



2009 IEEE CONFERENCE ON THE HISTORY OF TECHNICAL SOCIETIES

“CUERPO DE TELÉGRAFOS”

FIRST ATTEMPTS TO CREATE A PROFESSIONAL BODY FOR ELECTRICAL COMMUNICATIONS IN SPAIN

Antonio Perez Yuste

Technical University of Madrid, Spain

Olga Perez Sanjuan

Spanish Association of Telec. Eng.



PRESENTATION OUTLINE

- Spain in the 19th Century
- Early Electrical Telegraphy in Spain
- The Telegraph School, 1852
- The First Telegraph Act, 1855
- The Body of Telegraphists, 1856
- The Telegraph Special Academy, 1865
- Conclusions



SPAIN IN THE 19th CENTURY

The **19th Century** was a dramatic period in the history of Spain. It began with a bloody **Liberation War** upon the occupation of the Iberian Peninsula by the Napoleonic troops in **1808**, and ended with the loss of the last **Spanish colonial possessions** in Cuba, Puerto Rico, Philippines and Guam in **1898**.

The Third of May 1808, Oil on Canvas,
1814, Francisco de Goya.



Charge of the 24th and 25th Colored
Infantry and Rescue of Rough Riders at
San Juan Hill, Kurtz & Allison





SPAIN IN THE 19th CENTURY

El General Carlista Ramón Cabrera en la rotura del cerco de Morella. Autor: Augusto Ferrer Dalmau.





SPAIN IN THE 19th CENTURY

Mural de las Revoluciones en Irapuato (México). Autor:
Salvador Alamarz López, 1969.





EARLY ELECTRICAL TELEGRAPHY IN SPAIN

Exposición Histórica de las Comunicaciones, Secretaría
General de Comunicaciones, Eurotelecom, Madrid, 1990

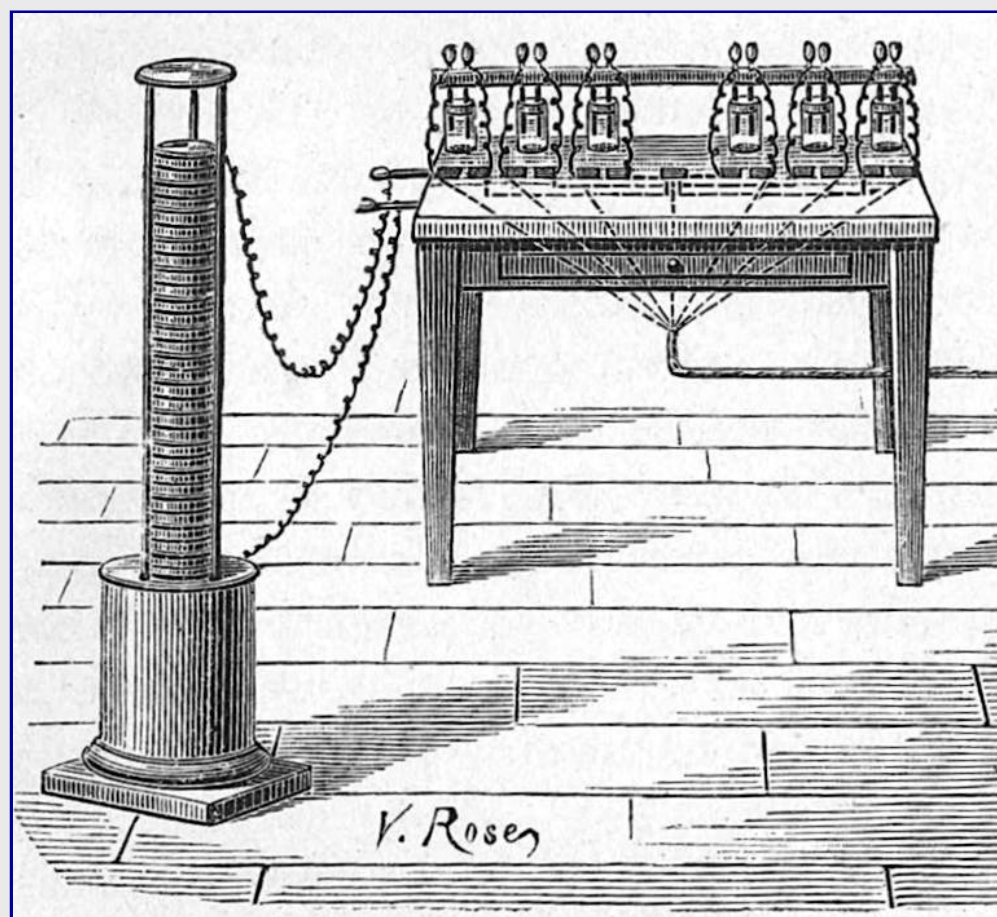


Five years before the Polish **Samuel Thomas von Sömmering** (1755-1830) demonstrated his electrochemical telegraph to the Munich Academy of Sciences, the Spaniard Francisco Salvá y Campillo (1751-1828) proposed a very innovative electric telegraph system based on both **Volta's Battery** and the process of the **Electrolysis of Water**. He left his thoughts written in a report presented to the Barcelona Academy of Sciences, Spain, in **22 February 1804**.



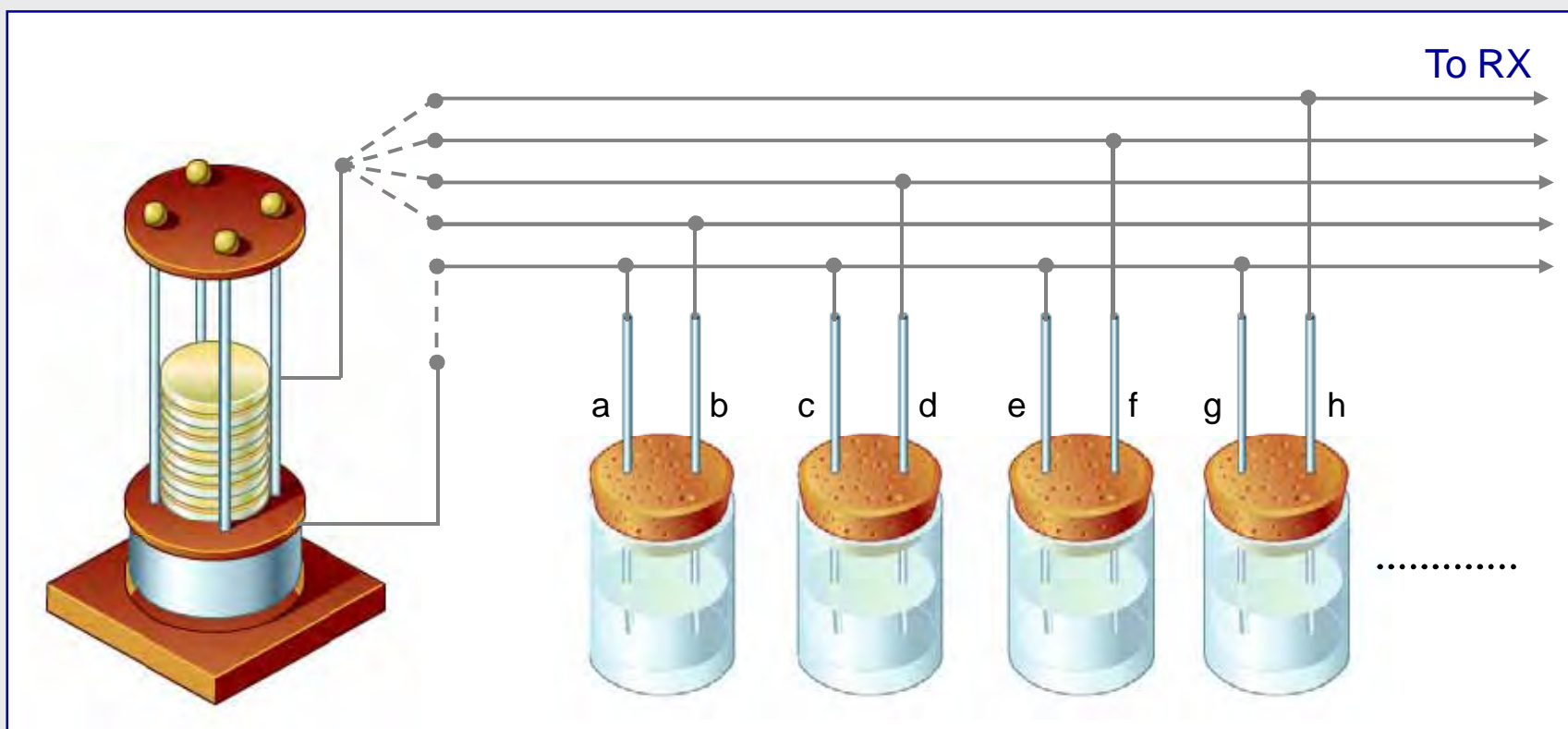
EARLY ELECTRICAL TELEGRAPHY IN SPAIN

Tratado de Telegrafía, Antonino Suárez Saavedra,
Barcelona, p. 334, 1880.





EARLY ELECTRICAL TELEGRAPHY IN SPAIN

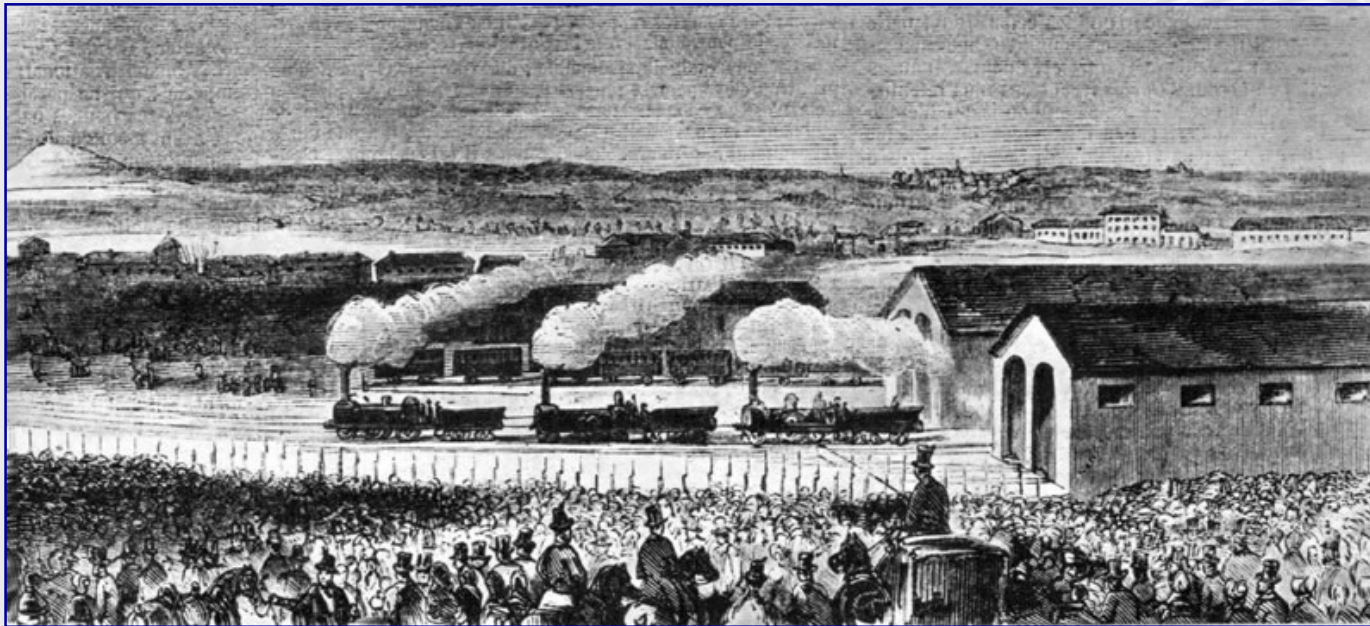




EARLY ELECTRICAL TELEGRAPHY IN SPAIN

After Salvá, no other experience in electrical telegraphy was carried out in Spain for a long time. Instead, a nation-wide **optical telegraph network** was deployed from **1844** to **1853**. Only when firsts railroads began to be introduced from **1851 onwards**, electrical telegraphy became considered.

Madrid-Aranjuez Railroad Opening Ceremony, 9 February 1851. Source: La Ilustración Francesa.





EARLY ELECTRICAL TELEGRAPHY IN SPAIN

Andrew J. Russell Collection. Source: The Oakland Museum of California.





EARLY ELECTRICAL TELEGRAPHY IN SPAIN

José María Mathé Portrait, Source: Olivé-2004.

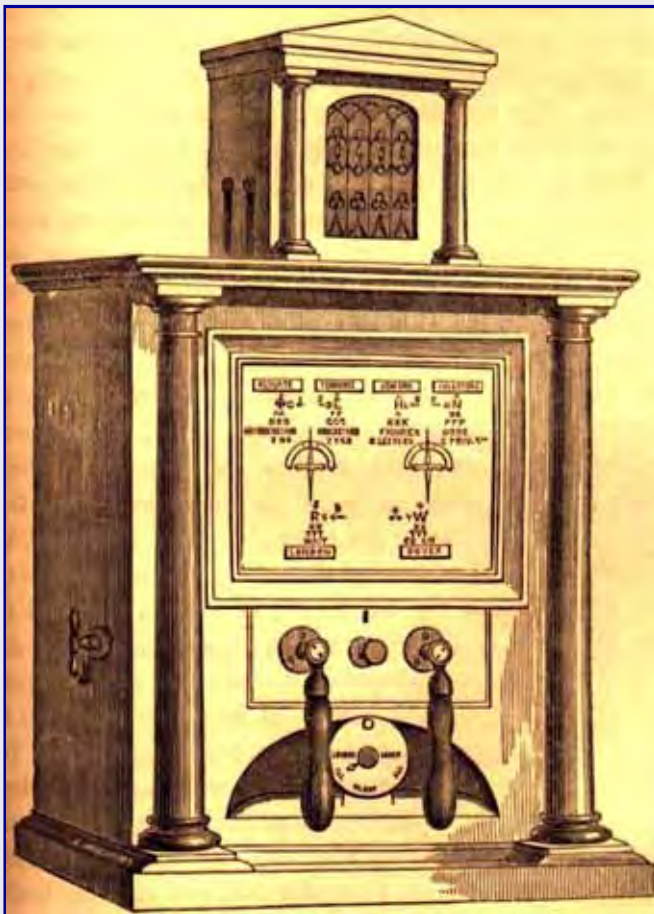


The Spanish Government soon realized the superiority of the electric telegraph over the optical one. The Director General of the Spanish Optical Telegraphs, **José María Mathé**, was commissioned to visit France, Belgium, England and Germany in **1852** in order to learn more on the state of the art in electrical telegraphy and to establish an electric telegraph service in Spain. Mathé devised a plan to create a **Telegraph School** where learning to lay telegraph lines and operate instruments.



EARLY ELECTRICAL TELEGRAPHY IN SPAIN

Two Needle Wheatstone Electric Telegraph, Source: Walker, 1850.



At the same time, the Government passed a Royal Decree, in November 1852, authorizing the establishment of an **electric telegraph line** connecting Madrid with Irún, at the border with France, going through Guadalajara, Zaragoza and Pamplona. **Aerial wires** suspended on wooden posts, instead of underground cables, and **Wheatstone two needle** telegraph instruments, instead of Morse ones, were chosen. The projected line had **585 Km** long.

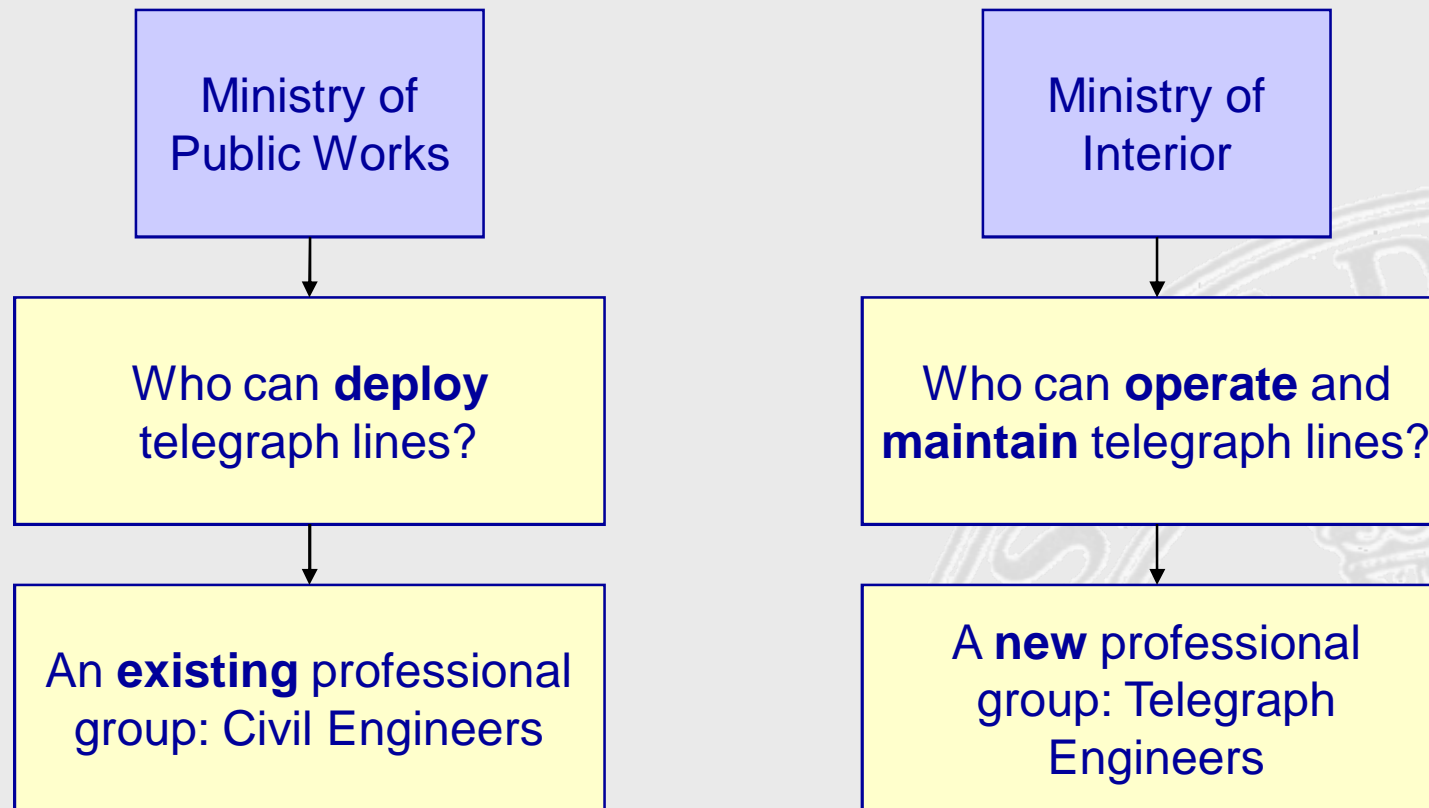


EARLY ELECTRICAL TELEGRAPHY IN SPAIN





EARLY ELECTRICAL TELEGRAPHY IN SPAIN





THE TELEGRAPH SCHOOL, 1852

The seat of the first Telegraph School in Madrid. Source:
Santiago Rogríquez Guillén.





THE TELEGRAPH SCHOOL, 1852

An optical telegraph tower conceived by Mathé. Source: Santiago Rogríguez Guillén.



Students for the School were selected among people who were serving as **optical telegraphists** appointed to the optical telegraph towers still in use in Spain. The majority of them were **Army reserve soldiers**, so it was needed to teach them quickly in all issues related to electrical telegraphy, in such a way that they were able to take part in the deployment of the telegraph line between Madrid and the French border as soon as possible.



THE TELEGRAPH SCHOOL, 1852

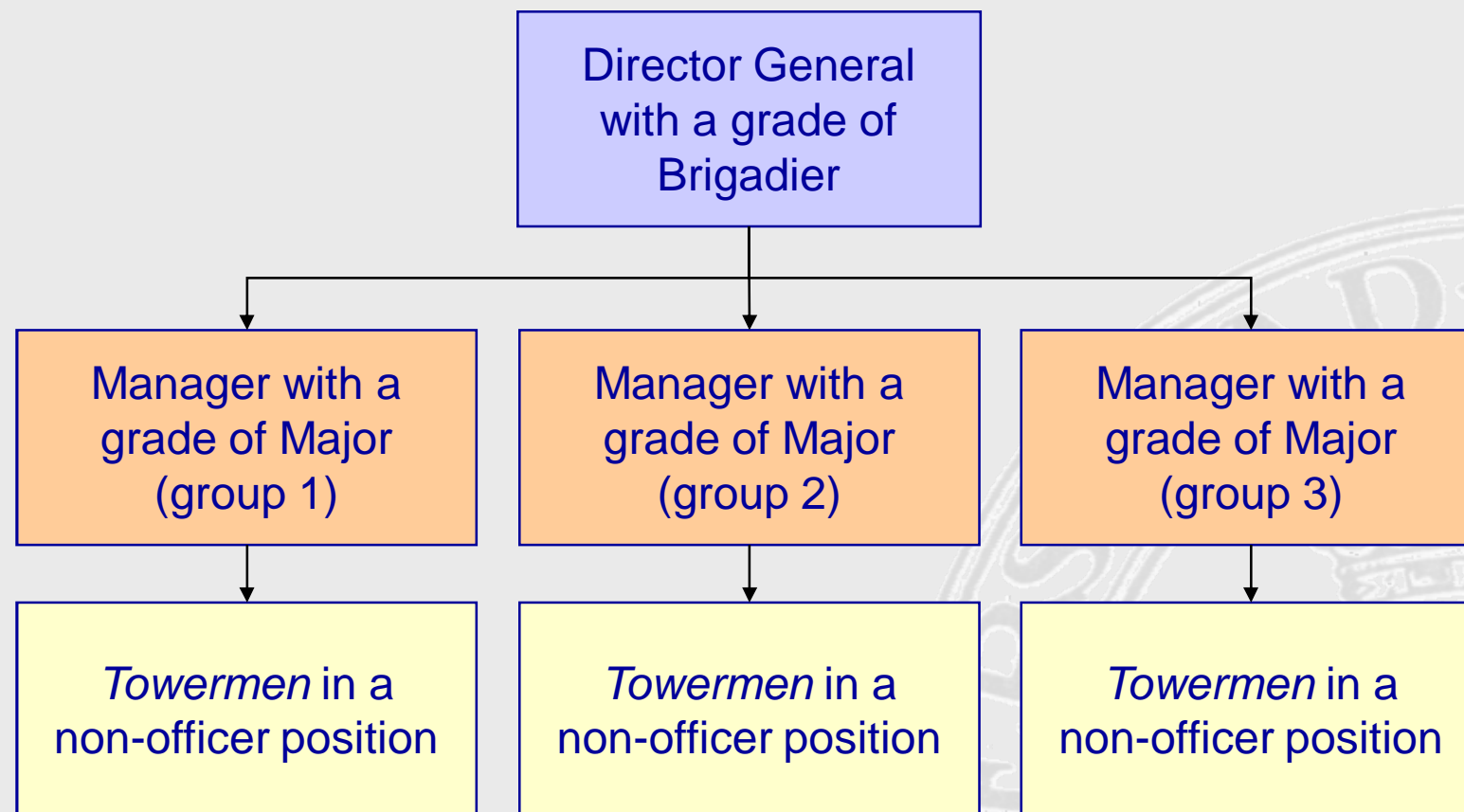
An optical telegraph tower conceived by Mathé. Source: Santiago Rogríguez Guillén.



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THE TELEGRAPH SCHOOL, 1852





THE FIRST TELEGRAPH ACT, 1855

Portrait of General Espartero, Prime Minister after 1854 coup. Source: Spanish House of Representatives.



A coup took place on **July 1854** in order to force the government's resignation, under control of **Moderate Party** for the last ten years. Queen Elisabeth the Second then appointed to **General Espartero** (in the picture) as Prime Minister, who selected people from **Progressive Party** to set up a new Government. Political criteria then changed and Telegraph Policy was revised, with the Ministry of Public Works trying to gain control over telegraphs.



THE FIRST TELEGRAPH ACT, 1855



ACADEMIA ESPECIAL

PARA LOS ASPIRANTES A INGRESAR EN EL CUERPO DE TELEGRAFOS.

Vueltas á abrir todas las clases de este establecimiento suspensas en parte para dar lugar á los exámenes que se están continuando y operar algunas mejoras en ellos, el director, despues de tener la satisfaccion de anunciar que todos sus discipulos examinados hasta hoy, han tenido ingreso en el cuerpo y á la vista de los halagüeños resultados que han obtenido sus afanes y desvelos, ha determinado continuar la adicision de alumnos para una ó todas las clases de las materias que se exigen, tanto para los que aspiran á telegrafistas como para los que lo liagan á sub-directores de seccion y deseen presentarse en los próximos exámenes. El director se abstiene de promesas, en su lugar presentará al que lo solicita el libro de matrícula y la lista de los individuos que le han honrado con su confianza y obtenido ya por resultado una carrera tan digna y de tan gran porvenir.

Los señores que tenían solicitado el ingreso y á quien por lo arriba expresado no fue posible satisfacer, pueden matricularse de nuevo á una de la mañana, calle de las Hileras, núm. 6, cuarto bajo.

C. E. (Gar.)



THE FIRST TELEGRAPH ACT, 1855

Portrait of Cipriano Segundo Montesino, son-in-law of the Prime Minister General Espartero. Source: Spanish House of Representatives.



The Telegraph Act caused a big **controversy** in media and **unrest** in society. Some news said the Director General of Optical Telegraphs, who had not changed his name yet, would be **fired**. Other news talked about some lobbying practices of Civil Engineers and accused the Prime Minister of acting in favor of his son-in-law, **Cipriano Segundo Montesino** (in the picture) who was Director General of Public Works at that time.



THE BODY OF TELEGRAPHISTS, 1856

On March 31, 1856, the Minister of Interior was able to pass a Royal Decree with the **Regulations for the Body of Telegraphist**. These Regulations included a *de-jure* creation of the new Professional Body and established a personnel structure with a **Director General** as Head of the organization.

REAL DECRETO.

En atencion á las razones que me ha expuesto el Ministro de la Gobernacion, vengo en aprobar el adjunto reglamento del Cuerpo y servicio de Telégrafos.

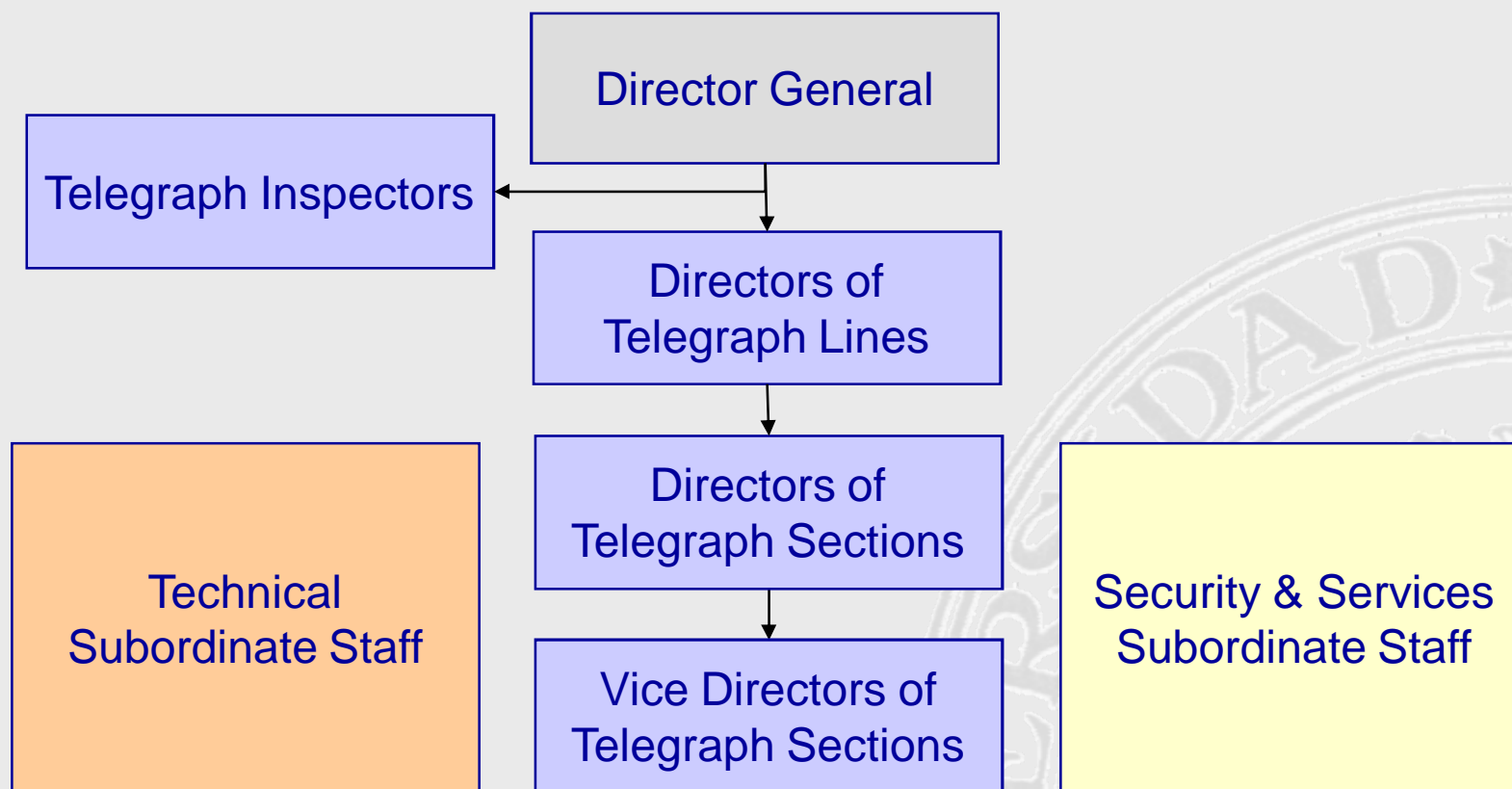
Dado en Palacio á 31 de Marzo de 1856. — Está rubricado de la Real mano. — El Ministro de la Gobernacion, Patricio de la Escosura.

REGLAMENTO ORGANICO

DEL CUERPO Y SERVICIO DE TELÉGRAFOS.



THE BODY OF TELEGRAPHISTS, 1856





THE BODY OF TELEGRAPHISTS, 1856

Ramón María Narváez, Prime Minister when professional competencies in Telegraphy were returned to the Ministry of Interior. Source: Museo de Bellas Artes de Valencia.



1857 was the year for the full development of electric telegraph services in Spain. That year, **nearly all telegraph lines** included in the 1855 Telegraph Act **were ended**. The controversy between Ministry of Interior and Ministry of Public Works was still alive when a new government crisis brought a new Prime Minister, called **Ramón María Narváez** (in this picture). He returned all telegraph professional competences to the Ministry of Interior.



THE BODY OF TELEGRAPHISTS, 1856





THE TELEGRAPH SPECIAL ACADEMY, 1865

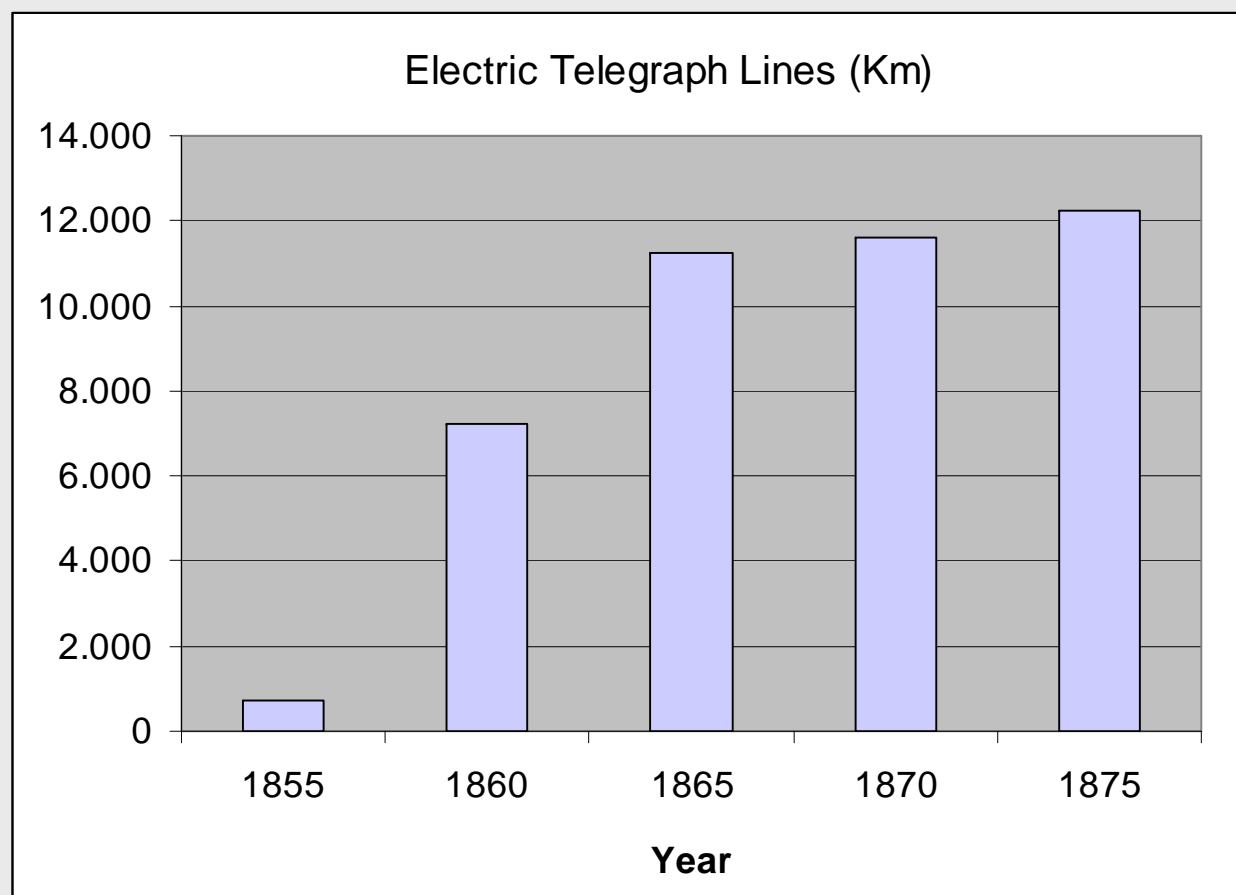
On **December 1864**, Minister of Interior passed a Royal Decree where entering the Body of Telegraphists required a 3 year course in Telegraphy, took in a **Special Academy** created in 1865. Graduate students entered the Body of Telegraphists with a professional level “equivalent” to an Engineer.

Morse Key. Source: José Melguizo.



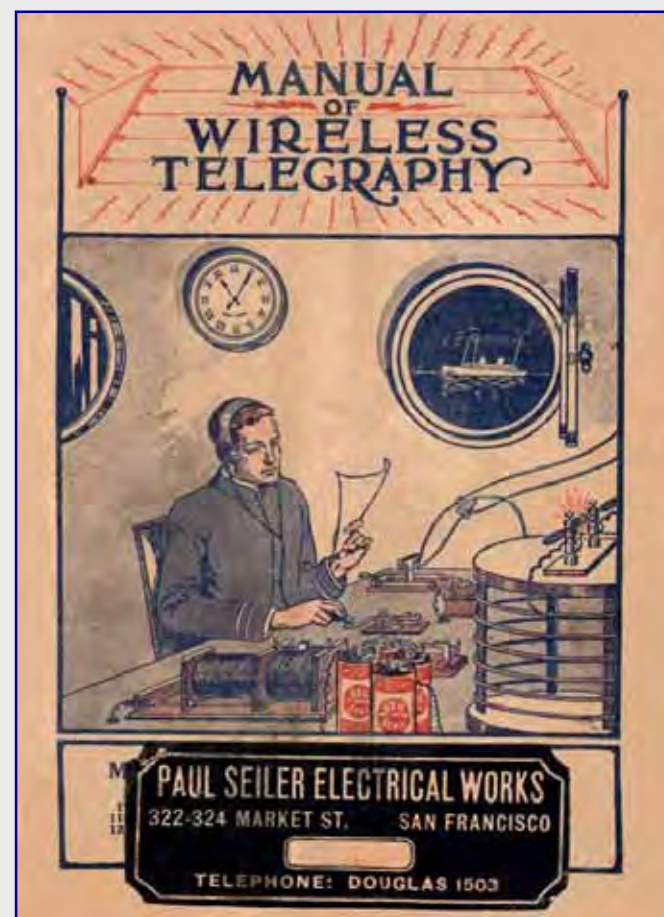


THE TELEGRAPH SPECIAL ACADEMY, 1865





SPANISH ASSOCIATION OF TELECOM ENGINEERS





SPANISH ASSOCIATION OF TELECOM ENGINEERS

Portrait of Emilio Novoa, first president of the Spanish Association of Telecommunication Engineers and Technicians. Source: www.amigosdotelegrafo.es



Telecommunication professionals in private companies noticed the importance of a coordinated effort to advocate and promote their own profession, when practiced in private organizations. In **1930**, they created an independent group of influence that was called the **Spanish Association of Telecommunication Engineers and Technicians**, being Emilio Novoa (shown in this picture) its first President.



Conclusions

- **First telegraph experiences** in Spain took place in early 19th century, although its development did not start till **1852**
- A **public exploitation** for electric telegraphs was selected, but two Ministries challenged to gain the control: Interior and Public Works
- The Body of Telegraphists was **established in 1856** in order to manage and operate the electric telegraph service in a first moment, and later to build and develop a national-wide electric telegraph network
- The Body of Telegraphists was **incorporated to the Ministry of Interior**, being the first group in obtaining a nationally recognized professional qualification for the development of electrical communications in Spain
- Telegraphists did not have a **higher education degree**, although they claimed to be considered as Engineers. They got the status in **1920**



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Many thanks for you attention

Antonio Pérez Yuste
antonio.perez@upm.es