

Chapter II

Origin and Growth of Newspapers and Newsprint Technology

2.1. Introduction

Even before the period of Christ, signs, wall carvings, stone art symbols and sculptures existed across different cultures and religions. For ages, kings and leaders used many methods to disseminate news to keep the public informed and educated. It was a gradual but slow development in writing until the introduction of the printing press. The invention of the movable type printing press in 1454 led to the production and circulation of religious and literary works on an unprecedented scale. It facilitated the publishing of newsletters, manuscripts and books in an unbelievably large manner, which changed the world forever. The impact of the printing press was soon felt in the different sectors of learning. Many newspapers and other printed materials appeared across the continents. These developments were far reaching in their consequence, and contributed to the growth of new learning.

In this regard, this chapter is devoted to the study of the origin, growth and development of newspapers in a worldwide perspective. In addition, the growth of printing and related technology is analysed. Moreover various tables are given that provide valuable information regarding newspaper and printing development throughout the world. Whenever possible the sources from which

the table was taken are presented at the end of the table. At times it is not possible to do so, for the table would have been compiled from many sources. If that is the case the sources are listed in the References at the end of the chapter.

2.2. Chronology of Newspaper Development

2.2.1. *Ancient Means and Methods*

Newspapers are a relatively modern development in the world history. Some of the functions of newspapers were performed in the past by a variety of means. There were writers of news slobbers in ancient Rome who furnished news to those who resided at a distance from the capital. The Roman 'Acta Diurna' is the earliest recorded newspaper, which appeared in 59 BC. It surfaced in the consulship of Julius Caesar as a bulletin devoted chiefly to government announcements. Julius Caesar ordered to post upcoming social and political events daily in public places of major cities. The writings were called 'Acta', written on large white boards and displayed at important spots. The Acta kept citizens informed about government scandals, military campaigns, trials and executions. After that, recorded chronological data shows that handwritten News Sheets appeared in the 8th century Beijing, China. Other forerunners of printed newspapers were the town criers (or bellmen), posted proclamations, controversial pamphlets, ballads, broadside and news pamphlets. Many of them appeared in the medieval Europe and were sold at market places, trade fairs, theatres and shops. Moreover handwritten newsletters were used to supply intelligence to businessmen and political leaders. It had been going on even

long after the invention of printing.

2.2.2. Invention of Printing and Movable Type

As the second and most important stage of newspaper development, the printing press was invented by Johann Gutenberg of Germany in 1447. This ushered in the era of the modern newspaper. Since then, for centuries, civilisations have been using print media to spread news and information to the masses. This relatively easy, mechanical and bulk printing concept enabled free exchange of ideas and the spread of knowledge. Initial themes of this powerful printing machines were also powerful, to the extent that it would later redefine Renaissance Europe. During this era, newsletters, pamphlets and manuscripts were being circulated in German cities as well as all over Europe. This provided news for the then growing merchant class on developments related to trade and commerce. As this evolved during the course of time, the publishers began to highly sensationalise the news items. For example, they reported shocking crimes, unexpected marital relations and discords, abuse of a class or community and social discontent on particular issues. This, while increased the circulation of the news media, divided people on different lines or consolidated them on same line. Thus, the seed for the New Journalism as known today was planted in the latter part of 1500's itself. Another development in that very important century of newspaper development was that readers, for the first time in world history, paid for news. More clearly, the Venetian Government (Venetia now is one of Italy's provinces with Venice as its capital. Thus, the adjective

form refers to both Venetia and Venice) published in 1556 a newsletter named Notizie Scritte for which readers paid a small coin called Gazetta. This event was the basis for many newsletters and newspapers thereafter being named as 'Gazette'.

In the first half of the 17th century, newspapers began to appear as regular and frequent publications. The first modern newspapers were products of the Western Europe with Germany, Belgium, France and Britain being the front-runners. Germany published Relation in 1605, Belgium printed Nieuwe Tijdingen in 1616, France brought out Gazette in 1631 and England released London Gazette in 1665. Of them, London Gazette is still being published as a court journal. These periodicals, although mainly covered important news and happenings of Europe, occasionally included items from America or Asia. Rather than covering domestic issues, some newspapers, especially the British and the French, used them as a tool to expose one another's weaknesses and blunders. However, newspaper content began to shift more toward local issues in the latter half of the 17th century. Still, they were heavily censored and were rarely permitted to discuss actions, events and situations that might incite citizens to opposition, violence or revolt. Notwithstanding such censorship and suppression by the establishment, newspapers did expose in their headlines very sensational news like the beheading of Charles I at the end of the English Civil War. In the due course, newspapers won their battle against the authority for the first time when in 1766 Sweden very firstly passed a law to protect press

freedom.

2.2.3. Introduction of Telegraph

Invention of the telegraph in 1844 greatly transformed the print media. Now information could be transferred within a matter of minutes, allowing for more timely reporting and information feedback. Many newspapers therefore were fast appearing in societies around the world. Japan put forth its first daily newspaper, Yokohama Mainichi Shimbun, in 1870. Yet, it is quite late for Japan, for printing from Movable Type was introduced in Japan in the late 16th century itself. By the middle of the 19th century, newspapers were the primary means of disseminating information. Between 1890 to 1920, the period known as the Golden Age of print media, media barons namely William Randolph Hearst, Joseph Pulitzer, and Lord Northcliffe built huge publishing empires. They had enormous influence within the media industry and were able to bend public opinion to their ulterior or individualistic causes. In this regard, it is true that they gained notoriety for the ways in which they wielded power. Similarly, newspapers had served as vital mediums of propaganda in revolutions. To mention a case, Iskra (to mean ‘spark’) published by Lenin in 1900 introduced many revolutionary concepts to the masses. Pursuantly in 1925, a newspaper named Thanh Nien introduced Marxism to Vietnam and provided strategies for the revolutionary policies.

2.2.4. Radio and Television

In the next stage of its development, newspapers encountered a

formidable opponent, radio. Italian physicist and electrical engineer Guglielmo Marconi developed the equipment for converting radio waves into electrical signals in 1895. He successfully transmitted long-wave radio signals across the Atlantic in 1901. Thus, newspapers had to overcome the challenge by radio of instant news transmission even across continents in a flick of time. Although broadcast radio came into the scene only during the 1920's, newspapers, in prior, were forced to reevaluate their role as the primary information medium of the society. To respond to this new competition, newspapers completely revamped their format and content. They enhanced its appeal, broadened the coverage, expanded the presentation context and provided in-depth news analysis. Moreover, they focussed on areas in which radio proved to be inefficient, such as detailed governmental and legal notifications, lengthy and descriptive advertisements and appealing images and drawings. Therefore, radio, as an alternative, low cost and fast technological media source, was not able to completely topple the newspaper industry.

No sooner had newspapers adapted themselves to radio than they were forced to reinvent themselves before television, an even more powerful and advanced medium. Many inventors from America, China, Germany, Hungary, Japan, Russia and Scotland contributed to the development of television technology. More importantly, nearly all of them had national or organisational backing. Most notable among them were Charles Francis Jenkins and Philo Farnsworth, both from America, John Logie Baird from Scotland, Kenjiro

Takayanagi from Japan, Kálmán Tihanyi from Hungary and Vladimir Zworykin and Léon Theremin, both from Russia. Therefore, having technological superiority and institutional backing strongly at its side, television caused newspaper circulation to drop from one newspaper for every two adults to one newspaper for every three adults between 1940 and 1990 in major newspaper reading countries such as America, Japan and those of Western Europe. Newspapers did respond to these technological advancements by color printing, localised news coverage, enticing advertisements, sensational story highlights and news for educational and archival purposes. Thus, although weakness of radio as against newspaper got addressed to a greater extent in television, television did not fully render the newspaper obsolete. However, it changed the way people assimilated news and information. In addition, it was the precursor to the electronic information exchange under the arenas of Telecommunication and Information Technology (IT).

2.2.5. Internet and E-Papers

Internet and related technology are the final opponents of newspaper's evolution. The scope, quantum and immediacy of information on the Internet is unparalleled. People are bombarded with a variety of information in breadth, length depth and height on unimaginable range of issues. Even e-newspapers and e-books are flooded on the Internet for free download. Many prominent newspapers themselves have started their own e-versions. Thus, the knowledge has increased as never before. Never before has so much information been so

accessible to so many. By the end of the 1990's, there remained about 700 websites. Today, however, the numbers are in millions with billions of web pages. This technological revolution is creating new set of challenges and opportunities for the newspapers. It is true that many publishers have drastically cut down their costs or have completely reoriented their strategies of news and advertisement coverage. Even more, some famed centenarians have shut down their publications. However, it has not signalled the end of the newspaper's relevance. World Association of Newspapers (WAN) estimates that one billion people in the world read a newspaper every day. Newspapers in print will remain forever a popular and powerful medium for the reporting and analysis of actions, events, situations and conditions that shape the lives of people on earth.

2.3. The First Newspaper

News Books are the precursors to today's newspapers. They appeared in the 17th century Britain. They covered a single big story such as parliamentary proceedings, battle, royal wedding, disaster or sensational court trial. News Books were more sophisticated than today's posters, booklets, pamphlets and leaflets in the sense that they were focussed on very important events, elaborate and comprehensive in coverage of the news topic and eagerly awaited, acclaimed and accepted by the masses. However, in the British Press, during the latter part of 1600's, News Books were being replaced by newspapers. Between 1660 to 1665, when the first newspaper appeared, the circulation was very few in number. Even worse, a Parliamentary enactment robbed them of

what had constituted their main interest for the public. The proceedings of the British parliament had provided for the most important content of the publishers. When, therefore, a resolution was passed on June 25, 1660 by King Charles II that no publication should print any votes of proceedings of the House without prior permission, the chief source of intelligence was cut off for the news mediums and the appeal of News Books and newspapers alike got diminished.

2.4. A Newspaper Time Line

Table 2.1 provides a time line of the newspaper evolution. It starts from the Roman Empire of the pre-Christian era itself and chronologically details various developments that shaped today's newspapers and related technology.

Table 2.1

Newspaper Time Line

Year	Details of Publication
59 BC	Acta Diurna was published in Rome under the emperor Julius Caesar. Aactuarii, who were reporters, gathered information on wars, legal decisions, births, deaths and marriages.
713	'Mixed News in Kaiyuan' was the first newspaper published in China. Kaiyuan was the name of the year in which the newspaper was published.
1040	In China, Pi Sheng invented Printing from Movable Woodblocks.
1392	Movable Copper Type was invented in Korea.
1447	Johann Gutenberg of Germany invented Letterpress Printing, a process that would enable mass production of the printed matter.
1501	Pope Alexander VI decreed that printed material be submitted to Clerical authority prior to publication in order to prevent heresy. Failure to do so attracted huge fines, social ostracism or excommunication from the Church.

Table 2.1 Cont.

Newspaper Time Line

Year	Details of Publication
1556	Venetian government published Notizie Scritte, a monthly newspaper for which readers paid a small coin, Gazetta.
1582	The New Testament, for the first time, published by the English College at Rheims.
1588	In Cologne, Germany, Michael Entzinger published a 24-page News Book. It reported on the defeat of the Spanish Armada by the English. The News Book's front page showed a woodcut representing the Spanish Armada sailing off the coast of England. Although the report came months after the actual event, this was one of the earliest first reports of a significant historical event.
1605	Johann Carolus published the first printed newspaper 'Relation' in Strasbourg in Deutsches Reich, now in France.
1609	Pursuant to The New Testament in 1582, the English College at Douay printed The Old Testament. Together, they were published as the most reputed Douay-Rheims Catholic Bible in 1610.
1611	Protestant version of the Holy Bible, The King James Bible was published.
1621	In London, The Corante was published as a periodical.
1631	The Gazette, the first French newspaper, was founded.
1639	First American colonial printing press was established.
1645	World's oldest newspaper still in circulation, Post-och Inrikes Tidningar, was published in Sweden.
1690	Publick Occurrences, the first newspaper of the Americas, appeared in Boston. Its editor Benjamin Harris resolved to issue the paper once a month. However, he planned to publish ad hoc issues if anything important happened in-between. The British Royal Authority had reservations about the publication, as it was printed without its express consent. Therefore, it suppressed the newspaper after one issue itself.
1702	The first English language daily newspaper called The Daily Courant was published. It was pursuant to The Courant, published in 1621.
1704	Daniel Defoe, the author of Robinson Crusoe, published The Review, a periodical covering European affairs. He is recognized as the world's first journalist.

Table 2.1 Cont.

Newspaper Time Line

Year	Details of Publication
1798	Alois Sedenfelder invented Lithography. Although invented about two centuries before, Offset Lithography gained popularity only in the 1960's, and is now the industry standard.
1803	Australia's military government published 'Sydney Gazette and New South Wales Advertiser'. It was the country's first newspaper barely fifteen years after the Colony of Convicts had been established in Sydney Cove.
1812	Friedrich Koenig invented the Steam Powered Cylinder Press. In 1814, John Walter, publisher of The Times in London, began to assemble a new press based on this technology. He did so in secrecy for fear of riot from workers, who might lose their job to this machine. On the night of November 28, 1814, Walter took his pressmen away from their Hand Presses with the excuse that he was expecting important news from the Continent. He then used Koenig's Steam Press to produce the entire print run of The Times with an output of 1,100 sheets per hour.
1831	The famous abolitionist newspaper The Liberator was first published by William Lloyd Garrison.
1833	The New York Sun was priced one cent, marking the beginning of the penny press. Number of newspapers published in the US was now more than 700.
1844	Telegraph was invented. Moreover, first newspaper was published in Thailand.
1848	The Brooklyn Freeman was published by Walt Whitman.
1850	T. Barnum started newspaper advertisements for Jenny Lind. 'The Swedish Nightingale' theatrical performances were advertised through that in America.
1851	Reuters was established. Moreover, The Post Office began to offer the newspaper at a special rate.
1855	Republic of Sierra Leone in Africa published its first ever newspaper.
1856	The first full page newspaper advertisement was published in the New York Ledger. In addition, as a technological improvement, machines could now mechanically fold newspapers.
1860	The New York Herald starts the first Morgue, meaning an archive.

Table 2.1 Cont.

Newspaper Time Line

Year	Details of Publication
1864	Companies began selling advertising space in newspapers. The J. Walter Thompson Company is the longest running advertising agency in America.
1869	Newspaper circulation numbers were published for the first time by George P. Rowell in Rowell's American Newspaper Directory.
1870	Number of newspapers published in the US crossed 5,000 mark.
1880	First photographs appeared in newspapers
1900	Vladimir Lenin founded Iskra in Leipzig, Germany. This revolutionary newspaper was to become a major tool for the Communist propaganda.
1903	Alfred Harmsworth, also known as Lord Northcliffe, developed the first tabloid newspaper, the Daily Mirror, in London. The Daily Mirror introduced the concept of the Exclusive Interview. The first of such interview was in 1905 with Lord Minto, the then new Viceroy of India.
1933	Severe competition between radio and newspaper. American newspapers coerced the Associated Press to terminate news service to radio stations.
1954	Radios outnumbered newspapers in America
1955	Tele Typesetting technology was introduced.
1966	Behram Contractor with a nickname Busybee began publishing his column 'Round and About' in the Evening News of India. It was a satirical column published until 2001 and was the longest running column in the history of newspaper journalism.
1967	Newspapers started using computers and digital production process.
1977	First public access to archives was offered by Toronto Globe and Mail.
1994	First independent e-newspaper appeared on the World Wide Web.

(Compiled from Diverse Sources)

2.5. Newspaper Developments in the Twentieth Century

The Occidental press is the pioneer of news and media industry that revolutionised information flow to the masses. The most significant element

since the twentieth century began was the growth of mass circulation of newspapers far beyond the imaginings of man. When the twentieth century dawned, the concept of New Journalism began to make headway in the Press. Yet, within the then European Christian culture dominated by faith, the transformation was slow and painful, especially in the first fifty years. For, the years that had ensued witnessed the budding new world order of social, economic, political, cultural, technological, religious and financial systems dictated by mere pursuit of pleasure and money. In the true sense, the transformation of the face of newspapers, both serious and popular, was not accepted by the masses but tolerated. However, parallel with this development, there was a shrinkage in the number of daily journals due to cutthroat competition and rising costs. This forced the suspension of many publishings. Moreover, the policy of printing top and breaking news items on front, strategic and conspicuous spaces adopted by Anglo Saxon newspaper publishers was forcefully stopped. It was set aside for the advertisers, who readily paid up, and still pay, hundreds of dollars for a single insertion. Thus, news priority took backseat and gave way to advertisers. This digression, although attributed to the two World Wars, was originally the outcome of the changing world order based on the Breton Woods Agreement. It is not that the World Wars did not remain instrumental in changing the facade of the newspaper and media industry, but the root cause remained elsewhere. In the due course, the American journalism with its liberal path of preferences and values, along with external influences,

remained almost antithetical to the European journalism. However, this difference shrank as the new world order got built up and caused to succeed in scattering the power of individuals, groups, organisations, societies and even nations as far as their control and management of news, information and entertainment were concerned.

2.6. Brief History of Technology

For the last two centuries, newspapers have gone through various technological changes. These changes affected production, presentation, coverage and cost. At the beginning, printing technology started with blocks, typeface and ink. They were printed with Lead Type and Sheet Feed Machines. This required many skilled labourers. For printing photographs, the technique of Block Printing with Chemical Etching was introduced. However, it was a hectic and time consuming work. In addition, languages having complex or joint alphabets such as Tamil and Devanagari scripts restricted printing in many complex layouts. Many organisations and groups prepared their own fonts and asked leading printing machine and type manufacturers like MonoType Corporation and LinoType Corporation to prepare punches accordingly. In later stages, mechanical compose came into existence, which helped newspaper publishers to cut down labour cost. Similarly, Rotary Printing Technique was invented for high speed printing. At the end of twentieth century, Web Offset technology was introduced, which had photo composing facility. This technology helped newspapers in qualitative printing. However, now the Photo

Compose Technology is being replaced by Desktop Publishing, shortened as DTP. However, at the Offset side, Color Offset Printing and Scanning were introduced. Many pioneered with new experiments and prepared fonts for both Offset and DTP processes. These endeavours helped newspapers to reduce labour cost and improve quality.

2.7. Printing Technology - A Historical Time Line

From the use of wooden blocks in the 1400's to the ultraviolet etching and laser technology of today, the print media has undergone many technological changes and enhancements. A brief historical time line is presented in Table 2.2 as far as printing technology is concerned.

Table 2.2

Printing Technology - A Historical Time Line

Year	Technological Development
618-906	T'ang Dynasty in China invented the first printing. It was done using ink on carved wooden blocks transferred multiple times onto paper as a whole image.
1241	Koreans printed books using Movable Type.
1300	First use of Wooden Type in China.
1309	Europeans began to make paper. However, the Chinese and the Egyptians had started making paper centuries before.
1338-1390	First paper mills were opened across Europe, especially France and Germany.
1392	Foundries that could produce Bronze Type were invented in Korea.
1423	In Europe, Block Printing was used to print books.
1452	In Europe, metal plates were used in printing. Gutenberg began printing the Holy Bible which took four years to complete.
1457	First color printing by Fust and Schoeffer.
1465	Dry Point Engraving invented by the Germans.

Table 2.2 Cont.

Printing Technology - A Historical Time Line

Year	Technological Development
1501	Italic Typeface was introduced.
1550	Wallpaper introduced in Europe.
1660	Mezzotint invented in Germany. <i>Table continued on next page.</i>
1691	First paper mill was opened in the American colonies.
1702	Multi-colored Engraving was invented by Jakob Le Blon of Germany.
1725	Stereotyping was invented by William Ged of Scotland.
1800	Iron Printing Press was invented.
1819	Rotary Printing Press was introduced by Napier.
1829	Embossed Printing was invented by Louis Braille.
1841	Type Composing Machine was invented.
1844	Electrotyping was invented.
1846	Cylinder Press that could print 8,000 sheets an hour was invented by Richard Hoe.
1863	Rotary Web-fed Letterpress was invented by William Bullock.
1865	Web Offset Press that could print on both sides of paper at once was introduced.
1886	Linotype Composing Machine was invented by Ottmar Mergenthaler.
1870	Mass production of paper from wood pulp was undertaken.
1878	Photogravure Printing, also called Rotogravure, was invented by Karl Klic.
1890	Mimeograph was introduced.
1891	The technology of printing photographs on fabric called Diazotype was invented. Moreover, the printing press can now print and fold 90,000 4-page papers an hour.
1892	4-color Rotary Press was invented.
1904	Offset Lithography became common.
1907	Commercial Silk Screening invented.
1947	Phototypesetting made practical

Table 2.2 Cont.

Printing Technology - A Historical Time Line

Year	Technological Development
1955	Tele Typesetting was introduced.
1967	Newspapers began to use digital production processes and began using computers for operations
1971	Wide use of Web and Colour Offset technology.
1983	Desktop Publishing concept introduced.

2.8. Technical Stages of Newspaper Production

In the modern press, newspaper production starts with the work of technical pre-press and goes on to printing planning and design where colour management, paper management, ink management and production printing are effected. Thereafter, it goes for carbon footprint control and quality benchmarking. Finally, it arrives at the mail room for package assortment and distribution. In this pollution sensitive era, measures related to the control and limitation of environmental impacts are also undertaken. The newspaper industry has developed, and still maintains, its own and specific technical and work flow standards. The trend towards automating production equipment started in 2011 with automated plate change and closed loop control. All these works are coordinated by five major divisions of a newspaper office namely Editorial Division, Business, Advertising and Circulation Division, Mechanical Division, Administrative Division and Promotion Division.

2.9. Conclusion

This chapter analysed the origin, growth and development of newspapers in a worldwide perspective. Also it enumerated the growth of printing and related technology. First, it presented the chronology of newspaper development. In this regard the first ever newspaper upon the world was detailed along with the resistance it faced before the government and administration. Thereafter a newspaper time line was provided. It was followed by the enumeration of newspaper developments in the twentieth century. As the second part the chapter, the technological aspects of newspaper printing and distribution were focussed. It started with a brief history of newsprint technology. Pursuantly, it provided a historical time line of the printing technology in a comprehensive way. Third, it touched upon the technical stages of newspaper production.

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