962.

Then, everything began to change. The Brazilian policy making process and management became a state issue and new institutions like Contel (Conselho Nacional de Telecomunicações) and Dentel (Departamento Nacional de Telecomunicações) turned to be responsibles for both.

The new era of private control

The 90's has introduced a new stage in these territorial and cultural unification historical processes. It follows the new economical market ideology supremacy, global production of goods, international financing system expansion, information exchange rates and free-flow of information traffic increase, and finally the constitution of cosmopolitan neighborhoods worldwide.

Such a new word had an important impact in the former ESG doctrine, making some of its resistant nationalist strategists to accept the

new world order terms which forced the country to privatize its telecom infrastructure and to accept a limited sovereingnity.

Oswaldo Muniz Oliva, a former ESG head, sees an invisible hand, (ano XII, núm. 32, 1996:165). pushing all this process. He oposes that portion of the Brazilian colonized elite who applaudes foreign investors arrival in the country. Oliva energically reacts against the destruction of Telebrás as a system making the alert: "It is worth not forgetting that in this kind of fundamental decision for our future the majority is silent, even the Army, but it is not omissive" (Muniz, ano XII, núm. 32, 1996:165).

In fact, a new strategic view for the nation as a whole has been created. The new Brazilian telecom plan is aware of the new role performed by all these technologies. Its goal is to help the country to deliver the kind and amounts of telecom services needed by private Brazilian citizens as well as by its sophisticated economical sectors. Its offer has decreased since the 80's economical depression, making the Authority to use FNT funds to other ends than the telecom expansion.

This new plan is a vast and complex list of initiatives including competitiveness and "intense participation of private capitals and the establishment of a transitional set for the total privatization of the telecom operations"[80]. All measures applied until 1996 had increased the phone density to 10,40[81] and aimed to achieve the 23,2 mark in 2003 for conventional telephony and 13,4 for wireless phone[82]. All these plans made this sector to be the most attractive of all in the Brazilian economy for private (national and international) investments requiring sums of R$ 43,2 billions until 1999 and RS$ 91 billions until 2003, according the PASTE plan, an enormous jump from the US$ 3,5 billions usually applied by Telebrás annualy, (it had increased to US$ 8 billion in 1997) (*Ibid*).

As a result, the wiring of Brazil is advancing, preparing the country to get in the new Era of Information better equiped. Pay TV is arriving

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[80] "As transformações no setor de comunicações", Min. Relações Exteriores, 1998.

[81] Brazil had 13,4 million regular phones and 800 thousand wireless, and 306 thousand public phones.

[82] According to Ministry of Communication database.

to 73 towns, an important step forward, since the new Cable TV Law was approved in Congress in January 1995, a new medium which is becoming popular, despite its late introduction.

In the Brazilian case, foreign investors were allowed to have a 49% propriety of telecom enterprises. Therefore, in some sense, the Brazilian ambiguity remains alive even in this new ideological climate[83] where investors are being very well welcomed[84] in the country. The new free-market economy approach is not a pure product, as had happened in the past when such policies had the desire of attracting investors while fearing to be conquered by foreign and private interests. It remains to be seen how the Authority is going to manager once again this historical paradox when the interest of the nation is on the agenda. As we remember, his intervention was needed all along this history every time the nation felt the stagnation of the services and lack of investments in this sensible area. The interventions were made in both directions: toward more state intervention or toward private and foreign one.

Actually, the Brazilian frontiers were never hemertic. Capitals and know-how from abroad were always imported, despite the fears. Now, in the 90's, the country is witnessing a new phasse in this walk toward phisical and cultural unity. The Brazilian political opening of the 80's has now this new development, the new global integration.

Conclusion and discussion

The challenge now is not to integrate the country itself, a claim which has been achieved in great measure (despite the Amazon area where it remains being a challenge in this regard, where foreign intervention and ONG's activities protecting Indian autonomy are feared. The Authority has approved as a result of such views the Projeto Calha Calha,

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[83] According to the Brazilian Constitution, telecom should be a state operation made by Telebrás.

[84] Among foreign investors who had made investments in Brazil we can list the French Alcatel (R$ 29 million invested in Campinas); the Sweeden Ericson (R$ 25 million in São José dos Campos); the American Hidratel (R$ 100 million); the American/Brazilian Mapra Andrews (R$ 40 million in Sorocaba); Nokia, from Finland, is building a phone factory; the American Qualcomm is investing.

a project which aims to reinforce its surveillance in the region which contains 14% of the national territory)[85].

The main questions remain the same, i.e., the dream to overcome underdevelopment and to become a regional power in some extent. These dreams explain the steps given now in connecting the country not with its isolated areas in the countryside but to the world at large. Such new move allows us to introduce the new **era of global integration**, the fourth one.

The Brazilian national strategic fears are aroused due to this new world order where, according to ESG writings, the USA may have the desire to impose a new kind of "pax romana", by using not only the military option but also, and mainly, the technological one allowing "governments and organisms from the developed world to interfere in the internal affairs of any other country in the planet - by releasing words, images, photographies, geological sensors,telecommunication and by making use of financial operations"[86].

What counts now is the economical and social power. This is the new strategic rationale that advocate the privatization of state companies of many areas, and among them telecom national corporations. As said in the begining, this is the end of a cicle in which the private sector of the telecom industry remained a point of the convergence. It is not to say that the state intervention ideology has folded for ever. In fact, it is a new chapter in which there is a great deal of frustration regarding the role performed by the elite and technocrats while managing public affairs (*Ibid*:21).

This understanding calmed down the national feeling of other times. According to Carlos Mattos, "besides lack of economical resources to invest in research (in Brazil) there was (available) too much of the national spirit whose main allies were those who advocated in favor of state intervention in the government withouth understanding the changes the world was suffering toward liberalization and more (global) interconections".

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[85] Evandro Bartholomeu Vidal, A Defesa Nacional, jul/set 92, núm. 760, 57 pp.

[86] Carlos de Meira Mattosd, Revista Escola Superior de Guerra, núm. XII, núm.32, 1996, 93 pp.

This view feared "the weakening of the internal cohesion (among Brazilians)"as a result "of lack of criative power of the elites." This is the ambiguity of this new era of the 90's: on one side, we see the advance of democracy and free enterprises, international trade, the new role performed by telematic in society, the rise of the new Asian powers, less bilateral ideological disputes and, on the other, the fight for sovereignity, territorial integrity and the values of national identity" (*Ibid*).

In sum, a new world which brings hope and fear at same time. This fact explains the profound change ESG doctrine is suffering by making explicit references to social justice (De Arruda, 1989:16) claims while making a distinction between political oposition and political warfare.

It is a time of strategic ambiguity as well. In this insecure walk a lot of hope has been devoted to blocs like Mercosul/Mercosur in the southern corner of South America (Amorim, 1993:67). The new state being erected in Brazil tries to be more efficient and normative, (Bayma, 1994:28), welcoming foreign investors as allies of Brazilian private investors and aims to achieve better productivity.

After the 1964 coup d'etait, Brazil became less dispersed and cahotic, as every continent should be, turning to be a new centralized regime, applying strict control over country's life, dreaming to be a unified and one territory and nation. Its political regime had changed moving from its oligarchic structure of the past to a new authoritarian one. Such a move had a huge impact in its telecom structure making it to be come a much more controlled system of interconected state enterprises. These state telecom companies became strategic tools of the regime helping to advance its Permanent National Goals plan execution, that is, integration, progress, and security of the country.

Under the new democratic regime of the 90's both the political climate and the telecom framework of Brazil changed as had happened in the past. Political descentralization and telecom privatization walked together hand in hand.

In fact, the state power in providing progress became less than operational in late 80's allowing, as had happened in the Brazilian history, private actors to emerge on the scene again. Telephony became a scarce commodity. A phone line price in the black market was as high as US$ 5 thousand . According to Veja Magazine, in Rio de Janeiro there only 1500 public phone terminals serving 2 million people of the

favelas. Only 19 in every 100 houses had phones, or a density of 8,3 every 100. Despite improvements of the 70's, Brazil still remained in the 39º position in phone services quality in the world. International calls from Brazil used to cost seven times the average international price. Telebrás became the sole responsible for such situation in which, in April 1994, there was 10 million phone deficit in the country.

This study tried to show the conection that exists between telecom development and geopolitical views regarding Brazil's future and dreams. Foreign investement became a central issue all along this period due to its ideological links to views of the world which were either state, private, national or international oriented. There is a clear conection between such strategic views and policies applied to telecom development.

Nowdays, this is the most attractive market for private investements. It does not mean the the nation has radically changed its dream of becoming a regional power. It simply means that the strategy has changed. Its new concepts are not deriving from the cold war but from the need of economy development of the nation, a key word for the expected dream realization.

To be a regional power is the manifest destiny of Brazil. This is the Brazilian utopia since early days, but mainly after WWII when ESG studies and other think thanks began to ask the hard questions regarding Brazil's lack of social progress. Such a dream has worked well also as a weapon against Brazilians historical low self esteem, a feeling of self-criticism which became acute in the inflation crise period of the 80's.

Telecom developments of the 70's and now, in late 90's, express both the same phenomenons of space control, closing down the distances among its people, and helping to formulate a Brazilian identity, despite the dificulty of a clear-cut definition about its character. This allows the country to take part in international blocs without fearing to desintegrate itself and freeing itsel from phobic feelings of being conquered from outside.

This was the kind of feelings that Roland Corbisier expressed in the 50's in his *Formação e Problemas da Cultura Brasileira* while talking about culture wars and colonialism. Then he expressed fears regarding the advance of the European culture and its impact in other lands making local cultures to disappear. He then spoke out about the colonial

complex and said that "the colonized has no voice, since his voice belongs to others to whom his liberty was granted" (Corbisier, 1958:26).

The spirit of reaction against this destiny can be easily located in the Brazilian strategic views. A modern one about cultural genocide (Oliveira, 1991) reflects the same feeling of the 50's. Nevertheless, since Corbisier's writing a lot has changed and Brazil became as a matter of fact a country with roots and identity and whose phobic feelings of the 50's are not valid any more. The telecom infrastrucutre, helped in our view, to build a relatively homogeneous society, as dreamed by the Authority, reinforcing its imaginary world with motives easily found in its tropical and subtropical environments.

Brazil lives a new opening of its ports to friendly nations, according to ESG's International Division head Sergio Dominguez de Figueiredo metaphor (*Revista ESG*, ano IX, núm. 24, 1993, 77 pp.). It wishes to integrate the country to international community, mainly to its regional bloc, in a move similar to that made in Asia by the new local regional powers. In such international context, national feelings must be refrained. The new political common ground of political forces in Brazil is to advance is fast as possible country's economy, trying to avoid remaining behind and isolated.

In sum, the dream to impulse Brazil toward its destiny of becoming a super-power remains alive as ever, despite the new fragmentation process being introduced in its economy and telecom struture. It is, in fact, a new/old strategy, a kind of flash back in history, whose main goal is to arrive at Porto Seguro, a secure port where the old dream can easily be seen and felt.

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For the next elections

Let's see if technology can help us to live in more active, harder working, more righteous, HONEST.

A little list of items, guiding the vote for the 2000 year elections.

Print this and conserve it to lead your vote during this next elections.

Spread this e-mail, send it by Fax, mail or phone.

Do everything you wish, except to ignore the abuse of these politicians.

TABLA 1
For the next elections
Let's see if the technology can help us to live in a more acfive, harder working, more righteous, Honest
A little list of items guiding the vote for the 2000 year elections

'Vereadores' From S. Paulo that will vote against the CPI of regionals	Those who owe to State and don't pay
1. Alan Lopes	42. Abelardo Lupio
2. Antonio Goulart	43. Clementino Coelho
3. Archibaldo Zancra	44. Ernandes Amorin
4. Aurelino de Andrade	45. Flavio Derzi *
5. Brasil Vita	46. Jose Carlos Martinez
6. Celso Cardoso	47. Jose Carlos Vieira
7. Cosme Lopes	48. Mario Negromonte
8. Dito Salim	49. Nair Lobo
9. Edivaldo Estima	50. Pinheiro Landim
10. Emilio Meneghini	51. Roberto Balestra
11. Hanna Garib	52. Roberto Pessoa
12. Ivo Monganti	53. Ronald Lavigne
13. Jooji Hato	54. Valdomiro Meger
14. Jorge Taba	Deputys whose income was inceased all by them selves
15. Jose Izar	55. Adao Xavier
16. Jose Olimpo	56. Cesar Lacerda
17. Jose Silva Amorim	57. Edimar Pirineus
18. Jose Viviano Ferraz	58. Gim Argello
19. Luiz Paschoal	59. Joao de Deus
20. Maeli Vegniano	60. Jose Edmar
21. Maria Helena	Those whow fought against the CPI all along the judgement
22. Mario Dias	61. Wagner Pimenta (chairm of TST)
23. Milton Leite	62. Almir Pazzianoto (vice of TST)
24. Myryam Athie	Others
25. Natalicio Bezerra	63. Luiz Mendonca de Barrios - Min of Communications (Bank Opportunity)
26. Osvaldo Eneas	
27. Paulo Frange	
28. Paulo Roberto Faria Lima	64. Bruno Feder – He was usually drinking whisky with other 'vereadores' during the process.
29. Toninho Paiva	
30. Vicente Viscome *	* He appears in more than one list.
31. Wadih Mutran	
Mixed in trouble	
32. Arnaldo Faria de Sá	
33. Enio Bacci	
34. Flavio Derzi *	
35. Hildebrando Pascoal	
36. Luiz Fernando	
37. Reni Trinta	
38. Ronaldo Cunha Lima	

After all, we are who pay for it.

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