

History of telephony and wiring through old postcards

By Jan Verhelst, Antwerp, Belgium.

Telephony wiring before 1900: only aerial lines

After the introduction of telephony in Belgium, licences were given to private companies to build telephone networks in the early 1880s. Originally the government thought of obliging these private companies to do the cabling underground. Finally this was cancelled as the cost was rather high.

All connections were made by overhead lines, either in urban, industrial and rural areas.



Figure 1: Example of aerial telephony wiring in the mid-1890s

A postcard of the "industrial environment" of the port of Antwerp: in addition to frequent horse and cart traffic, there were also beautiful iron telephone poles (left on picture) that routed a new form of traffic: telephony!

Gradually, telephone poles started to appear in the streets everywhere. They led the wires to a derrick on the roof of usually a public building (*i.e. city hall, train station, post office...*), and so the wiring was routed above the roofs to the derrick on the roof of the telephone exchange building.

In urban areas, telephone poles were often made of iron. In more rural areas, they were usually made of wood. These wooden poles have been creosoted (which means: treated against rotting).



Figure 2: A derrick on the roof of the Antwerp city hall (mid-1890s)

Derricks on public buildings were used to route the subscriber wires to the telephone exchange

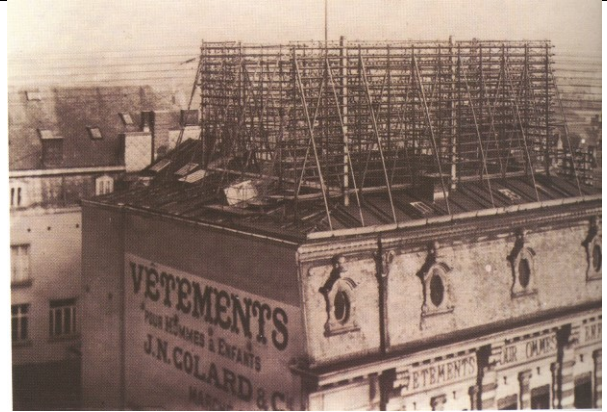


Figure 3: A derrick on the roof of the Antwerp telephone exchange building

The telephone exchange building was mostly called “Hôtel du téléphone” (telephone hotel) in French:

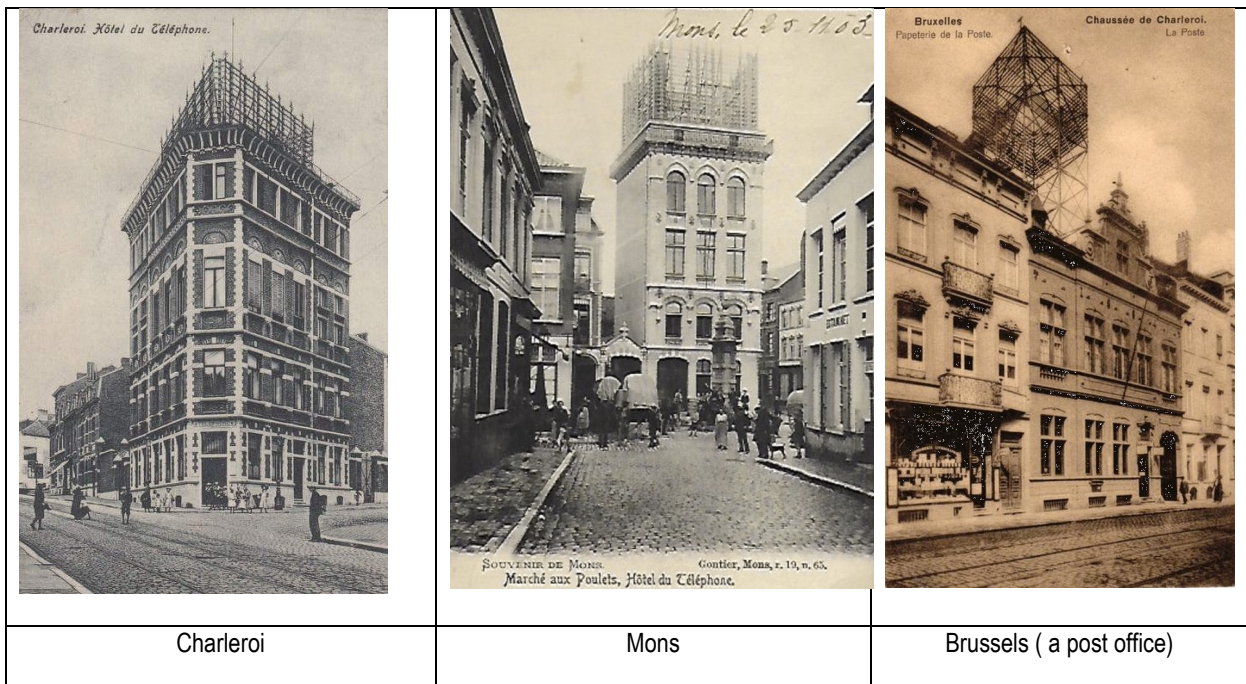
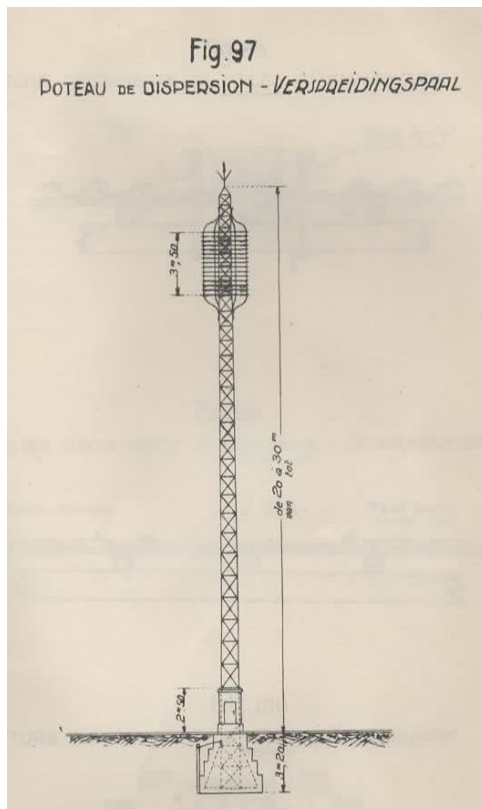


Figure 4: Derricks at several cities

Evolution to (partially) underground cabling starting from 1900



Originally, only one wire was used per subscriber, and an earth connection was used for the second conductor. When the government took over the telephone networks from the private companies in the mid-1890s, it was decided to make everything two-wire for quality reasons, which doubled the required wiring. At the same time, the number of telephone connections increased dramatically, especially for business applications and government services.

Figure 5: Distribution pole, design drawing

In an urban environment, this led to an overload of wiring in the streets. From 1899 onwards, underground cables were laid between the telephone exchange and the neighbourhoods where the telephones were to be connected.

In these neighbourhoods, a "distribution pole" was then erected, measuring up to twenty to thirty metres, i.e. high above the roofs (it was also two metres below ground level). From the telephone exchange, a cable containing a number of wire pairs was laid underground, arriving at the base of the distribution pole. From there the cable was led upwards and each wire ended in a connector/isolator.

These isolators consisted of glass, porcelain or, later, Bakelite. From that position, the wires were led above the roofs directly to the subscribers' houses.



Figure 6: Installation of underground cable in Brussels (+/-1900)

I assume that the gentlemen with the hats never touched any tool!

The German firm Siemens & Halske was requested to install the underground cabling. Photo albums from the underground installation in Brussels (1899-1902) and Verviers (1909-1910) were found in the archives of the former telecommunication museum. We publish a few pictures here.

<p>Erecting a distribution pole</p>	<p>Insertion of a cable into the distribution pole</p>	<p>Installation of lightning protection in the base.</p>
<p>Figure 7: Installation of a distribution pole</p>		

Postcards with distribution poles

Old postcards from all over the country show such distribution poles. They were at least installed until the mid-1930s. Since telephone wires are very thin compared to electricity cables and since the resolution of the postcards is limited, one never sees telephone wires on these pictures. I have collected a large number of postcards with distribution poles of Belgium digitally. A few examples are shown here.

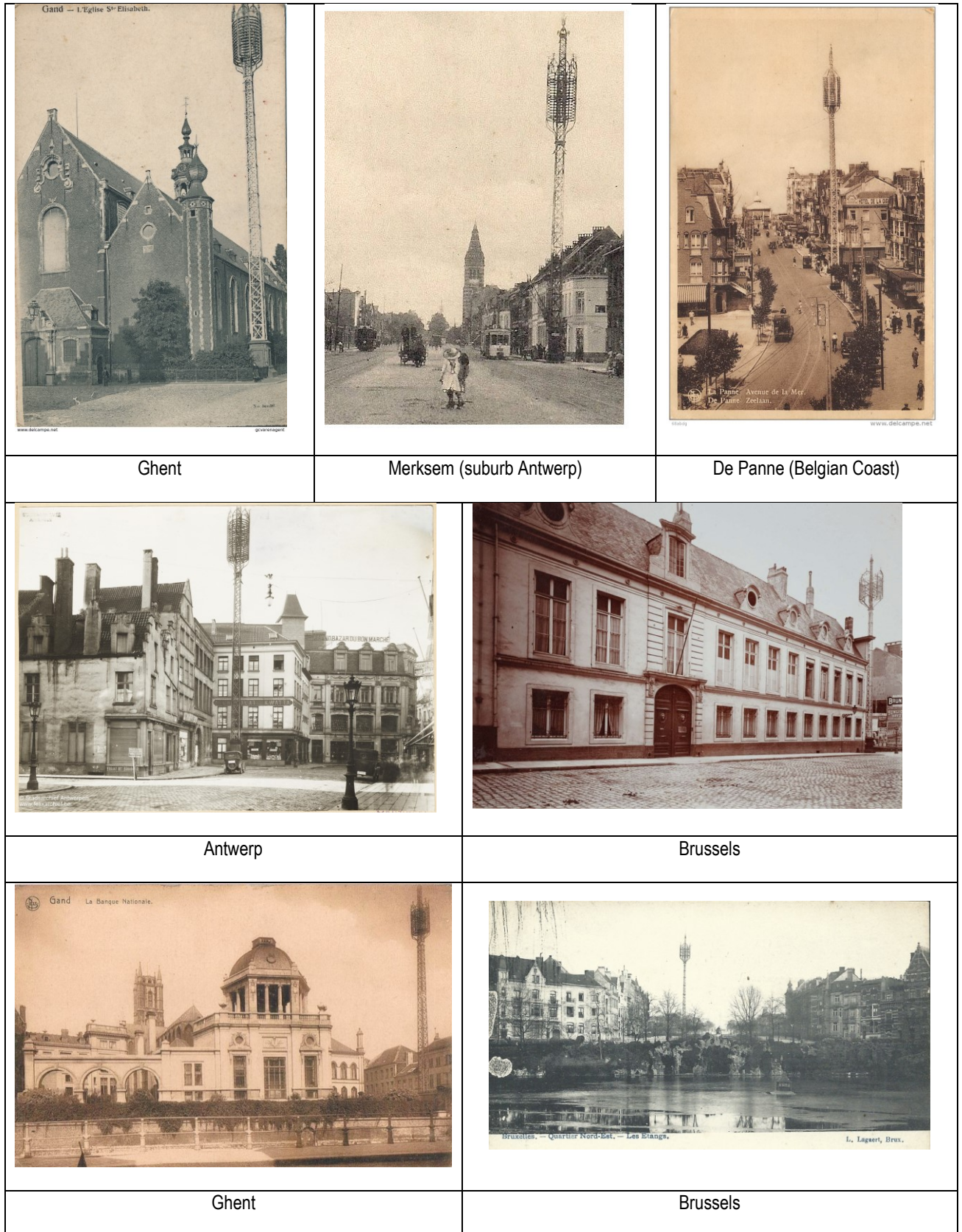


Figure 8: Distribution poles all over the country

Rural areas

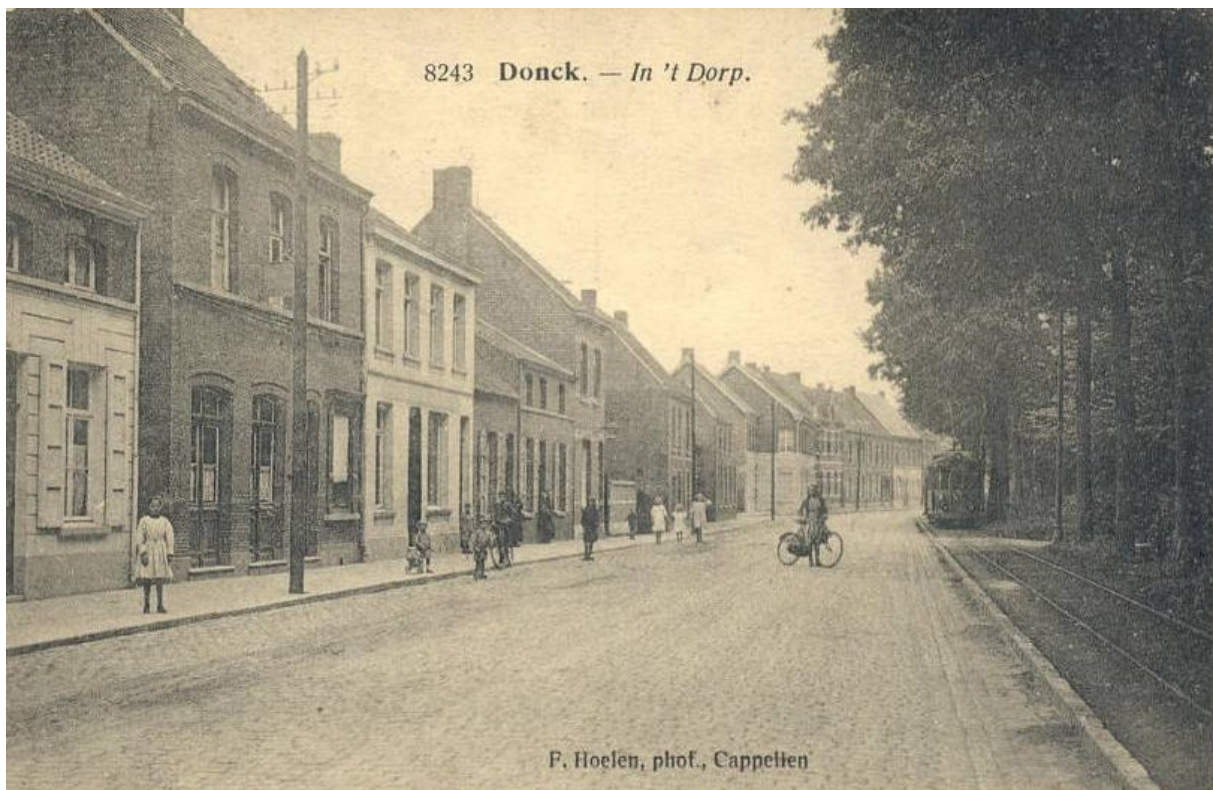


Figure 9: Typical set-up with wooden telephone pole in a rural environment

In a rural environment, people continued to work with overhead wiring through wooden telephone poles until after the Second World War. In the village where I grew up (a suburb of Antwerp, see Figure 9), the wooden poles were replaced by underground wiring at the end of the 1950s. It was around 1980 that all overhead lines were replaced by completely underground wiring throughout the country.

System with distribution poles also used in other countries?



A survey was made among telephone historians in Germany, France, United Kingdom and USA. Unless I am mistaken, they did not seem to have used that system with distribution poles anywhere (please mail me if you have different information). Only in the Netherlands this system was used too until approximately 1930.

Figure 10: Distribution pole in Rotterdam, NL

Source: Arnold Abels, Van Houwelingenmuseum Rotterdam, NL.

Thanks to Arnold Abels, Stefan Biesemans and Bruno Stroobants for their help and photographs in realising this article.