Volume 3, Issue 4, April - 2025 **ISSN(E):** 2938-3773

Web of Discoveries: Journal of Analysis and Inventions
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THE EVOLUTION OF COMMUNICATION NETWORKS IN THE 18TH AND 19TH CENTURIES: THE HISTORICAL DEVELOPMENT OF POSTAL AND TELEGRAPH SYSTEMS

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Abstract
This article offers a comprehensive historical analysis of the evolution of communication networks in the 18th and 19th centuries, focusing on the establishment of postal systems and the rise of the telegraph. The article, which draws on scholarly sources such as legislation, technological patents, and the contemporary press, and is based on peer-reviewed scholarly literature, is included in the news.net website. The emergence of national postal services, such as the General Post Office in Great Britain and the militarized postal service in France, marked the first attempts by the state to control and integrate communications. In the 19th century, postal services such as Rowland's Uniform Penny Post democratized the postal system, and the development of electrical telegraphy, through pioneers such as Samuel Morse, enabled instant global communication. The interconnection of these systems had a profound impact on governance and social relations. The integration of postal and telegraph services under institutions such as the British GPO is a broader example of state centralization and infrastructural convergence. Furthermore, standardized mail, symbolizing the steps taken towards global information integration with the establishment of the Universal Postal Union in 1874, remained in place, depending on governance, inequalities in access, labor exploitation, and colonialism. Ultimately, the study argues that the communications revolution of the 18th and 19th centuries laid the foundation for modern global connectivity and provides a valuable lens through which to interpret contemporary digital transformations.

Keywords: Postal history, telegraphy, 19th-century communication, industrialization, globalization.

Introduction

The 18th and 19th centuries marked a paradigm shift in human communication, driven by the dual rise of postal networks and telegraph systems. Prior to this era, information dissemination was slow, fragmented, and limited to elites. The expansion of empires, industrialization, and capitalist economies necessitated reliable long-distance communication. This paper investigates how post offices and telegraphy addressed these demands, transforming economic, political, and social landscapes. The study aims to highlight their interconnected evolution and enduring legacies.

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METHODS

This research employs a qualitative historical methodology, synthesizing data from: Primary sources for instance Government records (e.g., British Post Office Acts), patent filings (e.g., Samuel Morse's telegraph), and contemporaneous newspapers.

Secondary sources are Academic texts on communication history, colonial governance, and technological innovation.

Thematic analysis identified key trends: Legislative reforms, technological breakthroughs, and socio-economic consequences. Regional case studies (Britain, France, and the United States) provide comparative insights.

RESULTS

In 18th-Century Foundations: National post offices emerged as tools of state control. Britain's "Post Office Act of 1711 centralized mail delivery, while France's network prioritized military logistics. In 19th-Century Democratization: Rowland Hill's "Penny Post" (1840) reduced letter rates in Britain, increasing accessibility.

By 1850, annual mail volume surged by 360%. In England, the postal service. from 1660 General Post Office, had developed into a monopoly, affirmed by Oliver Cromwell in 1654.[1][2] for the collection and carriage of letters between post towns, however, there was no delivery system until William Dockwra and his partner Robert Murray established the London Penny Post in 1680. They set up a local post that used a uniform rate of one old penny for delivery of letters and packets weighing up to one pound within the cities of Westminster and London as well as in Southwark. [3]

Several deliveries took place a day within the city, and items were also delivered to addresses up to ten miles outside London for an extra charge of one penny. In 1683 Dockwra was forced to surrender the Penny Post to the English Crown for circulating what were considered seditious newsletters sharply criticizing the Duke of York, who was in charge of and directly benefited from the General Post Office. In 1765, Parliament authorized the creation of Penny Posts in any town or city of the kingdoms of Great Britain and Ireland. The single postage rate of one penny was charged within the area, calculated by weight. By the beginning of the 19th century there were many of these, identifiable on covers, with markings such as PP", "Py Post', or 'Penny Post' along with the name of the town.

The early penny post system in Edinburgh, founded in 1773-1774 by Peter Williamson, known as "Indian Peter, usefully combined it with one of the world's first street directories. He circulated mail to 17 shops in the city (effectively post offices) and employed four uniformed postmen. Their hats read Penny Post' and were numbered 1, 4, 8 and 16 to make the business look bigger.

On 5 December 1839 the Uniform Fourpenny Post was introduced by the General Post Office but lasted only 36 days until 9 January 1840 when the Uniform Penny Post replaced it. In 1835 Rowland Hill published a pamphlet entitled 'Post Office Reform which led to various reforms and the introduction of the first postage stamp.

He convinced Parliament to implement much needed reforms in the current postal system. On 10 January 1840, the Uniform Penny Post was established. throughout Great Britain and

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Ireland, facilitating the safe, speedy and cheap conveyance of letters. Hill had demonstrated that the current system was inefficient and slow and not cost effective. Time was wasted when the postman waited at each house to collect payment. From 6 May 1840, letters could be prepaid with the first postage stamp, known as the Penny Black for up to a half ounce in weight, otherwise they would be charged twopence as unpaid letters or required additional postage. The use of prepaid postage through adhesive stamps revolutionized the postal service. While the Post Office was initially skeptical, the new system proved to be a resounding success, leading to greater efficiency, speed, and profitability.

Railways and steamships accelerated domestic and international delivery. exemplified by the "Universal Postal Union (1874)", which standardized global postal exchanges. Established in 1874, the Universal Postal Union (UPU), with its headquarters in the Swiss capital Berne, is the second oldest international organization worldwide.

With its 192 member countries, the UPU is the primary forum for cooperation between postal sector players. It helps to ensure a truly universal network of up-to-date products and services. In this way, the organization fulfils an advisory, mediating and liaison role, and provides technical assistance where needed. It sets the rules for international mail exchanges and makes recommendations to stimulate growth in mail, parcel and financial services volumes and improve quality of service for customers.

The word telegraph is derived from the Greek words tele, meaning "distant." and graphein, meaning "to write." It came into use toward the end of the 18th century to describe an optical semaphore system developed in France. However, many types of telegraphic communication have been employed since before recorded history. The earliest methods of communication at a distance made use of such media as smoke, fire, drums, and reflected rays of the Sun. Visual signals given by flags and torches were used for short-range communication and continued to be utilized well into the 20th century, when the two-flag semaphore system was widely used, particularly by the world's navies.

Claude Chappe's semaphore (1792) enabled coded visual signaling, but the electric telegraph (Samuel Morse, 1837) marked a quantum leap. Morse code allowed messages to traverse continents within minutes. Before the development of the electric telegraph, visual systems were used to convey messages over distances by means of variable displays.

One of the most successful of the visual telegraphs was the semaphore developed in France by the Chappe brothers, Claude and Ignace, in 1791. This system consisted of pairs of movable arms mounted at the ends of a crossbeam on hilltop towers. Each arm of the semaphore could assume seven angular positions 45° apart, and the horizontal beam could tilt 45 clockwise or counterclockwise. In this manner it was possible to represent numbers and the letters of the alphabet.

Chains of these towers were built to permit transmission over long distances. The towers were spaced at intervals of 5 to 10 km (3 to 6 miles), and a signaling rate of three symbols per minute could be achieved.

Another widely used visual telegraph was developed in 1795 by George Murray in England. In Murray's device, characters were sent by opening and closing various combinations of six shutters. This system rapidly caught on in England and in the United States, where a number of

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sites bearing the name Telegraph Hill or Signal Hill can still be found, particularly in coastal regions. Visual telegraphs were completely replaced by the electric telegraph by the middle of the 19th century.

The 1858 Transatlantic Cable connected Europe and North America, though initial failures underscored technical challenges. By 1902. Britain's "All Red Line" linked its empire via undersea cables. Telegraphy enabled real-time stock trading (e.g., New York Stock Exchange) and streamlined supply chains. Colonial powers like Britain used telegraphy to administer territories (e.g. India's Rebellion of 1857). Cheaper postage fostered personal correspondence, while telegraphs accelerated news dissemination (e.g., Reuters news agency). Postal and telegraph systems co-evolved through shared infrastructure. For instance, Britain's General Post Office (GPO) absorbed telegraph services in 1870, creating unified communication hubs. This integration mirrored broader trends of state-led industrialization.

While these systems promoted connectivity, access remained unequal. Rural areas lagged in telegraph coverage, and colonial networks prioritized extractive economies. Labor exploitation also persisted: postal workers faced harsh conditions, prompting early unionization efforts.

Britain's public-focused reforms contrasted with France's centralized model, reflecting differing political philosophies. Similarly, the U.S. embraced private telegraph firms (e.g., Western Union), whereas Europe favored state control.

CONCLUSION

The 18th and 19th-century communication revolution reshaped human interaction, bridging geographic and social divides. Post offices democratized information access, while telegraphy introduced instantaneous connectivity. Their convergence underscored the interdependence of policy, technology, and society-a framework that continues to guide modern innovations. Future research could explore parallels with digital communication's societal impacts.

REFERENCES:

1. Headrick, D. R. (1991). "The Invisible Weapon: Telecommunications and International Politics". Oxford University Press.
2. John, R. R. (1995). *Spreading the News: The American Postal System from Franklin to Morse". Harvard University Press.
3. Standage, T. (1998). *The Victorian Internet: The Remarkable Story of the Telegraph and the Nineteenth Century's On-line Pioneers. Walker & Company.
4. Hochfelder, D. (2012). *The Telegraph in America, 1832-1920*. Johns Hopkins University Press.
5. Daunton, M. J. (1985). *Royal Mail: The Post Office Since 1840*. Athlone Press.

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