**The Telegraph: Script**

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**Introduction:**

TELEGRAPH

Ah! these little 'clicks' of the telegraph–
Though they breathe not a word
Their voices are heard
At a distance no voice could reach;
And swiftly as thought,
The words are brought,
And the lightning endowed with speech
Though seas roll between,
And lands intervene,
The absent are at hand,
The eye seems to hear,
And space disappear,
And time is compelled to stand

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This video seeks to interrogate the historical significance of the telegraph in its revolutionary impact on the transmission of information and modern literacy. The opening poem speaks specifically to the telegraph's influence on literacy as the beginning of the electronic transmission of words, an innovation that was the dawn of not only the information era but of modern information technology infrastructure and digitalized multiliteracies in education. It is important to recognize that recent technological revolutions were preceded by technology and revolutions that were comparable in significance. The motivation for technological innovation has been, and will continue to be, dictated by societal needs. These needs led to the development of technologies related to informational storage, security and communication, and the use of data and expression of thought and ideas.

**Context:**

Our investigation begins with Samuel Finley Breese Morse, the man after whom the language of the telegraph was styled. Samuel Morse was born in Charlestown, Massachusetts on April 27, 1791. His parents, Jedidiah and Elizabeth Morse recognized his talents in art and were determined that he pursue this avenue of education. Though he wasn't academically strong and while his focus was devoted to art, he found lectures on electricity fascinating; this keen interest became historically relevant in the years following his graduation from Yale in 1810 (Timmons, 2016).

Between the mid-1820s to mid-1830s, a personal tragedy in his life transformed into a relentless scientific endeavor. While working away from home on a painting project, he received word that his wife, Lucretia, was very ill. By the time he had received the news and arrived back home, his wife had died and already been buried. His grief served as the impetus for imagining possibilities of instantaneous data transmission. He met Charles Thomas Jackson while on his way home in 1832, and the two found common interest in how "an electronic impulse could be carried along a wire for long distances." Following this conversation, Morse began drawing sketches of mechanical devices that he thought would accomplish this task.

In 1936 Morse developed a prototype of the telegraph. A few years later, Morse took on a financial partner, Alfred Vail; in addition to providing finances, Vail also contributed to developing the language – dots and dashes – for the telegraph which would eventually become Morse code.

Morse and Vail found it hard to find investors and it wasn't until 1842 when they caught the attention of Maine Congressman Francis Ormand Jonathan Smith. At the end of that same year, Morse began to physically assemble his design for the telegraph between two committee rooms in the Capitol. He was successful in sending messages back and forth and with the congressman's support, Morse was able to raise $30,000 to run an experimental 38-mile telegraph line between Washington, D.C., and Baltimore, Maryland. "On May 24, 1844, Morse tapped out his now-famous first message, "What hath God wrought!" (Timmons, 2016)

**General Impact on Civilization:**

While the historical significance of the telegraph was not initially grasped, the telegraph still astounded scientific observers. Prior to this invention, it was beyond comprehension that language and data might be separated from human presence. And yet, only twenty years following Morse's invention, systems of telegraph lines had been established across the United States. Morse himself wrote, "It is not visionary to suppose that it would not be long ere the whole surface of this country would be channelled for those nerves which are to diffuse, with the speed of thought, a knowledge of all that is occurring throughout the land, making, in fact, one neighborhood of the whole country." (Swan, 1991) The telegraph was celebrated as a means to bring a nation together by "a Telegraph and Lightning-like affinity of intelligence and sympathy, that renders us emphatically 'ONE PEOPLE' everywhere" (Czitrom, 1982).

In August, 1858, the New York Times declared that, "The Telegraph undoubtedly ranks foremost among that series of mighty discoveries that have gone to subjugate matter under the domain of mind" (Nye, 1997).

Matter, in this respect, is no longer of consequence in the dissemination of data and thought; as the world's first global, electronic communication network, the telegraph served to extend communication and expression beyond previous, physical limitations. In his article, "Shaping Communication Networks: Telegraph, Telephone, Computer," David Nye writes, "It has become a cliche of communications studies to point out that the telegraph and telephone annihilated space and time. It seems indisputable that the experience of time was fundamentally altered by instantaneity. The sense of the present, rather than being located within one's sight and hearing, suddenly expanded to include anywhere that had been wired" (Nye, 1997). Information that had once travelled no faster than by rider or ship was now moving at the exponential speed of electricity – a revolutionary means of communication.

The telegraph facilitated the instant transmission of data, employing electric signals for this very purpose. The form of human civilization as we know it is indebted to revelations such as the telegraph, which has revolutionized the human capacity to disseminate information.

**Impact on Literacy & Education:**

Regarding the impact of the telegraph on literacy and education, it is not unreasonable to posit that the telegraph has made meaningful learning and collaboration possible in digital domains.

The early historic consequences of technologies such as the telegraph and printing press were immediately discernible in the sphere of speech and writing. The emergence of instantaneous information communication transformed the function of speech. While its function as a form of conversation remained intact, these inventions interrupted the function of speech as a repository for cultural and historical traditions and knowledge. The written word and library archives quickly replaced the wandering medieval minstrel and orally-disseminated accounts of events. This transformation infiltrated the functions of the written word as well, altering what Eric McLuhan termed the "psychic environment of authors [which caused them to] live mythically and in depth." Writers now concerned themselves with psychological, anthropological, and sociological issues, foci from which various writing techniques – stream-of-consciousness being a prime example – were born. The impact, then, of the telegraph on modern literacy is in its transformation of the functions of speech and writing.

Historians and detractors identify the changes in communication systems as proof of the Morse code's lack of enduring historical significance. However, while the Morse code has ceded to binary and digital computing systems, it was the Morse code that established the principle of simple, decipherable signals as encoded information and messages. The logic and principles that govern computing systems today is founded on the properties and functionality of the Morse code.

The telegraph, among other innovations in communication such as the printing press, radio, internet, and other forms of mass media - have redefined education by shrinking the world and creating a global village. Beyond its initial ability to encode messages and disseminate information instantaneously, the technology and purpose of the telegraph has naturally evolved throughout history, preceding the internet where not only is information accessible, but domains have been created to facilitate interactions in which all humanity participates, and notably interactions among academia. In fact, the Scientific American has praised the telegraph for "promoting the 'kinship of humanity'" (Fischer, 1992, p.2).

Tracing the telegraph's influence and development from easily distinguishable encoded messages to the digital domains globally accessible today reveals its significance in modern education. This line of thought is predicated on the condition of the 21st century classroom and "today's 'Net Generation,' or 'digital natives,' who have become disengaged with traditional instruction." Diane and James Oblinger continue describing students in classrooms today: "They require multiple streams of information, prefer inductive reasoning, want frequent and quick interactions with content, and have exceptional visual literacy skills." The learning taking place in digital domains where students learn to not only access and collect information, but the implications of knowledge contributes to critical and collaborative competencies. Furthermore, engaging in learning in digital domains reduces instructional, lecture-based segments of class and instead promotes engaged, self-directed and collaborative learning across multiple disciplines. A growing body of research corroborates the positive impact information and communication technologies have on student learning. The learning within these domains and the instantaneous collaboration that characterized digital relationships can be traced back to the initial transmission of data made possible by the telegraph.

In concluding this investigation into the telegraph and its implications for literacy and education, Marshall McLuhan's writings seem an appropriate summation: "We live today in the Age of Information and Communication because electric media instantly and constantly create a total field of interacting events in which all men participate." Not only has the telegraph and innovations in telecommunications transformed literacy in a fundamental way, but it has provided the digitized framework within and from which education seeks to engage the 21st century learner in meaningful, collaborative learning and positively impact students' learning outcomes.

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