

Pierre Marzin: Innovator and Techno-Patriot

Pascal Griset

Table of Content

1.	Introduction	87
2.	Senior Civil Servants Under Vichy: What Analytical Framework?	88
3.	From Agricultural Mechanics to Telecommunications	90
4.	War and the First Realization of an Extended Project	92
5.	Marzin and the Resistance	96
6.	Liberation and Reconstruction	100
7.	A Leadership Not Without Its Rough Patches	102
8.	Conclusion	105
9.	References	105

1. Introduction

The attitude of European elites during the Second World War has been the subject of much historical research, which has increasingly adopted a broader European approach to the role that experts played in constructing political spaces.¹ This research has also considered the role of technology — in this case information and communication technologies as well — in the genesis and development of contemporary Europe.² From a methodological point of view, raising such questions calls for an extremely broad conceptual field.

The aim of this text on Pierre Marzin is more modest. He was a key figure in the history of French telecommunications and high technology

-
- 1 Kohlrausch, Martin / Trischler, Helmut: *Building Europe on Expertise: Innovators, Organizers, Networkers*, Basingstoke 2014.
 - 2 Laborie, Léonard: *L'Europe mise en réseaux. La France et la coopération internationale dans les postes et les Télécommunications (années 1850-années 1950)*, Brussels 2010; Fickers, Andreas / Griset, Pascal: *Communicating Europe: Technologies, Information, Events (1850-2000)*, London 2019.

during the second half of the twentieth century,³ and served as a member of the French delegation to the European Postal and Telecommunication Union in 1943.⁴ Here the focus will be the impact that the Second World War had on his career, a topic that calls for a *longue durée* approach, as well consideration of the circumstantial constraints and objectives that emerged at the time.

2. Senior Civil Servants Under Vichy: What Analytical Framework?

To understand how senior civil servants managed, in accordance with highly contrasting personal choices, the many contradictions imposed on them by their responsibilities in the specific context of the Occupation, we have available to us a historiography deeply marked by the “Paxtonian revolution.”⁵ The work of Marc Olivier Baruch offers an operational key for doing so⁶ by analyzing how an administration continued to function in a collective dynamic consisting of extremely varied individual trajectories. It is crucial to break with a history of “judgment.” The analytical lens proposed by Philippe Burrin offers another element that inscribes these trajectories not in “models” — difficult to identify and impossible to use — but rather in a series of references that move beyond the specificities of multiple fates. The categorization of choices in terms of involvement with the enemy, in conjunction with the concept of *accommodation*, help avoid the binary history that emerged during the aftermath of the war, which identified actors through the binary lens of “*collabos*” (collaborators) and “*ré-sistants*.”⁷ The historiography has also emphasized that the evolution of the conflict, the struggles within Pétain’s l’Etat français (French State), the preservation of a “free” zone and its subsequent occupation, and the situation in the colonies reveal the multiple spatial and temporal variables that were behind changes to many stances.⁸ The men who saw these dark times

3 Fridenson, Patrick / Griset, Pascal (dir): *Entreprises de haute technologie, État et souveraineté depuis 1945*, Paris 2013.

4 Internal reference to Valentine Aldebert’s chapter in this book.

5 Paxton, Robert: *La France de Vichy*, Paris 1973.

6 Baruch, Marc-Olivier: *Servir l’État français: l’administration en France de 1940 à 1944*, Paris 1997.

7 Burrin, Philippe: *La France à l’heure allemande (1940-1944)*, Paris 1995.

8 Baruch, Marc-Olivier / Duclert, Vincent: *Serviteurs de l’État: une histoire politique de l’administration française, 1875 – 1945*, Paris 2000.

as a moment to advance projects preparing the country's future recovery stand out within the French administration⁹; they took their place in the "technocracy" that sought, already in the 1930s, to overcome the Great Depression and the country's structural problems through modernization. Without being the sole actors, engineers played a major role in this dynamic, especially *polytechniciens* (graduates of l'Ecole Polytechnique) due to their specific role in positions of power, as well as their modernist vision of France.¹⁰

Analyzing Marzin's career requires special consideration of the fact that he was an engineer from l'Ecole Polytechnique.¹¹ This approach focusing on *polytechniciens* under the Occupation, initiated by Marc Olivier Baruch and Vincent Guigueno, provides a first basis. However, studying graduates from "X" (nickname for l'Ecole Polytechnique) in positions of power leads, almost automatically, to an exclusive focus on the two most prestigious engineering "Corps."¹² Engineers from the Direction des Télécommunications (DT, Directorate for Telecommunications) were not highly considered at the time, even though this period marked the beginning of their increasing role between the 1960s and 1980s. This ascension was correlated with the growing presence of their field of expertise, which they succeeded in having recognized as a national priority.¹³ Marzin led this objective, and combined it with a broader project of freeing French telecommunications from dependence on foreign industries. Only careful consideration of this transformation as it unfolded over the *longue durée* can provide a clear analysis of his career and decisions between 1939 and 1945.

-
- 9 Dard, Olivier: „Les élites technocratiques dans la Résistance française“, in: Marcot, François / Musiedlak Didier (dir.): *Les Résistances, miroir des régimes d'oppression. Allemagne, France, Italie*, Presses universitaires de Franche-Comté 2006.
 - 10 Baruch, Marc-Olivier / Guigueno, Vincent: *Le Choix des X: L'École Polytechnique et les polytechniciens, 1939 – 1945*, Paris 2000.
 - 11 Joly, Hervé: *A Polytechnique. X 1901. Enquête sur une promotion de polytechniciens, de La Belle Époque aux Trente Glorieuses*, Paris 2021.
 - 12 Graduates from the Mines and Ponts et chaussées schools held, as part of the traditional *cursus honorum*, the most important positions based on established dividing lines and evolving influence. While they were not absolutely frozen, they evolved slowly.
 - 13 Griset, Pascal (dir): *Les ingénieurs des Télécommunications dans la France contemporaine: Réseaux, innovation et territoires, XIXe-XXe siècles*, Paris 2014.

3. From Agricultural Mechanics to Telecommunications

Engineers are ultimately humans: to understand them, one must grasp their background, personal culture, and values. Marc Olivier Baruch, himself a *polytechnicien*, has invited us to do just that by gathering the information traditionally included in a prosopography:

Who exactly is Mister X, a bureau chief, an engineer at the Ponts et Chaussées (leading engineering *grande école*), a ministry director, an under-secretary? How old is he? Who are his parents? Where was he born? What kind of a marriage did he have? How many children did he have.¹⁴

There are many biographical questions involved, and I will begin with a few elements in this regard.

Marzin was born on October 24, 1905 in Lannion, in the Côtes du Nord department. His grandfather Guillaume had created an agricultural machine factory that was quickly recognized beyond Northern Brittany for its quality. With the support of a local investor, he produced a “gorse grinder” that was presented in Paris, and noticed as far as England. His father Charles took over and diversified its activity by opening a garage in 1910 to repair the first automobiles that ventured on the difficult roads of the Trégor, a region that still had poor infrastructure at the time. Pierre’s older brother Yves-Marie opened his own agricultural machine company the following month. One year later, before an audience of three hundred farmers, he presented a flax gin invented by abbot Bonniec, a professor of agriculture at l’Institution Saint-Joseph. While it was not among the city’s “notables,” the Marzin family nevertheless left a mark on the city through its dynamism, which was essentially oriented toward the surrounding countryside. It extended its activities and took full advantage of the opportunities created by the state to grow flax, and more broadly by the economic recovery that had emerged since the beginning of the century. Marzin products were adapted to the needs of an agricultural clientele that was not wealthy. Le Trégor was a poor province of Brittany, far less prosperous than the neighboring Léon.

Pierre thus grew up in a family of entrepreneurs who were oriented toward technology, and used pragmatism and responsiveness to find com-

14 Baruch, Marc-Olivier: „Négociier la contrainte; Les „administrations polytechniciennes“ face à l’occupant“, in: Baruch, Marc-Olivier / Guigueno, Vincent: *Le Choix des X: L’École Polytechnique et les polytechniciens, 1939 – 1945*, Paris 2000, p. 112.

mercial outlets for their initiatives. While he was completing his secondary education at the *collège* (middle school) in Lannion, his father sent him, at the age of fifteen, to farms to repair his clientele's machines. The child's curiosity was not limited to mechanics. He played the violin, and quickly excelled at his studies. He distinguished himself in mathematics and physics, and supplemented his knowledge with sometimes dangerous chemistry experiments with his younger brother Ludovic. He was an adolescent drawn by the sciences, but also very familiar with everyday issues and constraints. He left his native city after obtaining his *baccalauréat* (high school degree).¹⁵ Encouraged by his teacher Mr. Colvez, his parents sent him to Rennes to attend preparatory courses for engineering schools. As a boarding pupil, he passed the competitive exam for admittance to l'Ecole centrale, but preferred to be held back a year in order to join Polytechnique the following year. This was a highly remarkable success for the young man, in keeping with the upward mobility fostered by the French Third Republic. While his departure for Rennes was already a major break, his arrival in October 1925 at l'Ecole polytechnique, located on the Montagne Sainte-Geneviève in Paris, truly changed Pierre's world. He apparently adapted with little difficulty to this new environment, and met his wife Catherine during the school's prestigious ball. He also established a number of friendships that he would offer him loyal support throughout his career.

After completing his military duty in the engineering corps, the branch that was in charge of the French army's transmissions at the time, he decided on his specialization. He attended courses at Supélec (Graduate School for Electrical Engineering), and was admitted to l'Ecole nationale supérieure des Postes, Télégraphes et Téléphones (ENSPTT, National Posts and Telecommunication Engineering School), where he familiarized himself with radio communications, and received education provided by engineers from the Service des études et des recherches techniques (SERT, Technical Studies and Research Department). It was to this institution that the young "*ingénieur ordinaire*" was assigned upon graduating

15 For the elements relating to Marzin's personal life, see: Griset, Pascal: *Les réseaux de l'innovation: Pierre Marzin 1905 – 1994*, Paris 2005 and Demouron, Frédéric: „Pierre Marzin, ingénieur des Télécommunications“, Master's Thesis (Paris-Sorbonne), Griset, Pascal (dir.), 2004.

The sources used for these two texts include the local press, the Marzin family archives, and administrative archives, notably the Légion d'Honneur file for Pierre Marzin.

from l'Ecole. SERT was not a large laboratory. It was more of a technical support organization, tasked with ensuring that the PTT (Post, Telegraph, and Telephone) network functioned properly. As a result, Marzin chiefly worked to meet the needs of a network of poor quality, although this task did not prevent him from directing his talent toward more stimulating fields. In the 1930s he took an interest in television, a field full of promise, but still in its beginnings. His research was recognized by a number of publications, as well as by the granting of patents, which was more rare for a civil servant. Its diversity underscores the openness of a researcher who enjoyed solving concrete operational problems. It was to this end that he produced a device that markedly improved the acoustic performance of telephones. Under the name of the "Marzin capsule" — a device that was more ingenious and perfectly designed than truly revolutionary — met with great success, and brought him attention. However, his initiatives were not always appreciated by a hierarchy that expected its agents to firstly carry out their task of controlling the equipment being used. Nevertheless, the young engineer continued his research, which notably developed a system allowing multiple telephone conversations to pass through the same conductor. This technique, known as "*courants porteurs simplifiés*" (power line technology), earned him a real reputation as a researcher. PTT agents called the device the "Marzinette."

This first phase of his career underscores Marzin's pragmatism. He did not graduate from the most prestigious corps of l'Ecole polytechnique, namely the *corps des mines*, but he chose the field of telecommunications, which he sensed offered room for dynamic activity. He clearly expressed, from that time forward, a taste for innovation combined with unrelenting pragmatism, which prompted him to direct his activities toward higher but specific and feasible objectives.

4. War and the First Realization of an Extended Project

In 1938, Marzin, who was working on a prototype for an answering machine, was asked to develop a gas mask that could be worn while making telephone calls...The war was near. In September 1939, he was mobilized and assigned to the general staff as a signals captain. He had retreated to the Landes when the armistice was signed, and was demobilized in the fall of 1940, before taking up his position at SERT in Paris. The shortages under the occupation made his power line system, which could increase network flow rate at low cost, of particular interest. Its capabilities were

quickly improved, and Marzin filed for a patent for the improvements made to his device, which could now handle six bilateral ways.¹⁶

He believed that France's defeat was due largely to its technological inferiority compared to Germany, thereby agreeing with the analysis made by General de Gaulle in his Appeal of June 18. This inferiority was in keeping with the underdevelopment of French telecommunications, whose manufacturing industries were dependent on patents held notably by International Telegraph and Telephone (ITT), an American company. Marzin for a long time pointed out that his technicians, who intervened on the long-distance lines of the PTT network, had to step aside so that staff from the LMT, an ITT subsidiary, could intervene on certain elements that remained under seal. His desire to marshal the means to give French telecommunications their full role in the country's recovery was supported by the may-june 1940 "débâcle", but also preceded it. He was among those civil servants, in the specific context of PTT, who saw France's modernization—and preparations for it despite the occupation of a large part of its territory by German troops—as the only conceivable way to prepare for the future and better days. Just as it was important to right the ship after a humiliating military defeat, telecommunications had to finally assume their appropriate role in a modern country. The submission of "télécommunicants" (telecommunications staff) to *postiers*, (postal staff) within the PTT administration was seen as one of the causes for this lateness.¹⁷ Two quests thus had to converge: independence from *postiers* and independence from foreign companies. Marzin shared this ambition with the engineers on his teams. SERT engineers, along with those from the Service des lignes à longue distance (Department for Long-distance Lines), belonged to a highly autonomous elite within the PTT administration. They were not subject to the power of the "*marchands de timbres*" (stamp sellers).¹⁸ They were united by a common technical culture, one that saw research as the only way to achieve this dual independence from *postiers* and the Americans. This research could not be conducted separately from the operation of the network. The culture of *ingénieurs-chercheurs* (engi-

16 Marzin, Pierre / Sueur, René: „Système à courants porteurs à 6 voies pour lignes aériennes“, in: *Étude no 394 de la Direction des Études et Recherches des PTT*, 1942.

17 Carré, P. / Griset, P.: „Innovation et construction d'une culture d'entreprise de la DGT à France Télécom“, in: *Entreprise et Histoire*, 29 (2002), p. 31 – 34

18 Entretien de Carré, Patrice / Clavaud, Georges: *Les Cahiers Télécommunications Histoire et Société*, 1995, p. 108 – 123.

neer-researcher) was not the same as scientists, nor was it identical to that of researchers in private laboratories. French industry had, in the form of the Compagnie Générale de Télégraphie sans fil (General Wireless Telegraphy Company), a high-level technological company devoted to electronics. Marzin's profile was very different from that of Maurice Ponte, who was working at the time on the Magnétron and aerial detection systems at the CSF.¹⁹ Marzin and his men had a culture of network operators, and believed that only ambitious public research, directly connected to the operation of a national network, could achieve success. Marzin supported the idea of preserving the link between research and operation, all while ending the former's dependence on the latter.

This vision was partially fulfilled in February 1941. The law relating to the organization of the secretariat for communications created a Direction des Télécommunications (DT, Directorate for Telecommunications) that was distinct from the Direction des Postes et Bâtiments (Directorate for Postal Service and Buildings).²⁰ This was a first step toward independence. The creation in August 1941 of the Direction de la recherche et du contrôle technique (DRCT, Directorate for Research and Technical Control) confirmed this trend, and clearly affirmed the central role of technology in this process. This organization, with an augmented status and means at its disposal, was designed to promote a faster pace of research than that adopted by SERT. The DRCT brought together, in a single organization, both research and technical control. "A telecommunications researcher can conduct good research only when touching existing equipment, and being concretely aware of its imperfections and deficiencies," wrote its director Jean Dauvin.²¹ In 1942, Marzin was appointed head engineer, and became Dauvin's deputy. This position allowed him to be associated, from its very conception, with the project for a major interministerial telecommunications laboratory, whose driving force would be the DRCT. Dauvin took as his example Great Britain, where the

government had gained the benefit of moral influence over its manufacturers, and the limitation of their enslavement to foreign technology. It was similar results

19 Griset, Pascal: „La Société Radio-France dans l'entre-deux-guerres“, in: *Histoire, économie et société, Le changement technique contemporain: approches historiques* 1 (1983), p. 83 – 110.

20 Décret du 9 février 1941 (Decree from February 9, 1941), Journal Officiel, February 17, 1941.

21 Décret du 23 août 1941 (Decree from August 23, 1941). Jean Dauvin's role in this evolution was crucial.

that led Germany and England to develop, over the last twenty years, research departments in the field of telecommunications and radioelectricity, amid conditions that strike us as being titanic in scale.²²

The project was thus in keeping with a perspective of national independence within a European frame of reference. This would take place through the establishment of technology conceived in France, driven by companies controlled by national industry. Dauvin's sentiments reflected opinions shared by all of the engineers on his teams, in which his deputy Marzin already played an undeniable role as a leader.

These principles were once again present—and their fulfillment amplified—with the creation of the Centre National d'Etude des Télécommunications (CNET, National Center for Telecommunication Studies) by the law of May 4, 1944.²³ The center's mission was defined by a modern sense of the term “telecommunications”:

Electrical communications with or without wires — telecommunications — have developed considerably in recent years. Taking various forms and with an increasing number of users, they have extended their domain not only to the telephone and the telegraph, but also to radio broadcasting, television, acoustics, signaling, beacons, and security. This broad range of “telecommunications” has assumed an increasingly important role in the life of the Nation and its relations with the rest of the world.²⁴

While the DRCT was an organization that reported solely to the Ministry for PTT, the CNET emerged as an interministerial organization that had to “conduct, or have conducted, the research requested by various ministerial departments and public services.” From this intention there grew a somewhat heterogeneous structure, with the laboratories affiliated with the center being answerable to five different ministries:

- Direction des recherches et du contrôle technique, Laboratoire national de radioélectricité (Directorate for Research and Technical Control, National Laboratory for Radioelectricity) (Ministry for PTT);
- Section d'études du matériel de transmission (Department for the Study of Transmission Equipment) (Ministry for War);
- Laboratoire des Télécommunications (Laboratory for Telecommunications) (Ministry of the Navy);

22 Rapport DRCT 1942, cited by Atten, Michel: „La construction du CNET (1940-1945)“, in: *Réseaux*, vol. 14, 1 (1996), p. 51.

23 Loi n° 102 du 4 mai 1944 (Law No. 102 from May 4, 1944).

24 Validation order issued by the provisional government on January 29, 1945.

- Laboratoire du ministère de l'Air (Laboratory of the Ministry of Air);
- Laboratoire de radiodiffusion du ministère de l'Information (Radio Broadcasting Laboratory of the Ministry of Information).

This project was therefore not limited to the general context of PTT, as argued by François Rouquet.²⁵ It went beyond a “desire to implement a technocratic ideal driven by earlier corporatist conflicts.”²⁶ The model that would take hold in the 1960s began to emerge, and saw the development of research on a global scale conducted under the auspices of the DT, and industrialized by “national” companies.

5. *Marzin and the Resistance*

PTT staff²⁷ had an important role in the Resistance’s fight against German occupation.²⁸ The most symbolic figure of the sacrifice is of course that of Simone Michel-Lévy, *Compagnon de la Libération* (Companion of the Liberation), who was deported and then hung on April 13, 1945 at the Flossenburg camp.²⁹ While many of these actions were conducted by resistance groups led by members of the military, the diverse trajectories involved and forms of action were particularly striking.³⁰ As his Senate biography points out, “Pierre Marzin took part in the Resistance.”³¹ From 1940 onward he directed a technical operation that allowed PTT engineers to prepare, through secret research, the reconstruction of transmissions af-

25 Rouquet, François: *Une Administration française face à la seconde guerre mondiale: les P.T.T.*, Ph.D. diss., Université de Toulouse 2, 1988, p. 290 – 300.

26 Rouquet, François, cited by Atten, Michel: „La construction du CNET (1940 – 1945)“, p. 49.

27 Which included both *postiers* and telecommunications staff. *L'œil et l'oreille de la Résistance, action et rôle des agents des P. T. T. dans la clandestinité au cours du second conflit mondial*. Proceedings of the conference held in Paris on November 21 – 23, 1984, Toulouse, Comité d'Histoire des Postes et Télécommunications, Institut d'Histoire du Temps Présent (CNRS), 1986.

28 <http://beaucoudray.free.fr/RPTT2.htm>.

29 <https://www.ordredelaliberation.fr/fr/compagnons/simone-michel-levy>.

30 <http://museedelaresistanceenligne.org/musee/doc/pdf/358.pdf>.

31 Almost a homonym, Pierre Francis Marzin was a very active communist Resistance member whose activity was described in Maitron. <https://maitron.fr/spip.php?article120796>, entry for MARZIN Pierre [MARZIN Francis, Pierre] by Yann Le Floc’h, Alain Prigent, François Prigent, version published online on November 30, 2010, last updated on March 13, 2019.

ter the German occupation.”³² Marzin did not go into hiding, and did not, strictly speaking, conduct any directly operational resistance activities that physically engaged him with the enemy. However, he provided support, means, and protection for many of his colleagues or subordinates who were directly engaged in action. This was especially true for what was known as the “Keller Network,”³³ whose activity reveals the cooperation between Marzin’s DRCT research team and the engineers and technicians from the Lignes à longue distance. The idea of listening to the German army’s communications was formulated by Captain Combaux, a member of the Services de renseignement français (French Intelligence Service), who was hidden within the PTT. As Georges Clavaud bore witness, when he confided in

Mistres Sueur and Marzin, the former believed that he could develop a technical solution, while the second would provide cover for the operation. The most sensitive part would be ‘nabbing’ the cable without alerting the Germans. Mr. Sueur proposed Robert Keller for this daring mission.³⁴

Robert Keller, a mechanic and later a junior engineer in the Lignes à longue distance, had been mobilized as part of military telegraphy in 1939. His deeds earned him the Croix de Guerre. Once demobilized, he joined his center in Paris and engaged in the struggle against the occupier, despite being the father of four children. He was the only trustable and willing PTT technician who possessed all of the required skills and qualities to carry out the plan conceived by Combaux. When Combaux contacted him, “he accepted the mission immediately, and vouched for the PTT technicians he wanted to involve in carrying it out.”³⁵ In 1942 Combaux rented a detached house in Noisy-le-Grand, located on the route travelled by the Paris-Metz (and then Berlin) cable used by the Germans.³⁶ “After a six-

32 https://www.senat.fr/senateur/marzin_pierre000136.html

33 Source K, <https://unatrans.fr/documents/sourcek.pdf>.

34 Mr. Georges Clavaud, who became head engineer and head of human resources at the DT, was Keller’s comrade in arms, and a firsthand witness to his activity. “Robert Keller et la source K,” account by Georges Clavaud, collected by Maurice Bruzeau, *Revue T*, 12 (1974), <http://memoiredeguerre.free.fr/biogr/guillou-pierre.htm>.

35 Romon, François: „La lettre de la fondation de la Résistance“ 94 (2018), p. 7.

36 Combaux, Edmond: „Ce que fut la Source K“. Speech given at the inauguration of the Centre téléphonique Robert Keller, December 1948, in: *La source K. Un des mystères de la dernière guerre. Un épisode extraordinaire de la Résistance dans l’administration des PTT au service des lignes souterraines à grande distance*, Paris 1949.

month preparatory period (...) Keller and his team diverted the cable under the Noisy-le-Grand house without raising the suspicion of the German technicians at supervisory measurement stations.”³⁷ After five months of wiretapping, the operation had to be stopped due to indiscretions. A similar operation was successfully completed in Livry-Gargan on the Paris-Strasbourg cable. “We listened to and recorded the Führer himself, Goering, Keitel, von Rundstedt, Jodl...”³⁸ These two diversions:

...provided a considerable amount of intelligence regarding the German high command’s projects. They were transmitted to the British Intelligence Service via the French intelligence service’s Olga contacts, or through radio transmission from the secret PC Cadix intelligence center run by Gustave Bertrand, or by the French diplomatic posts in Bern and Lisbon.³⁹

A denunciation brought an end to the network’s activity, almost all of whose members were arrested. Keller, Georges Lobreau, Pierre Guillou, Laurent Matheron, and Gérard Grimpel were deported. Only Lobreau returned in 1945, having survived the death camps. Keller’s silence under torture ensured that neither Combaux nor René Sueur were involved. Marzin’s closest collaborators had acted with his agreement and under his protection. When Combaux, who was in Lyon when the first arrests were made, returned to Paris, it was Marzin he sought out.

I had to know at all costs the reason for the arrest, and to go to Livry-Gargan to warn my operators, if there was still time to do so. I contacted Marzin [Inspector General, Director of Research and Technical Control for the PTT, the service to which Sueur belonged] in Montparnasse. He could only inform me of one thing, the arrest of a controller. It turned out to be, as I learned later on, Mr. Lobreau. I asked Mr. Marzin to clean out my office in the rue Bertrand.⁴⁰

Marzin did so, accompanied by his son Guillaume and R. Sueur.⁴¹ “They destroyed the reserve equipment, the subassemblies, and the technical

37 „Robert Keller et la source K“, account by G. Clavaud, collected by Maurice Bruzeau, *Revue T*, 12 (1974).

38 Navarre, Henri: *Le service de renseignements, 1871-1944*, Paris 1978.

39 Ruffin, Raymond: *Résistance PTT*, Paris 1983, p. 51.

40 Account by colonel Combeaux in: „Les Ecoutes, la Source K, le SSC. Ce qu’il faut en savoir.“ <https://www.aassdn.org/ECOUTES.pdf>.

41 According to the family’s memory, as gathered by Frédéric Demouron. Demouron, Frédéric: „Pierre Marzin, ingénieur des Télécommunications“, Master’s Thesis (Paris-Sorbonne), supervised by Pascal Griset, 2004, p. 50.

documents hidden in the cellar. Everything that was not burned or completely dismantled was thrown in the night into nearby sewers.”⁴²

Another account, written by the Resistance member and deportee Georges Raynaud,⁴³ allows us to better identify Marzin’s position at the time.

Resistance activity was dangerous, and required great secrecy. I will therefore speak in the conditional. I am almost certain that Marzin directly or indirectly was in relation with those who led the secret wiretapping of German circuits on the Paris-Strasbourg cable. R. Sueur, his faithful deputy, was close to G. Clavaud at the management for Lignes à Grande Distance, and no doubt with the works engineer Robert Keller. One thing is absolutely certain: the high input impedance amplifiers that made it possible to secretly listen to German circuits were studied and tested at the Transmission department’s laboratory. This study was conducted by François Job, a young DT engineer that Marzin had ordered not to wear the yellow star...I was engaged in Resistance activity, which resulted in my arrest by the Gestapo at my home during the night of June 18, 1944. My mother informed lead research engineer G. Perinet of my arrest. When the Gestapo agents came to look through my personal things at the lab in rue Bertrand, and to arrest three colleagues who were similarly engaged (A. Peyrat, R. Carpentier and Y. Vincent), Marzin retained them in his office as long as he could, which allowed my three colleagues to deceive the Gestapo agents monitoring the rue Bertrand entrance, and to escape by the other exit on l’avenue de Saxe. To the credit of Marzin and his team, throughout my period of deportation my salary was, against all rules, paid to my mother.⁴⁴

Georges Clavaud, a member of the Jade-Fitzroy network since 1943, who had previously helped the Keller group, explained that this practice was forbidden by administrative services, and that the spouses of deportees were financially supported by secret fund-raising efforts to which many agents of all ranks contributed, and then by funds transferred from London.

There were many who played the game. In the Jade-Fitzroy network there were about fifty men from the long-distance lines department who provided information. This activity was not very dangerous, but still: we asked them to give us the cable notebooks for a particular day. That way we had cable notebooks for all

42 Bata, Philippe / Bloch, Jean-Paul (eds.): *Le Centre National D’Etudes des Télécommunications 1944 –1974, Genèse et croissance d’un centre public de recherche*, Paris 1990, p. 33.

43 Written account sent to Georges Raynaud in 2003 and reproduced in his thesis, „Pierre Marzin, ingénieur des Télécommunications“, Griset, Pascal (dir.), 2004, p. 199 – 206.

44 Idem.

stations. We transmitted to London, and London was able to precisely locate Germans CPs [Command Posts].⁴⁵

The activities of Resistance networks also proved decisive in implementing Plan Violet, which cut almost all of the telecommunications lines used by the Germans during the D-Day landings on June 6, 1944.

We have seen the role played by Marzin, who relied on his high level hierarchical position to cover for his troops and produce equipment for their activities, without compromising himself directly with the Germans. This action materialized in very specific and personal form when Marzin hid Job, even when both of his parents had been deported as Jews and he was being actively sought. Job was “cloistered” in Marzin’s apartment, “playing ping-pong with Pierre Camille and Charles, the couple’s eldest sons.”⁴⁶

6. *Liberation and Reconstruction*

The entry of troops from the 2nd Armored Division in Paris on August 24, 1944 was a major stage in the Liberation of France. The sacrifice of PTT civil servants involved in the Resistance contributed to this victory. Yet as the German enemy was pulling away, a new but different kind of opponent, for the *télécommunicants* appeared alongside the liberating troops. On August 25, Sosthenes Behn, the founder of ITT, arrived in Paris wearing the uniform of the US Army, in which he served as a Lieutenant-Colonel. He took direct control of Le Matériel Téléphonique (LMT, Telephone Equipment),⁴⁷ and quickly established coordination between the Allies and French telecommunications services. On August 26, Georges Clavaud, who was highly involved in sabotage operations, was appointed by his superior

as an advisor for long-distance cables with the First US Army’s Strategic Command (...). I was summoned to avenue de Breteuil, to the LMT laboratory, and found myself before a colonel, a big guy: it was Behn...In perfect French he in-

45 Carré, Patrice, Interview with Georges Clavaud, transcription.

46 Interview with Pierre Camille Marzin, January 31, 2004. Demouron, Frédéric: „Pierre Marzin, ingénieur des Télécommunications“, Master’s Thesis (Paris-Sorbonne), supervised by Pascal Griset, 2004, p. 51/52.

47 http://siteedc.edechambost.net/CSF/ITT_Seconde_Guerre_mondiale.html
This site compiles many sources and references on the history of French telecommunications companies.

formed me that I had been assigned to the First Army to reestablish telephonic communications. I was thus tasked, under the orders of Colonel Williams, Chief of Signal for the First US Army, with putting my knowledge of the network at the service of the Allies. Beginning on the morning of the 28th, I shared life in the field with officers of the Signal Corps.⁴⁸

The administration quickly provided means, but did so in connection with private companies.⁴⁹ Behn was soon joined by Maurice Deloraine, who was also in American uniform. The Paris laboratory director for LMT—the subsidiary of the powerful American company—had left France in October 1940, along with two engineers from his laboratory. He traveled to the United States via Portugal and North Africa, and transmitted the plans for a highly innovative electronic system called “Huff Duff,” which played a major role in detecting enemy submarines throughout the conflict.⁵⁰ The political activity of ITT, from its creation in the mid-1920s until the 1970s, has led to protracted debates.⁵¹ While the relations of its German subsidiary with Nazi authorities led to specific questions in this regard,⁵² the investigations conducted into LMT directors upon Liberation did not lead anywhere.

While the brotherhood of arms was of course fully genuine, a new telecommunications “geopolitics” had emerged, and with it the reality of subordination to American interests, which was imposed even before the last Germans had left Paris. Later, the memory of Behn’s arrival would be equally ambivalent. While the two forms of dependence were of course radically different, the key to escaping both was the same: the technological independence of French telecommunications. The continuity of this struggle was quickly superimposed on the decisive break represented by the Liberation. The other priority, which was indissolubly connected to the first, was still relevant: *télécommunicants* had to be freed from the administrative supervision of *postiers*. This objective could also be met only through control over the technologies of the future. The technical culture

48 Interview with de Carré, Patrice / Clavaud, Georges: *Les Cahiers Télécommunications Histoire et Société*, 1995, p. 108 – 123.

49 Carré, Patrice: „Etre informé, faire parvenir les ordres, s'assurer de leur exécution. Les Télécommunications en France 1944 – 1946“, in: *Le rétablissement de la Légimité Républicaine 1944*, Editions Complexe, 1996 p. 599 – 622.

50 Chapuis, Robert / Joel, Amos: *100 Years of Telephone Switching: Manual and Electromechanical Switching, 1878 – 1960's*, Ios Pr Inc, 2003, p. 306.

51 Sobel, Robert: *The Management of Opportunity*, New York 1982.

52 Sampson, Anthony: *The Sovereign State, The Secret History of ITT*, Holder and Soughton, 1973.

of telecommunications engineers eventually won out, Marzin believed, over the administrative culture on which the postal supremacy was based.

The continuity of these objectives, and their integration within a project of national recovery, clearly emerged when the Provisional Government of the French Republic confirmed in January 1945 the creation of CNET, especially in light of its organization and remit.⁵³ In the context of compromise between Gaullists and communists, its leadership was entrusted to Henri Jannès. Jean Dauvin, who was “...too close to the Vichy regime, and [was] thought to have worn the Francisque [honorary order under Vichy France] a little too conspicuously,” was passed over in October 1944.⁵⁴ His deputy Marzin, “whose attitude during the war (...) was considered irreproachable,” and whose research and patents had demonstrated his technical leadership, was the logical successor.⁵⁵ Marzin, who was appointed as director of CNET’s Section particulière des PTT (Special PTT Department), soon found himself in opposition with its director. While he defended the notion of a powerful French industry, to be developed through a genuine partnership with public research, Jannès, who was very close to the communists, imposed an authoritarian policy and intrusive price controls that were very poorly received by industrial actors. This fundamental disagreement, combined with the conviction that his teams would have real means at their disposal only if reporting to the Ministry for PTT, prompted Marzin to request a revision of this organizational arrangement. This is precisely what he secured in 1946, when the Section particulière des PTT officially regained its independence.

7. *A Leadership Not Without Its Rough Patches*

This was a sea change in Marzin’s career. Between 1944 and 1946, he had to assert himself in an environment in which political aspects often prevailed over scientific and technical expertise in determining an individual’s career or the successful outcome of a project. To understand Marzin at this time, we can once again turn to Baruch, in an effort to move beyond strictly personal characters toward “a kind of intellectual history.” Let us

53 The law from May 1944 was confirmed on January 29, 1945 via the order of validation issued by the provisional government.

54 Atten: “La construction du CNET (1940-1945)” p. 55.

55 Idem.

try to answer a few of Baruch's questions: "with what kind of knowledge did our civil servant begin an administrative career, after what career path...what god did he believe in, if he believed? How did he vote? What newspapers did he read?"⁵⁶ In terms of religion, the children of notables from Lannion studied during the postwar period at the new Collège Saint-Joseph (Saint Joseph middle school); Pierre was enrolled at the smaller and secular Collège de Lannion. Politically, he was clearly Gaullist in sensibility. However, to our knowledge he did not demonstrate any political engagement upon Liberation. His ideas, which were those of a moderate, were revealed when he was elected to the Senate in 1971 as part of the Gauche Démocratique ticket. His connection to the left was "minimal"—somewhat opportunist and driven by his Breton friends—for it was necessary to be elected in the left-leaning Côtes du Nord. He incidentally would be "outflanked" on his left, and beaten during the 1977 elections by a socialist slate. Professionally, he worked with the communists, including the *polytechnicien*, Christian activist, and Resistance member François du Castel,⁵⁷ who joined the 2nd Armored Division in 1944, fighting until Strasbourg. He joined the Parti Communiste⁵⁸ after the war and served as an activist—at CNET where he spent most of his career—with the Confédération Générale du Travail des PTT trade union (CGT/PTT). As a result, his opinion of Marzin cannot be suspected of deference. When questioned regarding his boss, he referred to the successive nominations that led Marzin to the head of the DT in 1967 with the following words: "I think Pierre Marzin's role in the Resistance and his involvement with the Freemasons, which was powerful at the PTT at the time, had an impact. But was there a better candidate...?"⁵⁹ Du Castel's account also reveals a personality that did not leave people indifferent.

Pierre Marzin had a strong personality that enabled him to complete major tasks. He successfully invented an organization that simultaneously conducted highly scientific research and highly technical studies. This same personality sometimes

56 Baruch: „Négociier la contrainte; Les „administrations polytechniciennes“ face à l'occupant“, p. 113.

57 Two accounts on the same action within l'Ecole Polytechnique are available: <https://journals.openedition.org/sabix/653>

58 <https://maitron.fr/spip.php?article145045>, entry for DU CASTEL François, known as DUCASTEL François, version published online on February 18, 2013, last updated on February 18, 2013.

59 Interview with François du Castel. Demouron: „Pierre Marzin, ingénieur des Télécommunications“, p. 236.

led him into major conflicts (...). It sometimes expressed itself in outrageous language and very rude manners. But Marzin also knew how to trust researchers when it came to research that did not have a direct or immediate impact.

Georges Raynaud's account refines this point of view: "How to characterize Marzin? Very lively, I would say even virile, which did not exclude a certain timidity, he was a man who made sweeping decisions."⁶⁰ The energy, will, and capacity to free oneself from certain administrative rules were part of the Marzin "style." More than just an administration director, he was a leader, and could create and preserve genuine loyalty over the long-term. This loyalty was built over time through a bond with the man and a shared project. The men he knew between 1940 and 1944, those with whom he was involved in the Resistance, would remain with him throughout his career, creating bonds of friendship, solidarity, and especially trust. There was a real camaraderie that grew out of bonds forged in combat, but one that adhered to a hierarchy that none ignored. Years later, when presenting Edmond Combaux to a young historian, Marzin explained with a sly grin: "he is neither one nor the other." The bonds that were created were unbreakable.⁶¹ His subordinates followed him without hesitation in the sometimes-bold decisions he subsequently had to make. This leadership hardly followed procedures, and was not really particularly with transparency. Du Castel, who was loyal to his union commitment, found fault with his boss's informal way of managing his teams. While he recognized his ability to "secure funds and better compensate his researchers," he also underscored Marzin's "highly personal management," as well as bonuses distributed "to the researcher according to his own discretion (...) attributed without controls."⁶² These were clear instances of pragmatism, of a sense of "mission." Du Castel pointed out, not without respect: "Pierre Marzin had a high ideal of the PTT's public service, because he had a great sense of the state."⁶³

60 Account transmitted by Georges Raynaud to François Demouron. Demouron: Pierre Marzin, ingénieur des Télécommunications, p. 206.

61 Personal memory of the author.

62 Interview with François du Castel, Demouron: „ Pierre Marzin, ingénieur des Télécommunications“, p. 235.

63 Idem, p. 236.

8. Conclusion

During these ten years, Marzin affirmed his ideas and strong personality, which were rooted in his rural youth in Brittany. He used institutions to complete his own projects, in the service of a vision that looked past the overly rigid structures of the present. His pragmatism was that of an ambitious man, but one who was also modest. He knew how to assemble means, which were almost always lacking, and how to seek out opportunities, even if it meant waiting and accepting less favorable situations. His management of people was partly based on affection. He fostered rapid initiative and decision-making, and relied on trust in an essentially oral form of communication. Marzin wrote little. He accepted the rules in order to better circumvent them for a project he deemed to be of great interest. In the 1950s and 1960s, he laid the foundation for the renewal of French telecommunications.⁶⁴ Marzin served France and the state. Yet he can be defined as a patriot not for the nationalist vision of his action, for his mode of operation was more broadly that of a man of proximity and loyalty. He was thus able, not without opportunism, to ensure that Lannion was the site selected for the CNET's partial decentralization in the early 1960s. Asked a few years later regarding the origin of this crucial decision, which had rejected Grenoble in favor of his native region, he explained, not without guile, that he had little to do with it: "It was the staff who decided. I simply asked them if they preferred the sea or the mountains...And they answered the sea."⁶⁵

9. References

- Baruch, Marc-Olivier / Duclert, Vincent: *Serviteurs de l'État: une histoire politique de l'administration française, 1875 – 1945*, Paris 2000.
- Baruch, Marc-Olivier / Guigueno, Vincent: *Le Choix des X: L'École Polytechnique et les polytechniciens, 1939 – 1945*, Paris 2000.
- Baruch, Marc-Olivier: „Négocié la contrainte; Les „administrations polytechniciennes“ face à l'occupant“, in: Baruch, Marc-Olivier / Guigueno, Vincent: *Le*

64 Griset, Pascal: „Le développement du Téléphone en France depuis les années 1950. Politique de recherche et recherche d'une politique“, in: *Vingtième Siècle, revue d'histoire*, 24 (1989), p. 41 – 54.

65 Memory of a conversation with the author.

- Choix des X: *L'École Polytechnique et les polytechniciens, 1939 – 1945*, Paris 2000.
- Baruch, Marc-Olivier: *Servir l'État français: l'administration en France de 1940 à 1944*, Paris 1997.
- Bata, Philippe / Bloch, Jean-Paul (eds.): *Le Centre National D'Etudes des Télécommunications 1944 – 1974, Genèse et croissance d'un centre public de recherche*, Paris 1990.
- Burrin, Philippe: *La France à l'heure allemande (1940 – 1944)*, Paris 1995.
- Carré, P. / Griset, P.: „Innovation et construction d'une culture d'entreprise de la DGT à France Télécom“, in: *Entreprise et Histoire* 29 (2002), p. 31 – 34.
- Carré, Patrice: „Etre informé, faire parvenir les ordres, s'assurer de leur exécution. Les Télécommunications en France 1944 – 1946“, in: *Le rétablissement de la Légimité Républicaine 1944*, Editions Complexe, 1996, p. 599 – 622.
- Chapuis, Robert / Joel, Amos: *100 Years of Telephone Switching: Manual and Electromechanical Switching, 1878 – 1960's*, Ios Pr Inc, 2003.
- Combaux, Edmond: „Ce que fut la Source K“. Speech given at the inauguration of the Centre téléphonique Robert Keller, December 12, 1948, in: *La source K. Un des mystères de la dernière guerre. Un épisode extraordinaire de la Résistance dans l'administration des PTT au service des lignes souterraines à grande distance*, Paris 1949.
- Dard, Olivier: “Les élites technocratiques dans la Résistance française“, in: Marcot, François / Musiedlak Didier (dir.): *Les Résistances, miroir des régimes d'oppression. Allemagne, France, Italie*, Presses universitaires de Franche-Comté, 2006.
- Demouron, Frédéric: „Pierre Marzin, ingénieur des Télécommunications“, Master's Thesis (Paris-Sorbonne), supervised by Pascal Griset, 2004.
- Fickers, Andreas / Griset, Pascal: “Communicating Europe: Technologies, Information, Events (1850 – 2000)“, London 2019.
- Fridenson, Patrick / Griset, P. (dir): *Entreprises de haute technologie, État et souveraineté depuis 1945*, Paris 2013.
- Griset, Pascal: „La Société Radio-France dans l'entre-deux-guerres“, in: *Histoire, économie et société, Le changement technique contemporain: approches historiques*, n°1 (1983), p. 83 – 110.
- Griset, Pascal: „Le développement du Téléphone en France depuis les années 1950. Politique de recherche et recherche d'une politique“, in: *Vingtième Siècle, revue d'histoire*, 24 (1989), p. 41 – 54.
- Griset, Pascal: *Les réseaux de l'innovation: Pierre Marzin 1905 – 1994*, Paris 2005.
- Griset, Pascal, (dir): *Les ingénieurs des Télécommunications dans la France contemporaine: Réseaux, innovation et territoires, XIXe-XXe siècles*, Paris 2014.
- Joly, Hervé: *A Polytechnique. X 1901. Enquête sur une promotion de polytechniciens, de La Belle Époque aux Trente Glorieuses*, Paris 2021.
- Kohlrausch, Martin / Trischler, Helmut: *Building Europe on Expertise: Innovators, Organizers, Networkers*, Basingstoke 2014.

- Laborie, Léonard: *L'Europe mise en réseaux. La France et la coopération internationale dans les postes et les Télécommunications (années 1850-années 1950)*, Brussels 2010.
- Marzin, Pierre / Sueur, René: „Système à courants porteurs à 6 voies pour lignes aériennes“, in: *Étude no 394 de la Direction des Études et Recherches des PTT*, 1942.
- Navarre, Henri: *Le service de renseignements, 1871-1944*, Paris 1978.
- Paxton, Robert: *La France de Vichy*, Paris 1973.
- Romon, François: „La lettre de la fondation de la Résistance“ 94 (2018).
- Rouquet, François: *Une Administration française face à la seconde guerre mondiale: les P.T.T.*, Ph.D. diss., Université de Toulouse 2, 1988.
- Ruffin, Raymond: *Résistance PTT*, Paris 1983.
- Sampson, Anthony: *The Sovereign State, The Secret History of ITT, Holder and Soughton*, 1973.
- Sobel, Robert: *The Management of Opportunity*, New York 1982.

