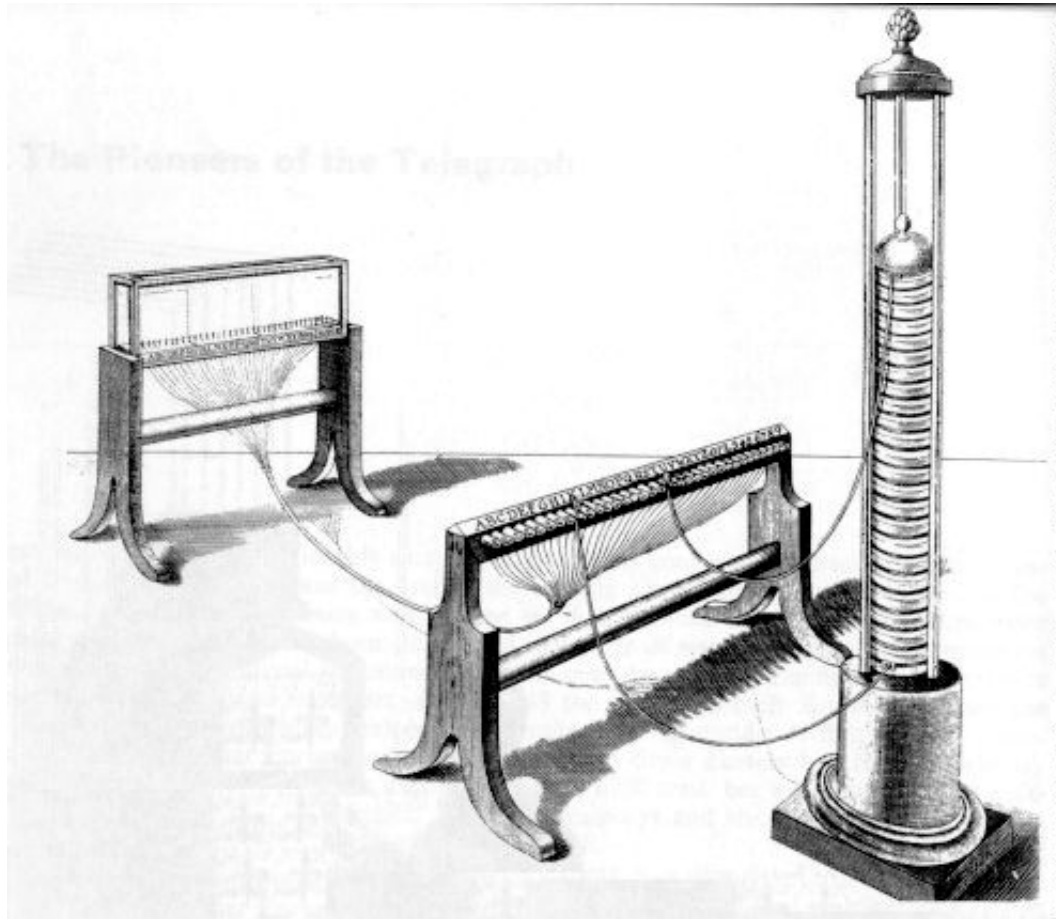


# Early Wired Telegraphy

## Samuel Thomas von Sömmering's "Space Multiplexed" Electrochemical Telegraph (1808-10)



(From *Semaphore to Satellite*, Published by the International Telecommunication Union, Geneva 1965)

The von Soemmerring electrochemical telegraph demonstrated to the Munich Academy of Science in 1809, uses a single wire for each of the letters of the alphabet.

In 1808-10 a complex telegraphic system, based on an electrochemical current, was designed and demonstrated before the Munich Academy of Science by Samuel Thomas von Sömmering (1755-1830).

Commissioned by Margrave Leopold of Bavaria, an ally of Napoleon, von Soemmerring's telegraph consists of thirty-five wires, one for each letter of the alphabet and one for each number. At the transmitting end of his system, arrangements are provided for passing currents from a "voltanic pile" through any one of the signal wires. At the receiving end each wire is connected to one of a series of thirty-five electrodes that are immersed in an acid bath. Completion of the circuit caused the evolution of bubbles of hydrogen at the electrode corresponds to a

particular letter or a number.

"...Sömmering learned the technique from Francisco Salva, who had developed a similar instrument in 1804 in Barcelona. Sömmering used stronger batteries and was thus able to transmit over a distance of 3.5 kilometres. Salva's telegraph used an electric cable for each letter. Every cable was connected to an electrode which was immersed in a glass tube filled with acid. The second electrodes were connected to the return cables. When Salva sent an electric current along a particular cable, it led to electrolysis at the other end: This released gas bubbles in the tube which showed which letter was meant. ..." ([Source](#))

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